

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
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## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

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School Principal/ Head  
(Signature over printed name)

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Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

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### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
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With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

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Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

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IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
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9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
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#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head

(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.



8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
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8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

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Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**



A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head

(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
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8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
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#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
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  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00



## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
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Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:  

|                      |   |
|----------------------|---|
| Email:               | pnsq.pnri@gmail.com<br>With Subject "REGISTRATION FORM_ *Region*_ *School*  |
| Mail/Courier:        | To: The 2018 PNSQ Committee<br>Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101 |
| Facebook Page:       | <a href="https://www.facebook.com/pnriquiz/">https://www.facebook.com/pnriquiz/</a>   |
| Fax:                 | (02) 920 8788 (Attention: PNSQ Committee)   |
| Personal Submission: | Submit to: Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101                     |
4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788





## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head

(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
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5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
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7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date





Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date



# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:  

|                      |   |
|----------------------|---|
| Email:               | pnsq.pnri@gmail.com<br>With Subject "REGISTRATION FORM_ *Region*_ *School*  |
| Mail/Courier:        | To: The 2018 PNSQ Committee<br>Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101 |
| Facebook Page:       | <a href="https://www.facebook.com/pnriquiz/">https://www.facebook.com/pnriquiz/</a>   |
| Fax:                 | (02) 920 8788 (Attention: PNSQ Committee)   |
| Personal Submission: | Submit to: Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101                     |
4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
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  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.



- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
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Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.



8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**



A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
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#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
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  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
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8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
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| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (I) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00



## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788





## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head

(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head

(Signature over printed name)

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Date





Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:  

|                      |   |
|----------------------|---|
| Email:               | pnsq.pnri@gmail.com<br>With Subject "REGISTRATION FORM_ *Region*_ *School*  |
| Mail/Courier:        | To: The 2018 PNSQ Committee<br>Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101 |
| Facebook Page:       | <a href="https://www.facebook.com/pnriquiz/">https://www.facebook.com/pnriquiz/</a>   |
| Fax:                 | (02) 920 8788 (Attention: PNSQ Committee)   |
| Personal Submission: | Submit to: Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101                     |
4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (I) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
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  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date



# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:  

|                      |   |
|----------------------|---|
| Email:               | pnsq.pnri@gmail.com<br>With Subject "REGISTRATION FORM_ *Region*_ *School*  |
| Mail/Courier:        | To: The 2018 PNSQ Committee<br>Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101 |
| Facebook Page:       | <a href="https://www.facebook.com/pnriquiz/">https://www.facebook.com/pnriquiz/</a>   |
| Fax:                 | (02) 920 8788 (Attention: PNSQ Committee)   |
| Personal Submission: | Submit to: Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101                     |
4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
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Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head

(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.



6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:  

|                      |   |
|----------------------|---|
| Email:               | pnsq.pnri@gmail.com<br>With Subject "REGISTRATION FORM_ *Region*_ *School*  |
| Mail/Courier:        | To: The 2018 PNSQ Committee<br>Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101 |
| Facebook Page:       | <a href="https://www.facebook.com/pnriquiz/">https://www.facebook.com/pnriquiz/</a>   |
| Fax:                 | (02) 920 8788 (Attention: PNSQ Committee)   |
| Personal Submission: | Submit to: Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101                     |
4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.



8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
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#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
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  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
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## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
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8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

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Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head

(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
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| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**



A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:  

|                      |   |
|----------------------|---|
| Email:               | pnsq.pnri@gmail.com<br>With Subject "REGISTRATION FORM_ *Region*_ *School*  |
| Mail/Courier:        | To: The 2018 PNSQ Committee<br>Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101 |
| Facebook Page:       | <a href="https://www.facebook.com/pnriquiz/">https://www.facebook.com/pnriquiz/</a>   |
| Fax:                 | (02) 920 8788 (Attention: PNSQ Committee)   |
| Personal Submission: | Submit to: Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101                     |
4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
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#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
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  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00



## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
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5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
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8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:  

|                      |   |
|----------------------|---|
| Email:               | pnsq.pnri@gmail.com<br>With Subject "REGISTRATION FORM_ *Region*_ *School*  |
| Mail/Courier:        | To: The 2018 PNSQ Committee<br>Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101 |
| Facebook Page:       | <a href="https://www.facebook.com/pnriquiz/">https://www.facebook.com/pnriquiz/</a>   |
| Fax:                 | (02) 920 8788 (Attention: PNSQ Committee)   |
| Personal Submission: | Submit to: Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101                     |
4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788





## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

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School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
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#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date





Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
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5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
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Nuclear Training Center  
Philippine Nuclear Research Institute  
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Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date

---

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

---

Name of Parent/ Guardian  
(Signature over printed name)

---

Date



# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

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### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
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Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

- 6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
- 7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

IV. CONTEST MECHANICS

A. Regional Level

- 1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
- 2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

- 3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
- 4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
- 5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
- 6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
- 7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.



6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph> and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
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#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
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  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
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5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
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Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

---

#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:

Email: [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com)

With Subject "REGISTRATION FORM\_ \*Region\*\_ \*School\*

Mail/Courier: To: The 2018 PNSQ Committee

Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

Facebook Page: <https://www.facebook.com/pnriquiz/>

Fax: (02) 920 8788 (Attention: PNSQ Committee)

Personal Submission: Submit to: Nuclear Training Center

Philippine Nuclear Research Institute

Commonwealth Avenue, Diliman, Quezon City 1101

4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
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#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
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| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.



8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**

A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
5. A challenge to a question should be addressed to the board of judges only. The challenge should be given **before** the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained,

#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
5. A team possessing a power-up may use it, as applicable, until the 7th step. No team can use any powerup after the 7th step.
6. The first team to reach their last step (10th) will be declared the winner. The next two teams nearest to the finish line will take second and third place,
7. In the event that no team has reached the 10th step after 25 questions, the team nearest to the finish line will be declared the winner. The next nearest will be declared second and the third nearest will be declared third place.
8. In case of a tie in any of the top five (5) slots, tie-breaker questions will be asked where the contending teams will be asked randomly-selected questions worth one step each until the tie is broken.
9. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not, The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
4. Grand Prizes for PNSQ winners are as follows:
  - First Prize: Cash Prize of PhP 50,000.00 + Trophy
  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
2. Participating schools are encouraged to stay in the afternoon during the Regional Level Competitions for the PNRI Technical Sessions wherein select PNRI scientists will present their accomplishments and studies on the peaceful and useful applications of nuclear science and technology.
3. Food and drinks will be provided for all official participants and coaches during the conduct of the 2018 PNSQ Regional and National Level Competitions.
4. Participants should arrive at the specified quiz venue at least one (1) hour before the competition schedule. This time will be allotted for registration and group picture taking before the start of the competition. Participants should present their respective school I.D.s during the registration. For the Regional Level, in the event that the participating school arrived late, they will still be allowed to take the examination within the remaining time.
5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
6. The officials of the quiz shall have the right to disqualify any team who violates any item of the PNSQ Guidelines and Mechanics.
7. The results of the quiz will be final and not appealable.
8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

# The 2018 Philippine Nuclear Science Quiz

## Guidelines and Mechanics

### I. INTRODUCTION

The Department of Science and Technology — Philippine Nuclear Research Institute (DOST-PNRI) will spearhead the celebration of the 46<sup>th</sup> Atomic Energy Week (AEW) on 10-14 December 2018. The celebration will focus on enhancing public awareness on breakthroughs in nuclear research, beneficial uses of nuclear science and technology, advances in radiation technology, and safety in undertaking activities involving radioactive materials. In line with these, PNRI will hold the 2018 Philippine Nuclear Science Quiz (PNSQ).

PNSQ is a national quiz bee competition, which provides an avenue to enhance Filipino students' awareness and appreciation of the nuclear science and technology field and its potential role in uplifting the quality of living in the country. The Regional Level Competition will be held in Regional Clusters from August to November 2018 while the National Level Competition will be held on 13 December 2018 at the PNRI Compound, Commonwealth Ave., Diliman, Quezon City. This activity is envisioned to be a vehicle in providing an unbiased view on nuclear science and technology.

