GYSO Assessment and Scoring Regulations

Two round competition framework for in person and online participation

These regulations establish the competition format, team rules, scoring formulas, challenge assessment, judging process and award thresholds for GYSO. All awards are determined solely by final score. In person and online participants, as well as one student and two student teams, use the same scoring system and award thresholds. Common questions and challenges are evaluated through grade-calibrated question weights and grade-appropriate challenge descriptors.

Article 1 Competition Structure

GYSO consists of two rounds:

1. Round 1 is an individual multiple choice examination.
2. Round 2 is a team based scientific challenge.

Participation is offered in two formats: in person and online.

In person and online participants use the same scoring system, final score formula and award thresholds. They are not ranked separately.

All awards are granted according to final score. There is no limit on the number of medals or Certificates of Appreciation that may be awarded.

All questions, challenges, written solutions and presentations are in English.

Participants must bring a laptop only when it is expressly required by the regulations for their subject or competition format. The organisers will publish any required equipment, software and technical specifications before the competition. Online participants must use their own laptop to access the official competition platform.

Article 2 In Person Competition Format

In the in person competition, Round 1 is normally a paper-based examination with four-option multiple choice questions and official answer sheets. The method of delivery may vary by subject. Where a subject requires a laptop, software or other equipment, this must be expressly stated in the subject-specific examination regulations before the competition. All written work in Round 2 is conducted on paper, except where approved tablets are used as described below. The Round 2 challenge may be displayed through the competition platform, and the Round 2 presentation and question session is described in Article 7.

In Round 1, each participant answers 20 four-option multiple choice questions individually, normally on an official paper answer sheet, under the supervision of the Organising Committee. If the subject-specific examination regulations prescribe a computer-based format, participants use the designated official platform and any equipment specified in those regulations.

In Round 2, each team receives the challenge on paper or displayed through the official competition platform, completes the work collaboratively on official competition paper or, where the organisers allow it, on a tablet supplied or approved by the organisers, and submits one official solution or report. After the written solution has been collected, the team presents its method and result to a panel of judges.

Computers, mobile phones, tablets, internet access and other electronic devices are prohibited during the in person competition, except equipment expressly authorised in the subject-specific examination regulations for Round 1, screens used to display the Round 2 challenge, and tablets supplied or approved by the organisers for Round 2. Any authorised Round 1 laptop may be used only for the designated official examination activities; a Round 2 tablet may be used only offline for the team's own working and solution. Calculators are permitted only when the Scientific Committee has expressly authorised their use for the relevant subject or challenge before the competition.

At the end of a paper-based Round 1 examination, all official answer sheets are collected immediately by the invigilators. Where Round 1 is conducted on the official computer-based platform, the platform submits all answers automatically at the end of the examination. At the end of Round 2, all answer sheets and tablet files are collected immediately. No additions or corrections are accepted after time has expired.

Article 3 Online Competition Format

The entire competition process for online participants is conducted through the official GYSO online platform.

In Round 1, each participant answers 20 multiple choice questions individually through the competition platform, using the participant's own laptop.

In Round 2, team members receive the challenge, collaborate with one another and enter or upload one final solution through the competition platform. After the main solution has been locked, the team presents its method and result to a panel of judges in a live video session, under the same rules, time limits and criteria as in person teams.

The official submission time is the time at which the platform successfully records the response or file.

A response or file submitted after the deadline is not accepted unless the Organising Committee confirms that an official platform failure prevented timely submission.

The organisers publish the permitted tools, software, resources and file formats before the competition. Any tool or resource not included in the published list is prohibited.

For the live presentation and question session, online teams join the official video conference with cameras and microphones switched on. The organisers publish the technical requirements and the presentation schedule before the competition. A team that loses its connection is given reasonable time to reconnect; if the session cannot be completed because of a confirmed platform or conference failure, the Organising Committee schedules a replacement session.

Article 4 Team Composition

A team consists of one or two students.

Team composition is registered and confirmed before the competition begins. Team membership may not change after Round 1 has started.

In a two student team, both students complete Round 1 individually and collaborate during Round 2.

In a one student team, the same student completes both Round 1 and Round 2.

Both members of a two student team, in person or online, are expected to participate in the presentation and answer the judges. A one student team is not penalised merely because only one student presents or answers.

One student and two student teams receive the same time allowance, point structure and award thresholds. Grade-calibrated scoring and grade-appropriate judging standards apply as set out in Articles 5, 7 and 9.

No bonus, compensating multiplier or score deduction is applied because of team size. Each team is assessed solely on its recorded performance.

