



NAVAL ENGINEERING COMPETITION 2019 Information Pack

The Royal Navy is regularly involved in disaster relief missions alongside other Organisations, Charities and Foreign Governments. For example, after Typhoon Haiyan struck the Philippines the Royal Navy supported 22,000 people and provided 70 tonnes of food to survivors. Providing and improving our ability to help those in need is one of the continuing challenges to the Royal Navy, the Royal Fleet Auxiliary and all those who work in the UK's Naval Engineering, Science and Technology Community.

At the moment, normal Navy vessels are used to respond to disasters, but these ships are not built specifically for this purpose. A specialised disaster relief ship might be able to help more effectively. As such this year's challenge is to:

“Design a Disaster Relief Ship to quickly get to the site of a natural disaster and provide adequate assistance”



The UK helping those in need all around the world

AIMS

This year's Naval Engineering Competition aims to challenge young people to show their creativity and innovative thinking. It is aligned with National Curriculum Key Stages 1, 2 and 3 for both Science and Design & Technology, reflected in our set of objectives which are to:

- Develop an understanding of the **real-world application** of Scientific and Engineering knowledge;

- Allow students to develop the **creativity** needed in order to participate in an increasingly technological world;
- Build understanding and skills in order to **solve real and relevant problems**;
- **Working as a team** to tackle complex challenges;
- Show how Science and Engineering can be used to the benefit of mankind.

PRIZES

Each design will be judged by a group of industry professionals, according to age category (Primary and Secondary), to allow for the varying levels of detail expected at different ages. The best three designs from each age category will all win prizes for the school they represent.

Years 1 – 6 (Primary) iPad
Years 7 – 11 (Secondary) iPad Pro 10.5"

The winning entrants may also be invited to a prize giving event hosted by the Royal Navy.

WHERE TO START

First things first, come up with the team/vessel name! Then start thinking about your design, here are some questions to help entrants start to imagine what their design will be:

1. What types of Natural Disasters are there?
2. How do these disasters affect people, settlements and the environment?
3. How have the Royal Navy and the Royal Fleet Auxiliary helped people in the past?
4. What kind of help do victims of a disaster need in the first hours, days and weeks?
5. What coastline features will your ship encounter; obstacles, hazards or challenges?
6. What services/assistance will be offered?
7. What facilities will be needed on board?
8. What stores will be needed?
9. How will you get these stores/capabilities ashore?
10. How big is your ship as a result and how big is the crew?

WHAT TO MAKE

Designs should be shown on an A3 Poster, with all of the 'Key Design Features' labelled. This can either be done by hand or on a computer, it's up to you!

In addition, please provide some sketches or a collage of your first ideas and a short written explanation describing where your ideas came from and how you agreed the concept of your ship. Give a short description of pros and cons of each concept and why you chose to develop one concept more than the others.

Older students may wish to include simple calculations to demonstrate comprehension of the issues involved with designing a ship. For example if you wanted to have enough bottled water aboard for 1000 people for 3 days how much space would this require to store? How much would this weigh?

All in all, the written description should be no more than two sides of A4.

So you need to make:

- An A3 Poster
- A two-side (max) A4 report telling the story of your ship and your ideas.

Two poster examples are provided as a guide in the 'Hints and Tips' section.

HOW TO SUBMIT THE DESIGN

When entrants are happy with their design, their teacher can submit the poster and report via our online submission form. All computer files, both for the poster and the report should be uploaded to the competition website as .pdf.

One entry (poster and report) should be sent on each form.

The competition ends on the **1st December 2019**, all designs must be submitted by a school member of staff only to the UKNEST website by this date. Competition T&Cs can also be found on the website.

Your File Names MUST be in the form:

School Name_Team Name_Year Group_Poster
School Name_Team Name_Year Group_Report

Your School Name_Team Name_Year Group MUST be included on the poster and report.

The maximum TOTAL (i.e. both poster & report files) must not exceed 20Mbytes.

Good Luck and Have Fun!