

Robot Game & Robot Design: STRATEGIES

Before starting work on your Robot Game strategy please read the [robot game rulebook](#). Code must be preloaded on to the robot, and there are restrictions for launching and touching when gameplay has started. Errors, mistakes, accidents, mishaps, failures... all of these can and do happen! How will the team deal with these during a game?



Hints - Robot Game Strategy:

- Make notes on your design and strategy, something the whole team can add to as your strategy progresses and refer to during your tournament.
- Document progress, including any failures and improvements. Judges will want to hear how your robot design and strategy have progressed.
- Judges will want to see a student-led design for the robot itself.
- Think about how to line up the robot up on the mat at the start.
TOP TIP: Creating a jig to use in the home base helps with alignment.
- Start simple with your robot game strategy - Identify which missions could be completed by just pushing something on the model. Which missions are close to base, and can be reached by simply moving in a straight line?
- Only the position of the mission model at the end of the challenge round matters for scoring.
- Be aware of the 'no equipment touching' and 'touching the mat' rules. **TOP TIP:** you may need a program to move your robot between launch zones.
- Make sure the whole team knows which missions they're trying, what the game plan is, and what their role is during the game.

Creating your Robot Design presentation

- Use the [judging rubrics](#) to check that presentations mention everything the judges will be allocating marks for.
- Presentations must be no longer than 5 minutes, practice makes perfect!
- For the Robot Design presentation, decide how to present the game plan to the judges, e.g. how were the routes and attachments decided on? How many motors / sensors / wheels are there and what do they accomplish?
- Present your documentation showing changes and adaptations as you progressed through your design and build phase.
- Make sure teams can describe everyone's role.

Robot Game & Robot Design: SCORING

At the regional tournament the teams' Robot Design (25%) and Robot Game (25%) will be assessed by judges and referees respectively. Teams will also be assessed on their Core Values (25%) throughout the day.

Scoring the Robot Game (Referees)

A referees job is to make sure that the game is fair for all participants. Scoring for the robot game is collaborative, meaning teams can speak to the referees and can challenge a referees decision. If a situation is unclear, then the referee will give the team the benefit of the doubt. Referees will also evaluate the teams' Gracious Professionalism (a part of Core Values), so remember to have fun and be supportive of your teammates and considerate of those around you.



Scoring the Robot Design (Judges)

Judges are very friendly and patient, they'll try not to put too much pressure on the team. Judges will encourage teams to explain their ideas and challenges, and how they worked together, but the team will only have limited time: Innovation Project (5 minutes), Robot Design (5 minutes) and Q&A (10 minutes). Presentations can be in any format, and teams can bring props / prototypes / posters or other items to help explain ideas.

Judges will score the **Robot Design** from 1-4 under the following categories:

- **IDENTIFY** – Team determined which missions to attempt, explored building and coding resources, and sought guidance as needed.
- **DESIGN** – Team members worked collaboratively on their designs and developed the building and coding skills needed.
- **CREATE** – Team developed original designs or improved on existing ones according to their mission strategy.
- **ITERATE** – Team repeatedly tested their robot and code to identify areas for improvement and incorporated the findings into their solutions.
- **COMMUNICATE** – Team effectively explained what they learned from the robot design process and celebrated their progress.

Innovation Project: HINTS & TIPS

- Use the judging rubrics (download [here](#)) to check that presentations mention everything the judges will be allocating marks for.
- Presentations can be in **any format** (and we'd encourage you to get creative). We've seen everything; posters, plays, models, quizzes and cooking shows!
- Teams can bring a prototype of the solution they have invented or other props to help demonstrate ideas.
- Presentations must be no longer than 5 minutes.
- For the Innovation Project presentation, capitalise on any local links to the theme and get out into the local community to test your ideas. In your presentation describe how this went and the impact of your project, and any feedback received. Judges love to see idea sharing and a proactive approach.
- Make sure teams can describe everyone's role, and how you worked together
- Practice your presentation, ideally in front of an audience.



Scoring Innovation Projects (judges)

Judges are very friendly and patient, they'll try not to put too much pressure on your team while assessing your Innovation Project. Judges will be encouraging, and really want to hear about your ideas and challenges, but you'll only have limited time: Innovation Project (5 minutes), Robot Design (5 minutes) and Q&A (10 minutes).



Judges will score **Innovation Projects** from 1-4 under the following categories:

- **IDENTIFY** – Team had a clearly defined problem that was well researched.
- **DESIGN** – Team worked together while creating a project plan and developing their ideas.
- **CREATE** – Team developed an original idea or built on an existing one with a prototype model/drawing to represent their solution.
- **ITERATE** – Team shared their ideas with others, collected feedback, and included improvements to their solution.
- **COMMUNICATE** – Team shared an effective presentation of their solution, its impact on others, and celebrated their team's progress