One student and two student teams are not placed in separate award categories because awards are based on score ranges and are not subject to numerical quotas.

Article 5 Round 1 Multiple Choice Examination

5.1 Examination Structure

Round 1 consists of 20 four-option multiple choice questions. Each participant completes this round independently. For in person participation, the examination is normally paper-based, unless the subject-specific regulations expressly require another format; online participation is conducted through the official platform.

Collaboration between team members, exchange of answers, assistance from another person and use of unauthorised resources are prohibited during Round 1.

5.2 Time Limit

- Mathematics: 90 minutes
- All other subjects: 60 minutes

5.3 Question Weights

Difficulty level	Points
Easy	1
Medium	2
Hard	3

An incorrect or unanswered question receives zero points. Incorrect answers do not incur a penalty. The Scientific Committee determines and records the difficulty classification of every question before the competition begins.

5.4 Educational Categories and Target Grade

The official educational categories are:

- Primary School: Grades 3 to 6 (subject to confirmation by both organisers).
- Lower Secondary School: Grades 7 to 9.
- Upper Secondary School: Grades 10 to 12.

The Lower Secondary and Upper Secondary categories are confirmed for GYSO 2027. The Primary School category is offered only if both organisers confirm it in writing before registration opens.

All grades within the same educational category receive the same set of 20 questions. No separate question paper is issued for an individual grade.

Before the competition, the Scientific Committee assigns each question a target grade representing the minimum grade level at which the question is expected to be fully accessible. The target grade is recorded in the official marking scheme and in the question bank and may not be changed after the competition begins.

5.5 Grade Relevance Coefficient

The effect of a question on a participant's Round 1 score is determined by the relationship between the participant's grade and the question's target grade.

Relationship to participant grade	Coefficient
Question is at or below the participant's grade	1.00
Question is one grade above the participant's grade	0.50
Question is two or more grades above the participant's grade	0.25

The grade relevance coefficient is denoted by c_g,j, where g is the participant's grade and j is the question number. A higher-grade question remains available to a younger participant, but it has a smaller effect on both the points earned and the maximum weighted score used in that participant's calculation.

5.6 Grade-Calibrated Round 1 Formula

The following symbols are used:

- w_j is the difficulty weight of question j and is equal to 1, 2 or 3.
- c_g,j is the grade relevance coefficient for a participant in grade g.
- x_i,j equals 1 when participant i answers question j correctly and equals 0 when the answer is incorrect or blank.

The participant's weighted earned score is:

$$R_{\text{earned,i}} = \Sigma(w_j \, c_{g,j} \, x_{i,j})$$

The participant's maximum weighted score is:

$$R_{\text{max,i}} = \Sigma(w_j \, c_{g,j})$$

The Round 1 score of participant i is calculated on a scale from 0 to 100 as follows:

$$R1_i = 100 \times \frac{R_{\text{earned,i}}}{R_{\text{max,i}}}$$

The same answer pattern may therefore produce different grade-calibrated scores for students in different grades. This difference reflects the expected accessibility of the questions at each grade level and is not a bonus added after scoring.

Safeguard. Grade calibration may only protect a participant and may never reduce the credit for a correct answer. The standard Round 1 score is calculated without the grade relevance coefficient as R1_standard,i = 100 × Σ(w_j x_i,j) / Σ(w_j). The official Round 1 score of participant i is the higher of the two results: R1_i = max(R1_standard,i , R1_calibrated,i), where R1_calibrated,i is the score calculated with the formula above.

As a result, a younger participant is not disadvantaged by questions above the participant's grade, and a younger participant who correctly answers a higher-grade question always receives at least the full standard credit for that answer.

5.7 Worked Weighting Example

If a hard question has a difficulty weight of 3 and a target grade of 9, its effective weight is:

- 3.00 points for a Grade 9 participant: 3 × 1.00.
- 1.50 points for a Grade 8 participant: 3 × 0.50.

- 0.75 points for a Grade 7 participant: 3 × 0.25.

The effective weight is included in both the earned-score numerator and the maximum-score denominator. The final Round 1 result therefore remains on a 0 to 100 scale for every grade.

Article 6 Team Round 1 Score

6.1 Two Student Team

The Round 1 score of a two student team is the arithmetic mean of the individual Round 1 scores of its two members.

If the members' scores are R1_A and R1_B, the team score is calculated as follows:

$$\mathrm{R1}_{\mathrm{team}} = \frac{\mathrm{R1}_{\mathrm{A}} + \mathrm{R1}_{\mathrm{B}}}{2}$$

The sum, higher score or lower score of the two members may not be used in place of the arithmetic mean.

