



# Year 10 design challenges

Building your creativity

# Aims

- ▶ This PowerPoint contains a series of design challenges.
- ▶ Each is intended to last for the equivalent of a double lesson (approximately 80mins)
- ▶ The idea is that you are confronted with a design challenge based on a real world problem.
- ▶ You are then required to produce a single page of concepts (approximately 5 designs) showing a variety of designs/ideas which could solve this problem.
- ▶ Each design challenge will be marked out of 20. The description of what will be looked for by your teacher can be found on the next slide.
- ▶ This is closely based on the criteria used at GCSE level



# Mark scheme description

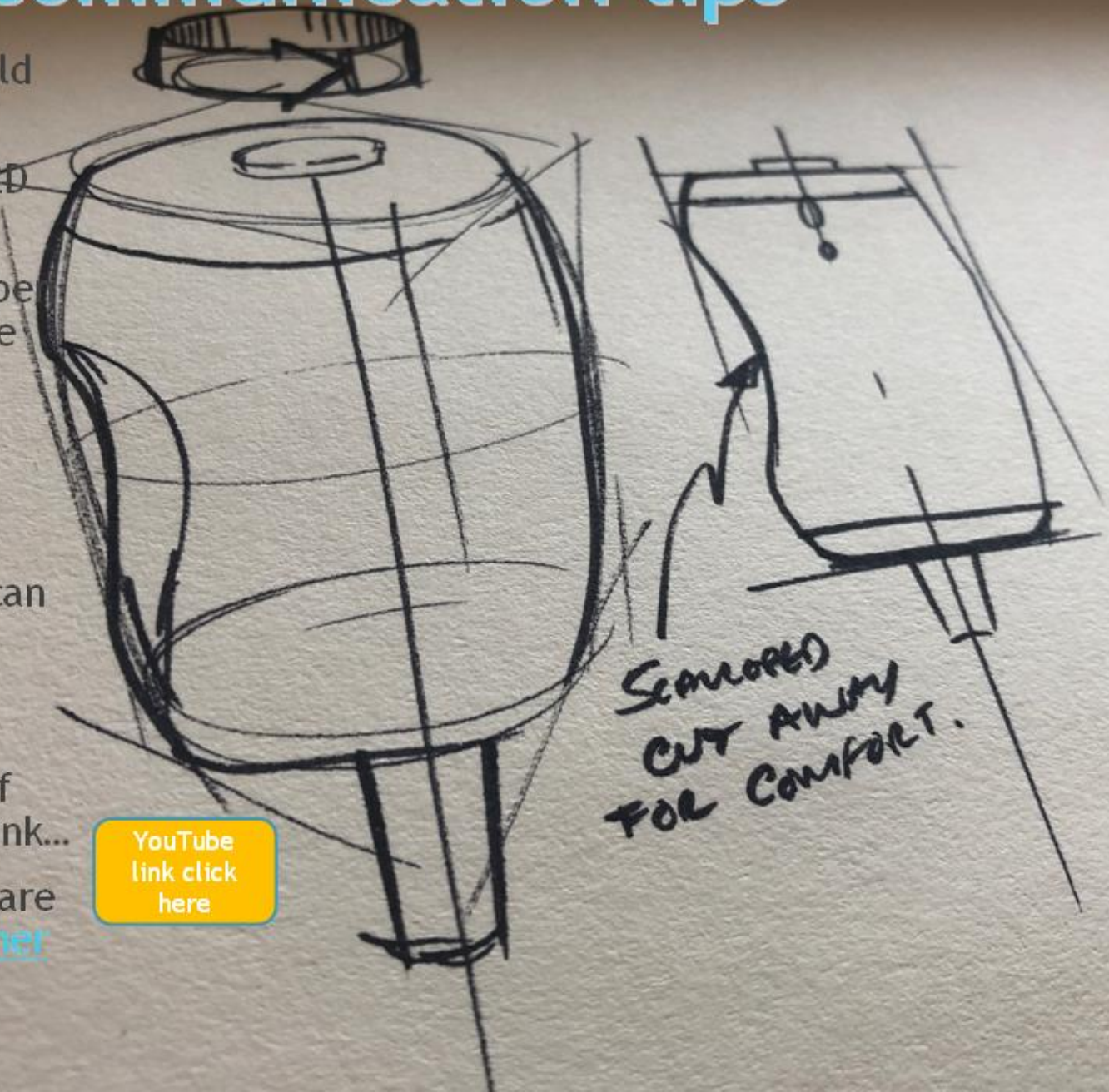
- ▶ Students should explore a range of possible ideas linking to the initial context statement.
- ▶ These design ideas should demonstrate flair and originality and students are encouraged to take risks with their designs.
- ▶ Students should use a variety of presentation techniques to communicate.
- ▶ Students are encouraged to be imaginative in their approach by experimenting with different ideas and possibilities
- ▶ Students are expected to show some innovation by generating ideas that are different to the work of the majority of their peers or demonstrate new ways of improving existing solutions.
- ▶ Imaginative, creative and innovative ideas will have been generated with consideration of functionality, aesthetics and innovation.





