

Coach Guide

Table of Contents

Who Can Be a Coach?	2
Coach Role and Responsibilities	2
Assembling a Team	3
Before Event Day	4
On Event Day	5
Scoring and Judging	6
Frequently Asked Questions	8

WHO CAN BE A COACH?

A Science Olympics coach can be any responsible adult who is willing to support and supervise a team throughout the Science Olympics season and event day. Examples include:

- teachers
- educational assistants
- school staff
- parents or caregivers
- other responsible adults

A coach does **not** need to be an engineer or a geoscientist. The most important qualities of a coach are enthusiasm, patience, organization, and a willingness to encourage students as they learn and solve problems.

Conflict of Interest

To ensure fairness for all participants, individuals who are serving as Science Olympics judges, event volunteers—or APEGA staff members involved in the planning or execution of Science Olympics—may **not** act as coaches for a competing team during the same Science Olympics event. If you wish to coach a team, you cannot serve in a judging or volunteer role during that team's competition time at that event.

COACH ROLE AND RESPONSIBILITIES

Important: Coaches are responsible for the care and supervision of their students at all times during the APEGA Science Olympics.

The APEGA Science Olympics is designed to foster creativity, teamwork, and problem-solving through exciting, hands-on engineering and geoscience challenges. As a coach, your role is to support, encourage, and guide students while allowing them to take ownership of their prototypes and learning.

The goal of APEGA Science Olympics is not to “win.” Rather, it is to help students think like future engineers and geoscientists by asking questions, testing ideas, solving problems, and learning from failure.

The most successful teams are those whose students are engaged, creative, and proud of the work they have accomplished themselves.

A coach is **not** the team's designer, builder, engineer, or spokesperson. Students should make their own decisions, complete the work, and explain their thinking.

Each team must have one designated coach who agrees to:

- review challenge requirements

- support students during preparation
- supervise students
- remain available throughout event day
- serve as the primary contact on event day for event organizers

Multiple Coaches

Teams may have multiple adult supporters, but only one individual may be listed as the primary coach and contact.

ASSEMBLING A TEAM

APEGA Science Olympics is a team-based competition designed to encourage collaboration, communication, and problem solving.

Team Size

Teams must have:

- **a minimum of two students**
- **a maximum of five students**

Challenges are designed with a team of **five students** in mind. While smaller teams are welcome to participate, they may find some challenges, particularly mystery challenges, more difficult because there are fewer team members available to complete tasks, contribute ideas, and share responsibilities.

If more than five students wish to be on a team, additional students may serve as alternates, **but only five students may participate in a challenge at any one time.** Alternates may observe and be substituted into challenges at the coach's discretion. Awards, T-shirts, and other participant swag are typically provided for up to five students per team. Coaches wishing to add additional students should contact the APEGA Science Olympics organizers for approval.

For the best experience, teams of five students are recommended.

Division Requirements

All students on a team must compete in the same division. Science Olympics divisions are based on grade levels:

- Division 1: Grades 1–3
- Division 2: Grades 4–6
- Division 3: Grades 7–9
- Division 4: Grades 10–12

Students from Different Schools

Teams may include students from different schools, provided all students are eligible for the same division.

Using a School Name

Teams that are not school sponsored, or that include students from multiple schools, must obtain permission before using a school name. If permission has not been obtained, leave the school's name field blank during registration and on all event materials.

BEFORE EVENT DAY

Review the Challenge

Read all challenge materials carefully, including:

- Challenge Overview
- Rubrics
 - Make sure the entire team understands how the challenge will be judged.
- Student Checklist
- Challenge FAQ
 - The Challenge FAQ is updated regularly as new information becomes available. Rather than downloading a copy, please refer to the online version regularly to ensure you have the most current information.

Support the Team

Encourage students to brainstorm, test ideas, collaborate, and learn from mistakes. Students should lead the work and make project decisions by:

- building prototypes
- testing designs
- making decisions
- presenting their work

Encourage students to document their progress using the engineering design process worksheets contained in the challenge documents and reflect on what they learned.

Prepare Students for Judging

Students should be able to explain how their project works, design decisions they made, challenges they faced, and what they learned.

ON EVENT DAY

APEGA Science Olympics is a student-focused event.

Coaches, teachers, parents, and other adult supporters are not permitted to participate in challenge activities.

Students are expected to:

- carry their projects to the testing stations when it is their turn to test
- set up their devices
- present their work
- answer judges' questions
- complete challenge tasks
- make decisions independently

This ensures fairness for all teams and allows students to demonstrate their own learning and abilities.

Coaches Must Remain Outside Competition Areas

During competitions, coaches will remain in designated spectator areas behind barricades or other event boundaries. You will be able to watch your students compete.

