**How can we design a product to minimise its impact on the environment?**

**Task**

Your task is to answer the Big Question above using a wide range of information.

You may find the information available in STEM Crew’s digital resources helpful. These resources are all inspired by INEOS TEAM UK, the British challenger for sailing’s America’s Cup.

**Not heard of the America’s Cup before?**

Find out more about the America’s Cup, the formula 1 of sailing and the amazing 60mph sailing boats that race for the Cup by watching:

[INEOS TEAM UK's challenge for the America's Cup](https://benainslieracing.sharepoint.com/sites/1851/Shared%20Documents/Education%20Projects/STEM%20Crew/Resources/Distance%20Learning%20Projects/INEOS%20TEAM%20UK%27s%20challenge%20for%20the%20America%27s%20Cup)

and having a look at the information and videos on [www.stemcrew.org](http://www.stemcrew.org)

**How to begin**

1. Use the mind map sheet to plan how you will answer the Big Question
2. Watch the videos listed below and make notes about what you have learned
3. Communicate your learning by choosing your preferred presentation method

There is no single correct answer to the question. Answering the question involves research and independent learning in order to be able to present your findings to your teacher and class. You can also use information from other sources to help answer the question.

This investigation is an extended project and you should aim to spend 5-8 hours on it. Keep your **project log** up to date to make a note of all your hard work!

**Videos**

The following videos will help you answer the Big Question.

<https://www.stemcrew.org/resources/materials-and-their-uses/>

<https://www.stemcrew.org/resources/dt-contextual-challenge/>

<https://www.stemcrew.org/resources/life-cycle-assessment/>

<https://www.stemcrew.org/resources/modern-materials/>

<https://www.stemcrew.org/resources/solar-panels-modelling-and-data-analysis-lesson-1/>

<https://www.youtube.com/watch?v=NbyPcb70bfk> (INEOS TEAM UK shortfilm)

**Presenting your work**

Here at STEM Crew HQ we have a focus on **creativity.** So why not be creative with how you present your project? Here are some ideas to get you started;

* Create a vlog
* Use green screen app to virtually put yourself at the INEOS TEAM UK Base or on the boat itself
* Produce a Prezi <https://prezi.com/>
* Keep it formal and produce slides using PowerPoint
* Really impress your teachers and use the ExplainEverything app <https://explaineverything.com/download/>

**Mind Map Planner**

Focus the question to a more specific point – for example, do you want to focus on the raw materials used, manufacturing methods, its impact to the environment when in use or when finished with? Remember you can use a combination of multiple factors as it is important to look at the whole picture.

Why have you come to this conclusion? Back up your opinions with evidence.

How can we design a product to minimise its impact on the environment?

Decide how you want to present your project. There are some ideas listed above to provide inspiration, but do not feel that you are limited to these. Be as creative as you can!

How can the team draw from previous experiences to reduce the impact on the environment? Which team members may have experience in this?

How can we learn from the steps the team make to reduce the impact on the environment to influence our lives?

What is the end goal of INEOS TEAM UK? Why might we want to be as sustainable as possible? How might this influence what we do?

What are the key parts of the product that the engineers will look at improving? Would all improvements provide equal increases in sustainability?

Would all the engineers do the same job? What specialists might be needed?

**Project Log**

|  |  |  |
| --- | --- | --- |
| Date | Research and investigation completed: | Time taken |
| **23.3.20** | **Watched video and made notes about history of America’s Cup** | **30 mins** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Other information used**

|  |
| --- |
|  |