6.2 One Student Team

For a one student team, the team's Round 1 score is the score of that student:

$$\mathrm{R1}_{\mathrm{team}} = \mathrm{R1}_{\mathrm{i}}$$

The Round 1 score of every team is therefore expressed on a scale from 0 to 100, regardless of team size.

Article 7 Round 2 Scientific Challenge

7.1 Nature of the Challenge

Round 2 requires every team to solve a scientific, analytical, practical or combined challenge. Round 2 does not include a multiple choice examination.

The scientific solution is the principal assessed work. All teams, in person and online, also complete a live presentation and question session before the judges. Online teams do so through the official video conference.

7.2 Challenge and Communication Time

The working time for the Round 2 challenge is 90 minutes. At the end of this period, the main solution is collected or electronically locked and may not be changed. All teams in the same subject and educational category receive the same working time. Team size does not affect the time allowance.

- In person and online: up to 7 minutes for the team presentation, followed by up to 5 minutes of questions from the judges.

7.3 Challenge Bank, Random Assignment and Grade-Appropriate Standard

For each subject and educational category, the Scientific Committee prepares a bank of ten Round 2 challenges that are equivalent in scientific objectives, level of difficulty, volume of work and expected completion time. Each team is assigned one challenge from the bank by random draw, and different teams may receive the same challenge. All grades within the same educational category draw from the same bank. No separate challenge is issued for an individual grade.

The draw is conducted and recorded by the Organising Committee before the competition. The result of the draw is confidential and is not disclosed to any participant, coach or school until the team receives its challenge at the start of Round 2.

For every challenge in the bank, the challenge author provides a model answer, key points for the first three assessment criteria and follow-up questions for the scientific defence criterion. These materials are confidential and are supplied only to the assigned judges.

The point structure remains the same for every grade, but judges apply grade-appropriate performance descriptors approved by the Scientific Committee before the competition. The descriptors define the expected depth of reasoning, complexity of method, quality of validation and completeness of evidence for each grade.

A one-student team is assessed according to the registered grade of that student. A two-student team whose members are in the same grade is assessed according to that grade.

When the members of a two-student team are in different grades within the same educational category, the Round 2 submission is assessed according to the grade of the higher-grade member. This rule prevents a higher-grade participant from obtaining a lower assessment standard by forming a mixed-grade team.

7.4 Required Final Submission

Each team submits one final response. The submission includes:

1. The final answer or result.
2. The method used to solve the challenge.
3. The necessary calculations and scientific reasoning.
4. The assumptions used by the team.
5. The necessary evidence and supporting material.
6. Verification and validation of the result.
7. Every component expressly required by the challenge instructions.

A correct final answer without an adequate method, reasoning or supporting evidence cannot receive full marks.

7.5 In Person Submission

In person teams record all work and the final submission on the official answer sheets and competition paper supplied by the organisers or, where permitted, on an approved tablet whose final file is collected by the organisers at the end of the challenge time.

Only material written on and submitted with the official competition papers, or recorded in the collected file of an approved tablet, is assessed. Unsubmitted notes, drafts or working sheets are excluded from assessment.

Poor handwriting or minor language errors reduce the score only when they prevent the judges from reading or understanding the scientific content.

7.6 Presentation and Questions

After the written solution has been collected or the online solution has been locked, each team, in person or online, presents its method, principal reasoning, result and validation to the judging panel. The presentation may refer only to the work completed during the official challenge period and may not introduce a revised solution.

The judges may ask questions to verify understanding, test the justification of the method and clarify the submitted work. Both members of a two student team are expected to contribute meaningfully to the presentation and answers, but the score is based on the quality of the team’s communication and scientific defence rather than equal speaking time.

A one student team completes the same presentation and question session and is assessed under the same criteria. No point is deducted solely because the team has one presenter.

7.7 Online Submission

Online teams enter or upload the final submission in the format specified on the official competition platform.

Only the final version successfully recorded before the deadline is assessed. The submitted file must open correctly, be complete and comply with the required format.

The team is responsible for checking the file before the deadline, except when file corruption results from a platform failure confirmed by the Organising Committee.

Article 8 Equivalence of Online and In Person Challenges

Online and in person challenges must be equivalent in:

- Scientific objectives.
- Level of difficulty.
- Volume of work.
- Expected completion time.
- Skills being assessed.
- Maximum available score.
- Judging criteria.
- Opportunity to communicate and defend the completed solution.

