



FAQs

Resources & technical support

What resources should I have, and do I need to pay for anything additional?

EITHER:

- 1 or 2x LEGO EDUCATION MINDSTORMS EV3 core sets & chargers
OR
- 1 or 2x LEGO EDUCATION SPIKE PRIME core sets & chargers

AND:

- Environment themed challenge mat
- Ramp
- Lego pieces

You do not need to pay for any resources.

What if resources go missing? We charge a replacement fee, please email to arrange.

LEGO Freewheeler/botanicals	£10.00
Challenge mats (in tube P&P)	£82.00
Ramps	£10.00
Postage	£14.00

You can order Lego replacement pieces from: <https://www.lego.com/en-gb/service/replacementparts/>

What software should I download?

The software you need to download will depend on which robot kit you have. If you have the SPIKE PRIME kit, you will need to download the following:

<https://education.lego.com/en-gb/downloads/spike-prime/software>

If you have the MINDSTORMS EV3 kit, you will need to download the following software:

<https://education.lego.com/en-gb/downloads/mindstorms-ev3/software>



Where can I go for technical support?

You can contact our LEGO Education trainer John Pinkney at any time on john@raisingrobots.com, or visit www.raisingrobots.com for support and tutorials

Putting a Team Together

Can teams be mixed year groups? Yes, you can have a mixture of year groups of children aged between 10-14 (KS3)

Can older teams support the club? Yes, older students can act as 'mentors' to the younger team members

Can we have more than 10 in a team? We recommend 10 as the ideal number, as we will be running face to face heats, we must bear in mind venue capacity.

Can I invite a STEM Ambassador to support or visit the team? Yes, our research shows that the more contact a young person has with someone from a STEM career, the more likely they are to choose a STEM career themselves. Find out more about STEM Ambassadors and put in a request via STEM Learning:

<https://www.stem.org.uk/>

Will it matter if we can't hit the 50% girls' criteria? Having 50% female participants is a national target for the Robotics Challenge as a whole. One of the key aims of the programme is engage underrepresented groups in engineering. We encourage schools to bear this in mind when putting together a team, but please do not worry if you can't hit this target

COVID-19

Our school is not currently running after school clubs. How can we run the Challenge? We understand that it has been exceptionally difficult in schools over the last few years therefore we encourage schools to do as much or as little as they can given the circumstances.

General Information on the challenge

Where can I find information about the challenge? Challenge information is online in the: challenge guide, teams guide, competition score sheets, presentations, and lesson plan guidance. It can all be found here: [Teacher zone | Robotics Challenge](#)

What is the time limit for each section of competition? You have 5 minutes, 30 seconds to complete the robot challenge, 5 minutes for robot design and project presentations. The teamwork challenge will vary in time scale per event.



What do I need to enter? Your team should complete their Digital Challenge Portfolio. A template for this will be sent over to you in due course

What do I need to bring on the competition day? Your charged up robots, any project presentation materials and of course your team of young engineers.

Can a different teacher attend the competition day in my place if needed? Yes another teacher from your school can attend in your place.

Speed & Control Challenge

How long do I have to complete the challenge? You have two turns which take up to 2 minutes each

Is it OK to have a separate robot for the speed challenge from the mat challenge with a different brick on it? You can use another LEGO MINDSTORMS / SPIKE PRIME brick for the Speed Challenge.

Can I nudge my robot if it looks like it will fall off the table? Yes, it is fine to give your robot a little nudge as long as you don't boost the speed of the robot or move the robot along further.

Should I go up to the white line and reverse back, or do I need to turn? It is completely up to you!

Are we restricted to how many motors can be on the speed challenge? You are allowed up to four motors for the speed challenge

What is the speed challenge distance? Get your LEGO® MINDSTORMS® Education EV3 moving as quickly as possible over 400cms in a straight line

Robot Challenge

Where does the robot start from for ramp challenge? The robot should start from the base area and turn to go up the ramp. Points are deducted if the robot needs to be placed at the bottom of the ramp.

The numbers on the mat, do they have any relevance apart from placing the tyres? Roll the two dice and position your tyres on those numbers. If a double is rolled, you get to choose your numbers.

Can we use a different robot for the ramp challenge or other tasks on the mat? You must use the same LEGO MINDSTORMS Intelligent Brick throughout the five-minute robot challenge

Can the robot be modified between tasks? The robot can be modified in-between challenges in the base area.

Does the engineer need to be lifted? No.

Can you change the ramp height if you are failing? Not during the challenge. You need to decide the height beforehand. You also get two tries at the mat challenge during the day and the best score counts.

