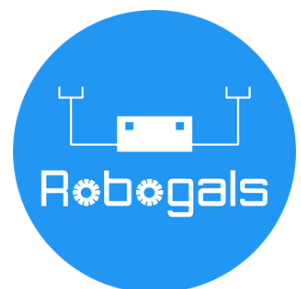


ROBOGALS SCIENCE CHALLENGE

Competition
Guidelines



About us



Robogals is a not-for-profit, volunteer-led organisation that aims to decrease the gender disparity in STEM fields. Our STEM workshops are run free-of-charge to allow female and gender diverse students to explore various STEM disciplines in a supportive environment.

The Robogals Science Challenge is an outreach initiative run by Robogals to complement the core Robogals workshops. The Science Challenge competition aims to engage students to become involved in STEM beyond the classroom and explore a variety of STEM fields.

Competition Information

The Robogals Science Challenge is a **global, online STEM competition** for **girls and gender diverse students aged 5-15**. It aims to promote innovation and exploration through hands-on projects, which can be completed with the help of a friend, parent, or mentor.

The competition has two main components: the Minor Challenges and the Major Challenge. Students are required to complete at least two Minor Challenges or participate in a local chapter-led Science and Engineering Day to be eligible for the Major Challenge.

Students may participate in the competition as individuals or as pairs.

Participants will be split into the following **three age categories** for the competition:

Junior: 5 - 8 years of age

Intermediate: 9 - 12 years of age

Senior: 13 - 15 years of age



Robogals Science Challenge

A Robogals global STEM competition for girls and gender diverse students aged 5 to 15.

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What are Minor Challenges?

The Minor Challenges are a series of mini-projects related to various STEM disciplines which are released on our website throughout the course of the Science Challenge timeline. Challenges can be submitted in video, photographic, and/or written format.

Participants need to complete at least two of Minor Challenges to be eligible for a Major Challenge submission.

What is the Major Challenge?

The Major Challenge is an inquiry statement which is set mid-way through the Science Challenge program. It is an opportunity for students to create their own research project and explore an area of STEM that interests them.

Following their STEM exploration, participants submit a 4-minute video to share their findings, accompanied by a short written response.

What are Science and Engineering Days?

Science and Engineering Days (SEDs) are a one-day event held in collaboration with local Robogals chapters globally. SEDs may be held either virtually or in-person, depending on the preference of the chapter organising. During the event, students complete 2-3 workshops alongside Robogals volunteers. For SED dates and locations, please keep an eye out on our website, socials and email updates.

Attending a SED fulfils the pre-Major Challenge requirements for the competition, making all attending students eligible for the Major Challenge. SED workshop attendance is a completely **optional** component of the competition. If students are unable to attend or would prefer to complete the Minor Challenges instead, that is fine and will not impact their participation in the competition.

Major Challenge Guide

Project Guidelines

You can explore any area of STEM for your Major Challenge project. Some ideas to get you started might be to expand upon a Minor Challenge, build an engineering structure, design an experiment to test an idea you've always been curious about. This is an opportunity for you to explore and learn about something that fascinates you!

All Major Challenge video and written components are required to be submitted in English.

Video Guidelines

You will be required to submit **a video** as part of your Major Challenge submission. Submission of the video can be done through the online form on our website and the link will also be emailed to you.

Your video can feature a mentor and up to 2 students explaining and demonstrating the project. If it is not practical to film the project, your video could show photos together with a narrated explanation of your exploration.

Your video should be at most **5 minutes long** and student(s) should do at least 75% of the explanation.

The mentor's role is primarily to encourage and guide students during the competition; to assist with dangerous tasks (e.g. using a stove or sharp utensils); and to help support students as they formulate ideas for their Major Challenge project.

Content guidelines

Participants should answer the following questions in their video:

1. What is your project about
2. What have you learnt from this project?
3. How is your project useful for society?
4. Why have you have participated in the Robogals Science Challenge and why should other students participate?

For a more detailed breakdown of the questions to be answered, please see **Appendix A: Submission Questions**.

Judging

The aim of the competition is to promote STEM exploration and help students develop scientific communication skills.

Participant submissions will be judged on:

- a. their video, and
- b. answers to the written submission questions (outlined in **Appendix A**)

Major Challenge submissions will be marked against a judging matrix, which asks judges to look at the following components:

- the creativity and complexity of the project idea (with respect to the participant's age)
- the participant's understanding and explanation of the scientific theory behind the project
- the participant's explanation of the societal implications of their project
- the participant's contribution to the completion of the project/participant's own work

Prizes

The top three entries in each age category (Junior, Intermediate, and Senior) will receive a certificate, medal and an appropriate STEM-based prize for their efforts.

All participants will receive a digital certificate of participation.

Contact

To stay up-to-date with the competition please refer to our official website and follow our Facebook and Instagram pages. Please feel free to reach out to us email if you have any questions or concerns about the competition.

Website	www.sciencechallenge.org.au
Email	scichal@robogals.org
Facebook	facebook.com/RobogalsScienceChallenge
Instagram	@robogalsscichal

Appendix A: Submission Questions

Participants should answer the following questions in **their video**:

1. What is your project about?
2. What have you learnt from this project?
3. How might your project be useful for society?
4. Why did you choose to participate in the Robogals Science Challenge and why should other students participate?

Participants will also be required to answer the following questions in **their written submission**:

1. Why did you choose this project and how did you come up with this project idea?
2. What did you enjoy most about this project?
3. What have you learnt from this project?
4. How did your project improve and/or change your understanding of STEM?
5. How did your mentor help you?
6. STEM is needed for the progression of society. How might your project be used in society? What are some of the broader uses and implications of your project?

Participants in the **Intermediate and Senior categories** will be asked to address the **additional question** on the following page.

Intermediate and Senior Submissions Only:

7. Briefly explain:

- The underlying scientific theories/principles behind your project
- Why you chose this method and equipment
- If you carried out an experiment:
 - Whether the experiment is an accurate and repeatable experiment, and why
- Any formulas or calculations used in your project

Your response to Q7 should be half a page to one page in length.