Coaches may:

- ✓ observe challenge building and testing
- ✓ cheer for students
- ✓ take photographs
- ✓ support team morale

Coaches may not:

- ✗ enter competition areas
- ✗ help with setup
- ✗ carry materials to testing stations
- ✗ repair projects
- ✗ assist during testing
- ✗ answer questions for students
- ✗ give hints, instructions, or signals
- ✗ interact with judges regarding a student's performance

If assistance is provided during a challenge, APEGA Science Olympics organizers may intervene to maintain fairness for all participants.

If Students Need Help

If a student requires assistance from their coach for any reason—including washroom breaks, snack breaks, personal concerns, medical needs, team management issues, or questions unrelated to the challenge—they may leave the competition area at any time and meet with their coach outside the challenge space.

For questions related to the challenge, students are encouraged to raise their hands, and a judge will support them.

Coaches Must Be Available

Coaches are expected to remain on site and available throughout the event. All coaches must:

- carry a charged cell phone throughout the day
- provide a direct phone number upon registration that can be reached on the day of the event (school office or main switchboard numbers are not acceptable as a primary contact)
- ensure contact information is accurate upon registration

Students are **not** in APEGA's care. Coaches are responsible for:

- knowing the whereabouts of their team members throughout the event
- ensuring students check in with the coach before leaving the competition venue or being released to a parent, guardian, or authorized adult
- behaviour management
- medical concerns
- emergency contacts
- transportation arrangements

SCORING AND JUDGING

APEGA Science Olympics emphasizes respectful engagement, learning, collaboration, and teamwork. Performance is assessed to support student learning and skill development. The value of participation lies in gaining experience, tackling real-world challenges, and learning to work effectively as a team.

All challenges are evaluated using established scoring criteria and rubrics. Judges work hard to apply these criteria as fairly and consistently as possible across all teams.

To support a fair competition environment:

- coaches, parents, and spectators must not interfere with or attempt to influence judges during a challenge
- coaches may not approach judges to discuss, dispute, or request disclosure or clarification of scores during or after the event
- judges will not disclose scores, rankings, or evaluation details to coaches, participants, or spectators
- questions about challenge rules or procedures should be directed to APEGA event staff, not to judges

Judges are typically volunteer engineers, geoscientists, and university students who generously donate their time and expertise to support student learning. To promote fairness and consistency across all divisions and challenges, all judges participate in mandatory judge training prior to the event. This training covers scoring procedures, rubric interpretation, event expectations, and leading practices for objective evaluation.

All coaches, participants, parents, and spectators are expected to treat judges with courtesy, professionalism, and respect.

Score reports, including rubric score breakdowns, will be provided to coaches by email after the event. This information is not available on event day and will not be released by judges.

Classroom challenge rubrics are included in each challenge package and will be used as published on event day. Teams are encouraged to review these rubrics carefully to understand how their work will be evaluated. Judges score teams solely against the rubric criteria and award points based on demonstrated performance during the challenge.

Mystery challenges are assessed using the same general Rubric A and Rubric B structure as classroom challenges. Rubric A evaluates transferable skills such as teamwork, collaboration, communication, and problem-solving, while Rubric B evaluates the team's solution, prototype, or overall challenge performance.

Following the event, teams will receive both classroom and mystery challenge rubric scores.

All scores and judging decisions are final. APEGA reserves the right to interpret and apply challenge rules and scoring criteria procedures as they see fit to ensure a fair and consistent competition experience for all participants.

FREQUENTLY ASKED QUESTIONS

Can I help my students or answer a judge's question during a challenge?

No. Once students enter the competition area, coaches may not assist with challenges in any way. Judges want to hear directly from students. Coaches must remain in designated spectator areas.

Can I help with setup or repairs?

No. Students must complete these tasks independently.

What if a student needs me?

The student may leave the competition area at any time and meet with you outside the challenge area. Once ready to return, they are welcome back at any time.

Am I responsible for supervising my students?

Yes. Students remain under the supervision of their coach, teacher, school, organization, parent, or guardian throughout the event. You may supervise your team from the bleachers, or behind designated barriers. APEGA staff, volunteers, and judges organize and run challenges, but do not provide student supervision.

Who will take my child to the washroom?

Coaches are responsible for supervising their students throughout the event, including washroom breaks. Coaches should accompany younger children to and from the washroom, following their school or organization's supervision policies. Older students should notify or check in with their coach before leaving for the washroom and upon their return. APEGA volunteers, judges, and event staff do not provide student supervision and are not responsible for accompanying students to the washroom.

My child has special needs. What should I do?

If a child on your team has medical, physical, behavioural, sensory, communication, learning, or other support needs, please contact the APEGA Science Olympics organizing team at outreach@apega.ca. Advance notice allows us to work with you to identify potential accommodations, helping ensure every child has the opportunity for a positive experience and meaningful participation in the event. We are committed to creating an inclusive environment and will make reasonable efforts to support the diverse needs of participants.