



Design Competition Overview

The 1851 Trust Design Challenge Competition is a national STEM competition that aims to inspire, and challenge young people in secondary schools, using the real-life cutting-edge context of the British America's Cup team, INEOS TEAM UK. It calls on students to identify an opportunity and come up with innovative solutions to support the team in bringing home the America's Cup for the first time since 1851.

Running over the course of the summer term, the competition could be run as a class activity, STEM club or activity day challenge. The competition brings the story of the British challenge for the America's Cup into classrooms around the UK. Cash prizes are up for grabs to engage and support STEM learning in your school!

Who can enter?

- The challenge is open to UK secondary school students up to the age of 16.
- Students may enter as individuals or a team of up to four people.

The Competition

The new rules for the 36th America's Cup have now been released. Your challenge is to design something that addresses **one** of the following contexts relevant to the British America's Cup team, INEOS TEAM UK:

1. Sir Ben Ainslie is always looking for innovation when controlling the boat. How could you enhance its performance?
2. Clothing is a prime consideration for members of the team to work effectively and safely. Can you design an item of clothing or kit to keep the sailing team as safe as possible?
3. INEOS TEAM UK is committed to being a sustainable sports team. Team members do all they can to reduce their carbon footprint. The team will be building a temporary base in Auckland, New Zealand. Can you design a renewable energy solution to provide power for the base?
4. As part of the INEOS TEAM UK's drive to be as sustainable as possible single-use water bottles are discouraged. Can you come up with a creative solution to ensure the team remain hydrated both on the water and ashore?

Resources

- You will need to choose **one** of the four design contexts and consider the function, materials, sustainability, relative cost and aesthetics.
- You **must** use the [student workbook](#) available as part of the Design and Technology Contextual challenge resources on our [STEM Crew](#) website (referring to other STEM resources on the site may also improve your student's entries).
- Use the student workbook to help you reach your final design using the iterative design process of explore, create and evaluate.



HOME REGISTERED SEARCH

STEM CREW supported by INEOS

ABOUT RESOURCES SCHOOL VISITS GO SAILING CONTACT

D&T CONTEXTUAL CHALLENGE

DESIGN & TECHNOLOGY | GCSE NEA | KS3 | KS4

LEARNING OBJECTIVES

1. a. Explain the iterative design process within a commercial and sporting context.
 b. Describe and demonstrate how to explore a design context using a context map.
 c. Know and practise how to write a challenging and relevant design brief.
2. a. Identify and use a range of techniques for generating design ideas.
3. a. Explain the importance of evaluation in the design process.
 b. Know how to evaluate a design proposal.

LESSON DESCRIPTION

This Design & Technology (D&T) resource has been produced to give

CONTEXTUAL CHALLENGE

This film introduces the iterative design process, using the real-life example of the British America's cup steering wheel for the 35th America's Cup. It explains how you go through the explore, create and evaluate cycle, before starting all over again to refine designs and make them fit for purpose.

STEM CREW DAT Student Workbook

Developing ideas

Use the SCAMPER technique to develop and focus your best ideas.

KEY TERMS: SCAMPER technique

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STEM CREW DAT Student Workbook

Your design brief

Using your research, choose one from the context map, work together to create a unique design brief.

Write the final version of your design brief here:

Review

Before you finish, can you answer 'yes' to all of these questions?

- Is your brief challenging?
- Is it relevant to the context?
- Does it identify the primary user?
- Does it consider any other stakeholders?

KEY TERMS: Research, Explore, Create, Evaluate, Refine

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How to Enter

- Once you've come up with your design (using the student workbook), you will be required to put together a short PowerPoint presentation (maximum of five slides) for submission.
- You may want to consider taking photographs and adding them into your presentation to show any of your design sketches and modeling.
- Schools will need to submit all presentations by email to: education@1851trust.org.uk with the header page provided on the website detailing the names and ages of team members and the name of the school by the 5 July.

Judging

- The entries will be judged by a panel from The 1851 Trust Education team, as well as Designers and Engineers from INEOS TEAM UK.
- Each entry will be judged on its strength of design, not just the invention alone.
- Judges will be looking at how you reached your final design and how it was developed using the iterative design process which INEOS TEAM UK's design team follows.
- The competition entries will be whittled down to one overall winner as well as two runners up.

The prize!

- The winning team or entrant will receive a free day sailing at one of our flagship sailing centers.
- Overall winner will also receive £250 for the school to support STEM learning.
- Second prize £100 for the school.
- Third prize £50 for the school.
- Every school that submits an entry to the challenge will receive a free modern materials sample pack showing how cutting-edge materials are used in the design and construction of the America's Cup boat for use in DT and Science lessons.

Key dates:

- The competition will open for entries from **3 May 2019** to **5 July 2019** at **17:00 BST**. The 1851 Trust will not accept any entry after this time.
- Judging will take place between 8 - 12 July 2019
- Winners will be announced during the week commencing **15 July 2019**.



Terms and Conditions

- 1.1 This competition is organized and administered by The 1851 Marine Trust, registered charity No. 1158670.
- 1.2 The competition will open for entries from **3 May 2019** to **5 July 2019** at **17:00 BST**. The 1851 Trust will **not** accept any entry after this time.
- 1.3 The competition is open for UK secondary school students up to the age of 16.
- 1.4 An individual or team may submit one entry only. Schools may submit multiple entries from different individuals or teams.
- 1.5 Competition entries may only be made through the submission methods as indicated in the competition overview.
- 1.6 We reserve the right to share the winner and runners up designs on social media and our website.
- 1.7 The prize is as specified in the competition information. Sailing will be offered at one of the 1851 Trust flagship sailing centres (subject to availability).