# Presentation and communication tips

- ▶ Sketch clearly, your diagrams should be easy to understand
- ▶ Consider the view you are using - 2D or 3D? Multiple views? Close ups?
- ▶ Sketch lightly in pencil, use black pen to enhance your work when you are happy with it
- ▶ Colour is good but not always necessary
- ▶ Annotations should explain your thinking, not merely 'label' what can already be seen
- ▶ There are a lot of great YouTube videos on sketching and communicating techniques. One of them can be found following this link...
- ▶ Other YouTube channels to follow are [Spencer Nugent](#) and [product designer maker](#)





# Challenge 1- hygiene



- ▶ Hygiene is at the front of most peoples mind currently. We are advised by the government to wash our hands thoroughly and be aware of social distance.
- ▶ It has been noted than bacteria and viruses can linger on surfaces long after they have been touched. Design a range of products that can help the user interact with communal items e.g. door handles, toilet flushes, card payment machines, soap dispensers, pelican crossings, computer mouse, money etc.
- ▶ You can consider a specialist tool for one particular use or develop a product to help in a range of areas
- ▶ Consider if you are hoping to help a particular user or group of users.



## Challenge 2 - Plastic waste

A piece of white plastic waste, possibly a bag or a large piece of litter, is floating in clear blue water. Sunlight filters through the water from above, creating a bright, hazy glow around the plastic and illuminating the scene. The water's surface is visible at the top, with ripples and reflections of light.

- ▶ Many local areas and villages have small water ways and ponds. These are often used by wildlife and are a vital part of the ecosystem.
- ▶ Plastic waste takes a very long time to decompose and often finds its way into these bodies of water.
- ▶ Develop a range of solutions to collecting/removing plastic waste from these areas.



## Challenge 3 - healthy eating

- ▶ It is a well known fact that we should be consuming 5 pieces of fruit and veg each day. Encouraging young children to do this is not always easy!
- ▶ Smoothies and juices are a good start toward hitting this target, design a range of 'child friendly' smoothie makers and juicers which will encourage children to hit this target