The Scientific Committee confirms equivalence before the competition.

Online and in person teams use the same communication format: a live presentation followed by questions from the judges, with the same time limits and assessment criteria. Online presentations are conducted through the official video conference.

When online and in person sessions are not conducted simultaneously, a challenge used in an earlier session may not be used in a later session. The Scientific Committee divides the challenge bank between the sessions or prepares additional equivalent challenges for this purpose.

The same challenge may be used when all participants in the relevant subject and educational category compete at the same time under secure conditions.

Disclosure of a challenge or transmission of its content to participants who have not started their session constitutes misconduct.

Article 9 Round 2 Assessment Criteria

9.1 Common Point Structure

Round 2 is assessed out of 100 points using the following rubric:

Criterion	Points	Assessment focus
Accuracy and correctness of the solution	35	Correct result, accurate calculations, functional output, compliance with the principal task and absence of major scientific errors.

Criterion	Points	Assessment focus
Scientific reasoning and method	25	Logical method, depth of analysis, correct application of scientific or mathematical principles, coherent steps and suitability of the method.
Practical applicability and task fulfilment	15	Completion of the required outputs, feasibility or usefulness where relevant, compliance with instructions and continued relevance to the challenge.
Clarity and structure of communication	15	Clear, organised and traceable communication of the method, evidence and result through the presentation or platform explanation.
Scientific defence and justification	10	Justification of choices, validation of the result, recognition of assumptions or limitations and ability to address scientific questions or plausible alternatives.

$$35 + 25 + 15 + 15 + 10 = 100$$

$$0 \leq \mathrm{R2}_{\mathrm{team}} \leq 100$$

Minor language or writing errors do not reduce the score unless they prevent the judges from understanding the response.

9.2 Application Across Competition Formats

The first three criteria are assessed principally from the submitted solution and required output, with reference to the model answer and key points supplied with the challenge. For all teams, in person and online, the communication criterion is assessed from the live presentation and the scientific defence criterion from the responses to the judges, together with relevant evidence in the submitted solution.

An online team is not disadvantaged because it presents through video, and no team is awarded points merely for presentation style. Judges assess the scientific quality, clarity and justification demonstrated in the presentation, the answers and the submitted solution.

9.3 Grade-Appropriate Performance Descriptors

For each criterion in the common rubric, the Scientific Committee prepares performance descriptors for every grade represented in the educational category. These descriptors are approved before the competition and supplied to all judges.

The descriptors preserve the same maximum points while adjusting the expected level of scientific depth. A younger team may demonstrate full achievement through a correct and well-supported solution appropriate to its curriculum level. An older team must demonstrate the additional analytical depth, validation and methodological sophistication expected at its grade level to receive the same marks.

Judges may not award or deduct points solely because of a team's grade. Every score must be supported by the published criterion and the applicable grade-level performance descriptor.

Article 10 Round 2 Judging Procedure

10.1 Anonymous Assessment

Every written or online submission is assessed under a team code. The names of the students, school, institution, city and country are concealed during document assessment. During a presentation, in person or online,, the team is identified to the panel only by its team code and must not state its school, institution, city or country.

10.2 Two Judge Assessment

Two judges independently assess every team using the complete evidence required for its competition format. All presentations and question sessions, in person and online, are officially recorded solely for scoring review, appeals and integrity control, subject to the event's published privacy notice and to the consent of a parent or guardian for participants under 18, collected at registration. If the judges' scores are J_1 and J_2 and the difference does not exceed 10 points, the Round 2 score is calculated as follows:

$$\mathrm{R2}_{\mathrm{team}} = \frac{\mathrm{J}_1 + \mathrm{J}_2}{2}$$

10.3 Third Judge Review

A third judge assesses the complete evidence when the difference between the first two scores exceeds 10 points. For every team, this includes the written or locked solution and the official recording of the presentation:

$$|\mathrm{J}_1 - \mathrm{J}_2| > 10$$

If the third judge's score is J_3, the official Round 2 score is the median of the three scores:

$$\mathrm{R2}_{\mathrm{team}} = \mathrm{Median}(\mathrm{J}_1, \mathrm{J}_2, \mathrm{J}_3)$$

For example, if the three scores are 72, 85 and 78, the official Round 2 score is:

$$\mathrm{R2}_{\mathrm{team}} = 78$$

10.4 Conflicts of Interest

A judge may not assess a team when the judge has a direct educational, organisational, family or professional relationship with a team member, coach, school or institution.

