Designs for your *future*

Sustainability Challenge 2023

Who is the challenge for?

The competition is open for students in years 8 and 9. You can work on your own or in groups of up to four people.

You will need to design a product which solves a real-world sustainability problem of your choosing. You will need to focus on one problem and come up with a product which can solve this.

You will need to consider the impacts of every step in a product's entire lifecycle: collecting materials, production, transportation, use (the only one we normally see), and its reuse/disposal. If a product is entirely sustainable, the disposal phase will begin the life of a new product. It won't simply be going to landfill!

Your design will need to have a rationale supported by research (a reason why the product is required) as well as the product dimensions. Consider how the product will be manufactured and the materials needed.

How long will it take to complete?

We suggest you spend 8-10 hours on the challenge. Not all of this time will be teacher supervised so we'll be looking for evidence of how you organised yourselves and worked independently.

When is the closing date?

All submissions need to be received by midday, Friday 9 June 2023. Winners will be notified on Friday 23 June 2023.

What is sustainable design and why is it important?

Environmental sustainability is all about our society acting in a way that works for our generation now, and all the generations in the future. That means living more in tune with our environment and needs action across the three pillars: environment, economy, and society (also known as people, planet, prosperity).

Sustainable design seeks to reduce negative impacts on the environment that come from products and aims to create efficient and impactful solutions that are better for people and our planet. The following principles should guide sustainable design:

1. Designing out waste and pollution (no more excess packaging, wasted energy or water in production, or consumption of non-renewable resources)
2. Keeping products in use (through reusing, redesigning, repurposing, or fixing)
3. Supporting nature (in what way can this design feed into nature?)

Guidelines

Your final submission will be judged on the following criteria below. You will need to complete the Challenge Journal either individually or as a team, which will take you through each section of the requirements. The Challenge Journal can be completed digitally or printed out.

Design ideas

- Consider the future, what will our needs be and what can revolutionise our lives? We're looking for fresh and exciting ideas that provide an inventive solution to the Challenge.
- Develop your ideas - state what problem or area you're tackling and why. What led you to choose your idea? It might have been a personal experience, observation, research, the news or even a media story.
- Think about 'construction', how is it made and what from, 'function', how will it solve your problem, 'economics', how much will it cost to make, and aesthetics, what will it look like.

Design rationale – what, why, how, who?

- What is your solution – show or give a description of your idea
- Explain why it is needed, why you chose it, why it is essential or a priority, why your solution will make a difference
- How can the idea be achieved or delivered?
- Who will benefit from your idea? Who does it help - people, society, the workforce, schools, business, industry, or production? How will it help them?

Final design

- You will need to provide detailed and accurate drawings of your idea
- This will need to be to scale, with notes about materials and how to manufacture
- Your drawings should be from different perspectives, including 2D and 3D compositions. You can choose to do this on paper and/or using computer-aided design (CAD) software.

Reflection

- How was your journey when you worked on the Challenge?
- This could cover the creative process, design, production, working as a group, tense discussions, how much time you spent on the Challenge overall, the team roles within your group, overcoming obstacles, finding your enthusiasm, what you learnt (about the world or yourself)
- Include how your teacher supported you with the Challenge and what you completed independently.

To get started and receive your journal, email schoolsliaison@bournemouth.ac.uk