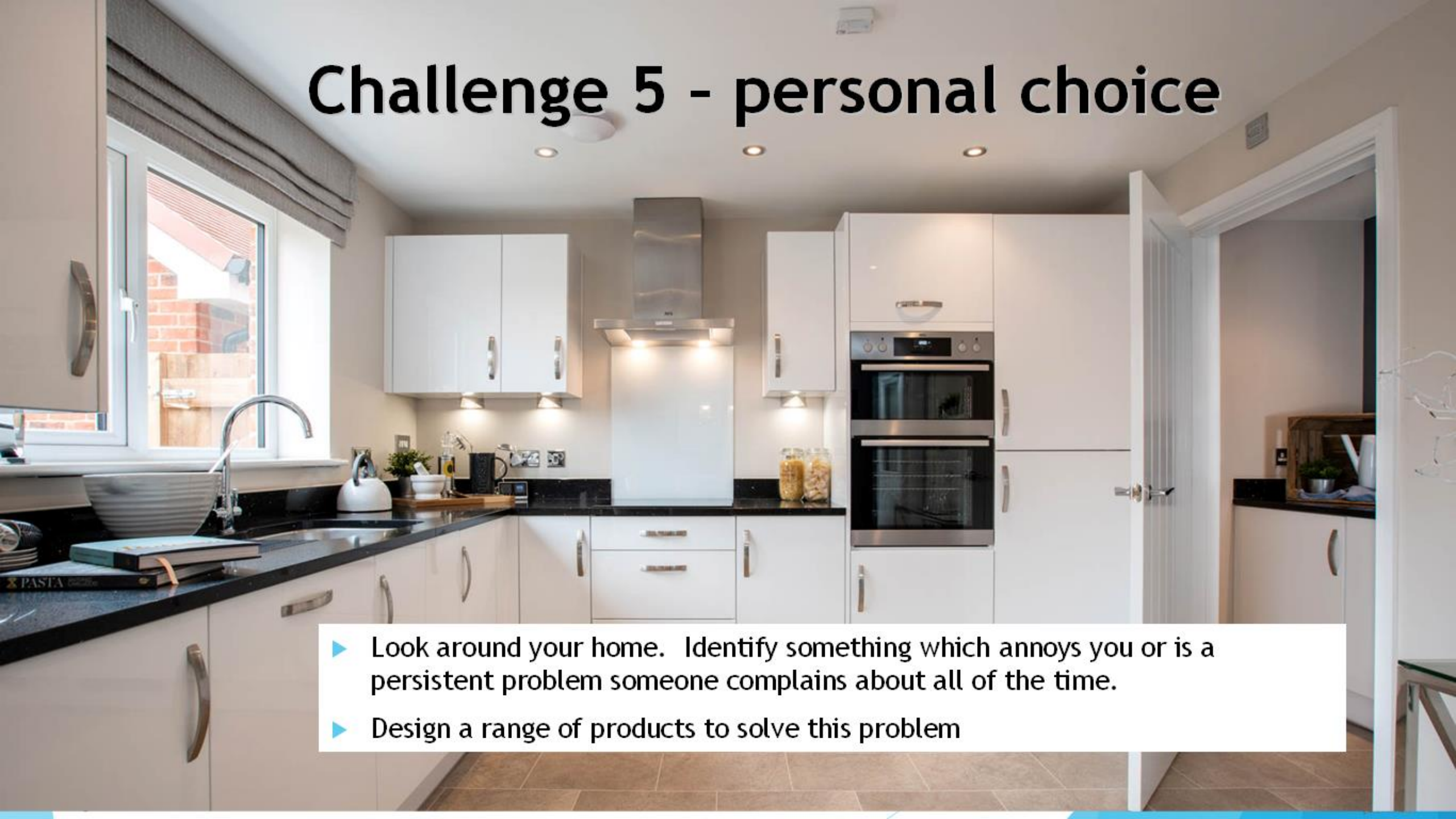
A photograph of a gym interior with several people running on treadmills. The focus is on the lower half of the runners, showing their legs and feet in motion. The treadmills are modern and black with silver accents. In the background, there are racks of dumbbells and large windows letting in natural light.

## Challenge 4 - Exercise

- ▶ It can often be difficult to get outside and exercise due to the weather and with modern, hectic lifestyles gyms are not always an option.
- ▶ Design a range of 'indoor exercise equipment' for the home. Choose any aspect of exercise you like e.g. Cardio, upper body growth, arm strength etc.
- ▶ The product must be small enough to store away in a cupboard, collapsible or have a second use as a piece of furniture.



# Challenge 5 - personal choice



- ▶ Look around your home. Identify something which annoys you or is a persistent problem someone complains about all of the time.
- ▶ Design a range of products to solve this problem