### II. OBJECTIVE

The PNSQ aims to promote and sustain awareness and understanding on nuclear science and technology and its beneficial applications among junior high school students.

### III. PARTICIPATION

1. The competition is open to all public and private secondary schools in the Philippines.
2. The competition is divided into two levels — (1) Regional Level and (2) National Level. The top two teams of each region in the Regional Level are qualified to compete in the National Level. Each qualifying team will receive a one-time allowance amounting to five thousand only (PhP 5,000), which will only be given upon the arrival of the team at the venue of the National Level Competition. Additionally, a subsidy for travel expenses (economy airfare or bus fare) will be given to teams who will come from provinces outside Greater Manila Area (i.e. Metro Manila, Batangas, Bulacan, Cavite, Laguna and Pampanga).
3. Registration Forms can be requested from the PNSQ Committee or downloaded online through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) or the PNSQ Facebook page (<https://www.facebook.com/pnriquiz/>). Completed forms should be submitted to the PNSQ Committee on or before the set deadline of registration for the regional cluster in which the participating team belongs (See Clause IV.A.2) through any of the following medium:  

|                      |   |
|----------------------|---|
| Email:               | pnsq.pnri@gmail.com<br>With Subject "REGISTRATION FORM_ *Region*_ *School*  |
| Mail/Courier:        | To: The 2018 PNSQ Committee<br>Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101 |
| Facebook Page:       | <a href="https://www.facebook.com/pnriquiz/">https://www.facebook.com/pnriquiz/</a>   |
| Fax:                 | (02) 920 8788 (Attention: PNSQ Committee)   |
| Personal Submission: | Submit to: Nuclear Training Center<br>Philippine Nuclear Research Institute<br>Commonwealth Avenue, Diliman, Quezon City 1101                     |
4. Each participating school shall form a team of two (2) junior high school (Grade 7 — 10) students and an official coach. The team members should be officially enrolled to the school they are representing. The team should be officially endorsed by the School Principal/Head. A school with only one student representative will NOT be accepted in the competition,
5. Participants must be willing (with parents'/guardians' consent) to travel to the PNSQ venue if they qualify to the National Level Competition.

6. In the event that a registered student representative and/or the coach has/have to be replaced by another representative and/or coach for some valid reasons, the participating team should duly inform the PNSQ committee at least one (1) week before the schedule of the competition. The PNSQ committee reserves the right for the approval of such replacement. Once approved, the participating team will be notified by the PNSQ committee of the approval. The replacement will also be announced through the PNSQ Facebook page to inform the other participating teams.
7. A confirmation e-mail will be sent to each team who have successfully registered to PNSQ 2018, The list of successful registrants will be posted at the official PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page one week after the registration deadline.

#### IV. CONTEST MECHANICS

##### A. Regional Level

1. The Regional Level Competition will be held in conjunction with the Regional Science and Technology Fairs of the Department of Science and Technology.
2. The regions of the country will be divided into six (6) Regional Clusters for the Regional Level Competition, Each Regional Cluster will have its own deadline of registration, and date and place of examination. The place of the examination for each regional cluster was determined based on the locations of the Regional Science and Technology Fairs. The regional clusters are:

| Regional Clusters | Participating Regions | Deadline of Registration* | Date of Exam       | Place of Exam   |
|-------------------|-----------------------|---------------------------|--------------------|---|
| 1                 | I, II, CAR            | October 12, 2018          | October 24, 2018   | San Fernando City, La Union   |
| 2                 | III, NCR, IV-A        | September 14, 2018        | September 25, 2018 | Philippine Nuclear Research Institute, Commonwealth Ave., Diliman Quezon Ci |
| 3                 | IV-B, VI,             | August 22, 2018           | August 30, 2018    | Roxas City, Capiz   |
| 4                 |                       | October 5, 2018           | October 18 , 2018  | Samar State University, Catbalogan, Samar                                   |
| 5                 | ARMM,                 | October 26. 2018          | November 7, 2018   | Pagadian City, Zamboanga del Sur  |
| 6                 | X, XI, XIII           | August 31 ,2018           | September 13, 2018 | Bukidnon State University, Malaybalay City Bukidnon                         |

\* Receipt of registration sent through postal mails will be considered up to one (1) week after the deadline in consideration of the slower process involved in using this form of communication.