How many of the team members will be at the table? No specified number



Project Presentation

What do teams do for the presentations? Teams research, design and present their own solution to future proofing the world. This can be done creatively e.g., by telling a story. More information in the challenge guide.

What is the topic? 'How could engineers help future-proof the world?' More information is in the challenge guide.

Who is the presentation to? Volunteer STEM reviewers. They are scientists and engineers among other professions. They are very keen to see what ideas each team has developed.

Will we be able to show presentations? If using PowerPoint, please be advised to bring a laptop and USB of the presentation. Some venues may not have available WIFI if the presentation is online. More information is available here: [Robotics Challenge Teacher Zone](#) .

Can we use our project presentation in other similar competitions?

You can submit your project presentation to The Big Bang Competition which recognises and rewards young people's achievements in all areas of STEM, whilst providing them with the opportunity to build their skills and confidence in project-based work. Finalists compete for over £20,000 worth of amazing prizes. To enter please submit [here](#)

Why not register for [First Lego League](#) which challenges children ages 4 to 16 to think like scientists and engineers using LEGO Robots. The skills developed whilst participating in this programme prepare young people for the 21st century workplace and give them the confidence to consider careers in engineering and STEM.

Can I invite a STEM Ambassador to support the programme or visit the team?

Yes, our research shows that the more contact a young person has with someone from a STEM career, the more likely they are to choose a STEM career themselves.

Find out more about STEM Ambassadors from [STEM Learning](#)

Big Bang Fair / Finals

Should we book tickets to go to the Big Bang UK Fair? If you win a place at the robotics challenge UK final you won't need to book direct, we will do that for you. If you want to go as a visitor for FREE then please book your place as soon as possible (Registration open now) to avoid disappointment as the show does sell out at <https://www.thebigbangfair.co.uk/>



Continuing/discontinuing with the challenge

Continuing

What happens to the Robotics Challenge next year? We ask all participating schools to confirm their participation the following year before the end of the year or return the kits so we can get another school involved. Teams can also choose to take part in FIRST LEGO League without returning kits- please let our delivery partners know.

Can the team who took part take part in the Robotics Challenge this year continue next year? We ask units to recruit a new set of teams each year, but the team could continue and take part in the FIRST LEGO League which is delivered by the Institution of Engineering and Technology (IET).

FIRST® LEGO® League challenges children ages 9 to 16 to think like scientists and engineers. Teams will choose and solve a real-world problem for their project. They will also design, build, and program an autonomous robot using LEGO Mindstorms technology to solve a set of missions in the Robot Game. Throughout their experience, teams will operate under the *FIRST® LEGO® League* Core Values, celebrating discovery, teamwork, and inclusion. The most important thing is for everybody to have lots of FUN! [Home Page | FIRST LEGO League](#)

How do I discontinue the Robotics Challenge? Please email your local robotics challenge organiser and let them know [contact information is here](#). We will need to collect your LEGO kits and all your robotics resources, so we can send on to new schools. If you are taking part in the FIRST LEGO League this rule does not apply but you must let us know.

How can we deliver the challenge in a COVID safe way?

We want to make it as easy as possible for you to get involved and see how your students get on. This is not about every school completing every element of the challenge but doing what is manageable in your setting.

Worried about hygiene?

As the teacher you can build the robot and then get your students to programme it on their iPad. Students take it in turns to programme it.

You can find the Lego hygiene guidance here: <https://education.lego.com/en-gb/support/in-person-steam-resources>

No extracurricular clubs allowed

You could run an off-timetable day with a selection of students and get them to have a go at the different challenges.

If that isn't possible you can give your students access to [scratch programming](#) . Your students can practice coding on this before using their Spike Prime / Mind Storm Robot. This could even be a good way to select a handful of students that get to use the physical robots.



Where do I start?

New Schools:

1. **While you wait for your equipment (challenge mat, ramp, Lego pieces) to arrive you can get started on the following tasks...**
 - Project Presentation – Ask your students to start preparing a presentation on how Engineers can make the world a cleaner and more sustainable place! Make sure it is well researched and your students have got their information from credible sources.
 - Get building and coding with the SPIKE Prime / Mindstorm Robots in school!
 - Use Scratch 3 – [Scratch - Imagine, Program, Share \(mit.edu\)](https://scratch.mit.edu)
 - We have access to some Robotics Challenge Scratch files that give your students some extra tasks and pointers on how they can program their robot! E-mail: roboticschallenge@bydesign-group.co.uk and ask to be sent the “Robotics Challenge Scratch Files” and a member of the team will be in touch.