Article 11 Final Score Calculation

Round 1 contributes 40 percent and Round 2 contributes 60 percent to the final score.

The general final score formula is:

$$\mathrm{F}_{\mathrm{team}} = 0.40\mathrm{R1}_{\mathrm{team}} + 0.60\mathrm{R2}_{\mathrm{team}}$$

11.1 Two Student Team Formula

$$\mathrm{R1}_{\mathrm{team}} = \frac{\mathrm{R1}_{\mathrm{A}} + \mathrm{R1}_{\mathrm{B}}}{2}$$

The complete final score formula for a two student team is:

$$\mathrm{F}_{\mathrm{team}} = 0.40\left(\frac{\mathrm{R1}_{\mathrm{A}} + \mathrm{R1}_{\mathrm{B}}}{2}\right) + 0.60\mathrm{R2}_{\mathrm{team}}$$

11.2 One Student Team Formula

The complete final score formula for a one student team is:

$$F_{team} = 0.40R1_i + 0.60R2_{team}$$

No additional points, compensating multiplier or deduction is applied to a one student or two student team.

11.3 Result of Team Members

Both members of a two student team receive the same final team score and the same award.

The individual Round 1 scores may appear on each student's personal score report, but the final award is determined by the final team score.

11.4 Two Student Team Example

If the two members score 80 and 70 in Round 1 and the team scores 85 in Round 2:

$$R1_{team} = \frac{80 + 70}{2} = 75$$

$$F_{team} = (0.40 \times 75) + (0.60 \times 85)$$

$$F_{team} = 30 + 51 = 81$$

The final team score is 81. Both members receive a Gold Medal.

11.5 One Student Team Example

If a one student team scores 75 in Round 1 and 85 in Round 2:

$$F_{team} = (0.40 \times 75) + (0.60 \times 85)$$

$$F_{team} = 30 + 51 = 81$$

The final team score is 81. The participant receives a Gold Medal.

Article 12 Awards

The award received by each team is determined solely by its final score:

Award	Final score range
Gold Medal	80.00 to 100.00
Silver Medal	70.00 to 79.99
Bronze Medal	40.00 to 69.99
Certificate of Appreciation	0.00 to 39.99

A final score of exactly 40.00 qualifies for a Bronze Medal. The Certificate of Appreciation range therefore ends at 39.99 and does not overlap with the Bronze Medal range.

There is no limit on the number of Gold, Silver or Bronze Medals or Certificates of Appreciation. Every team that achieves a stated score range receives the corresponding award.

Online and in person participants and one student and two student teams use the same award thresholds.

Article 13 Rounding of Scores

Round scores, team averages, judge scores and intermediate values are not rounded during calculation.

After all calculations have been completed, the final score is rounded to two decimal places using standard half up rounding. The award is determined from the rounded final score.

Examples:

$$79.994 \rightarrow 79.99$$

A final score of 79.99 receives a Silver Medal.

$$79.995 \rightarrow 80.00$$

A final score of 80.00 receives a Gold Medal.

Article 14 Unlimited Awards and Equal Scores

Awards are based on score ranges and are not subject to numerical quotas. Equal scores do not remove or reduce any team's award.

Teams with the same final score receive the same award. Online or in person participation and one student or two student team composition do not create priority or disadvantage in receiving an award.

Ordinal positions such as first, second or third place do not determine medals.

Article 15 Academic Misconduct

The following conduct constitutes a violation of the competition rules:

- Receiving assistance from a person who is not a registered team member.
- Collaboration between members of the same team during Round 1.
- Use of unauthorised tools or resources.
- Copying another team's response.
- Submitting work produced by another person or team.
- Fabricating data, calculations, experiments or supporting evidence.
- Allowing another person to participate in place of a registered student.
- Unauthorised communication with another team.
- Disclosing examination or challenge content.
- Obtaining, or attempting to obtain, the result of the Round 2 draw or the content of a challenge before the official start.
- Changing a response after the deadline.

Depending on severity, a violation may result in a warning, score deduction, a score of zero for the affected round or disqualification from the competition.

The Scientific and Organising Committees issue the final decision after reviewing the available evidence.

Article 16 Appeals and Score Review

A request for review must be submitted within three (3) days after the official publication of results.

A review is available for:

- A calculation error.
- An incorrectly recorded score.

- A portion of the submission that was not assessed.
- A missing or incompletely recorded response.
- An online file that could not be opened because of a confirmed platform failure.
- Failure to apply the official judging criteria.

Every request must identify a specific ground for review. The review outcome may confirm, increase or decrease the score.