3. Participating schools should submit their completed registration form on or before the deadline of registration for the regional cluster they belong to. Incomplete registration will nullify the participation of the school. No walk-in participant would be allowed during the conduct of the exam at any regional cluster.
4. The Regional Level Competition will be a written examination, with both team members answering the questions together. The questions will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events,
5. The written examination will be composed of fifty (50) multiple-choice questions to be answered within one (1) hour. Not following instructions will invalidate the part of the examination where the violation occurred. The use of calculators will be allowed during the examination.
6. Although the exam is taken in regional clusters, the top two (2) scorers in the written examination for each region will still be declared as qualifiers for the National Level Competition. In case of a tie in the 2<sup>nd</sup> slot for a region, tie-breaking questions will be asked until one of the teams gains advantage over the other team/s. It is expected that there will be a total of 34 teams (i.e. 17 regions; 2 team winners each) who will be competing in the National Level.
7. In the event the 34 teams will not be completed, wildcard participant/s will be selected by pooling and ranking the scores of the teams from all regions who did not qualify for the National Level. At most three (3) wildcard participants shall be selected from the top scorers.

8. The final list of qualifiers for the National Level shall be notified via email and their names posted through the PNSQ website (<http://pnsq.pnri.dost.gov.ph>) and PNSQ Facebook Page on November 16, 2018. Qualifiers should confirm their participation to the National Level within 5 DAYS from the receipt of notification. Otherwise, their slot/s will be given to the next in rank for their region or as in Clause IV.A.7 in case there are no remaining participating school for that particular region.
9. If the number of qualifying teams for the national level is only fifteen (15) or below, additional wildcard participant/s will be selected from the pooled team scores until the number of qualifying teams becomes sixteen (16) teams.

## B. National Level

1. The National Level competition shall be held on **December 13, 2018** at the PNRI compound in Diliman Quezon City. A total of 34 teams are expected to compete at this level.
2. The questions in PNSQ will cover various topics on nuclear science and technology which includes radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and current nuclear-related events. The use of calculators will be allowed during the competition.
3. The National Level competition is divided into three rounds — (1) elimination round (2) semi-final round and (3) final round. A "power up" stage shall be held prior to the final round. The "power up" stage is designed to prepare competing teams in the playing field of the final round.

### Elimination Round

1. All national level-qualifying teams shall take a 50-item written exam and a practical exam in the Elimination round. Teams will answer the written exam within an hour only. The mechanics for the practical exam will be announced AFTER the written exam.
2. Scores for the written and practical exams will be pooled and the top fifteen (15) teams will advance to the Semi Final Round.
3. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.

### Semi-Final Round

1. The Semi-final Round is a staged quiz show with a quizmaster reading the questions. Each team shall be provided with boards where they are to write their answers.
2. The quizmaster will read questions covering the same topics as in Clause IV.B.2. Before reading the question, the quizmaster will specify the type of question (multiple choice, identification or computation), the allotted time for answering, and the corresponding points to be earned by the team.
3. A total of thirty (30) questions categorized as Easy, Average and Difficult, shall be asked in this round. Each question will be read twice.
4. Correct answers will merit one (1) point, three (3) points and five (5) points for Easy, Average and Difficult questions respectively. Incorrect answer shall not merit points nor deductions.
5. The teams shall display their answers only at the cue of the quizmaster.
6. The results of the Quiz will be tabulated on a scoreboard and on a score sheet. The five (5) teams with the highest accumulated scores will advance into the final round.
7. In case of a tie for the last slot, a tie-breaker round will be played where the contending teams will be asked randomly-selected questions worth one point each until the tie is broken.
8. A challenge to a question should be addressed to the board of judges only. The challenge should be given before the next question is asked. The judges will confer and decide whether the challenge is valid or not. The judges' decision is final and irrevocable. All other questions/challenge raised after the next question was asked will NOT be entertained.

### Power Up Stage

1. In preparation for the Final Round, the top five (5) teams from the Semi-final round shall undergo a "power up" stage. In this stage, teams answer a set of questions to get "Power UPS".
2. There will be two kinds of power-ups — **(1) Jump and (2) Fortitude**



A "Jump" power up allows a team to advance two steps in the final round while a "**Fortitude**" power up prevents the team from going back one step in the event that their answer in one of the questions in the final round is incorrect.

3. The style of this stage will be similar to the Semi-Final Round with the quizmaster reading the questions and the teams answering on boards.
4. The first team to get three (3) correct answers will be awarded one Jump power-up and one Fortitude power-up. The next team to get three (3) correct answers will be awarded one power up of their choice (Jump or Fortitude). In case of a tie, tie-breaking questions will be asked until a winner is determined.
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#### Final Round

1. The Final Round is composed of a playing field with ten (10) steps for each of the five teams.
2. All teams shall stand at the starting line at the beginning of this round.
3. A total of 25 questions shall be asked in this round. A quiz master shall read the questions twice and teams write their answers on boards provided.
4. Each correct answer will allow a team to take one step forward. A wrong answer however, will cause a team to take one step back except for those who are still at the starting point. A team can choose not to give an answer for which instance, they will remain in place.
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#### V. PRIZES

1. All participating teams in the Regional and National Levels shall receive a certificate of participation. Certificate of appearance will also be given upon request.
2. All winners in the Regional and National Levels shall receive a certificate of recognition.
3. Each member of the teams who qualifies to the National Level Competition (one coach and two students) shall receive a PNSQ 2018 T-Shirt.
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  - Second Prize: Cash Prize of PhP 40,000.00 + Trophy
  - Third Prize: Cash Prize of PhP 30,000.00 + Trophy
  - Consolation Prize: PhP 15,000.00
  - Consolation Prize: PhP 15,000.00

## VI. OTHER MATTERS

1. Like and follow the PNSQ official Facebook page at <http://pnsq.pnri.dost.gov.ph> for important announcements concerning the quiz.
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5. Taking photos or videos during the competition is strictly prohibited. An official photographer will be present during the event.
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8. For inquiries please email [pnsq.pnri@gmail.com](mailto:pnsq.pnri@gmail.com) or contact:

Dr. Daisy B. Badilla  
Nuclear Training Center  
Philippine Nuclear Research Institute  
Commonwealth Ave., Diliman, QC  
Email: [dbbadilla@pnri.dost.gov.ph](mailto:dbbadilla@pnri.dost.gov.ph)  
Trunk Line. (632) 929-6011 to 19 loc. 236  
Direct Line: (632) 920-8788



## 2018 Philippine Nuclear Science Quiz

### Registration Form

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#### School Details

Name of School: \_\_\_\_\_

School Address: \_\_\_\_\_

Region: \_\_\_\_\_ ☐ Public High School ☐ Private High School

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

#### School Representative Details

Name of Coach/Adviser: \_\_\_\_\_

Email Address of Coach/Adviser: \_\_\_\_\_

Telephone Number of Coach/Adviser: \_\_\_\_\_

Cellphone Number of Coach/Adviser: \_\_\_\_\_

Name of 1st student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of 2nd student representative: \_\_\_\_\_

Year Level: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

#### Certification and Endorsement

This is to certify that the students listed above are bona fide students currently enrolled in our school. This is to further endorse their participation as representatives of our school to the 2018 Philippine Nuclear Science Quiz.

---

School Principal/ Head  
(Signature over printed name)

---

Date



Parental Consent/ Waiver for 1st student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date

Parental Consent/ Waiver for 2nd student representative

This is to certify that I am giving my full consent for my son/ daughter, \_\_\_\_\_to travel to Metro Manila in case their team qualifies to the National Level Competition of the 2018 Philippine Nuclear Science Quiz. I further acknowledge that that PNRI and the PNSQ committee will not be held liable for any untoward incident that may occur in connection with my son/daughter's participation to the 2018 PNSQ.

\_\_\_\_\_  
Name of Parent/ Guardian  
(Signature over printed name)

\_\_\_\_\_  
Date