

**D&T Department**

**Year 10**

**Topic: Unit 4: Common specialist technical principles**

**Learning Journey**

**Prior learning:**

**New topics as part of GCSE Design & Technology course. Students will have prior knowledge of topics from previous Units and KS3 theory lessons and cross curricular (science and geography)**

<b>Learning sequence – topic title</b>						<b>Endpoint</b>
<b>Main learning steps</b>	<b>Forces and stresses</b>  Recognise and characterise the different types of forces and stresses and <b>analyse</b> the impact on <b>materials</b>	<b>Improving functionality</b>  Understand how materials can be <b>enhanced</b> to resist and work with forces and stresses to improve <b>functionality</b> of products	<b>Ecological and social footprint</b>  Be able to <b>explain</b> the effects of greenhouses gasses and CO2 produced during the manufacture of products and <b>evaluate</b> the impact a consumer society has on natural resources and the environment.	<b>The 6 'R's</b>  <b>Understanding</b> the hierarchy of options in <b>responsible</b> and <b>sustainable design</b> and being aware of the consumers role in reducing waste	<b>Scales of production</b>  Knowing the different manufacturing methods and being able to link relevant specialist processes to production.	Be able to explain the effects of design and manufacture on society and the environment.
<b>Assessment</b>	HW sheet – Hand in on teams for	HW sheet – Hand in on teams for	HW sheet – Hand in on teams for feedback. Also self check	HW sheet – Hand in on teams for	HW sheet – Hand in on teams for feedback. Also self check	End of unit Test

	feedback. Also self check	feedback. Also self check		feedback. Also self check		
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***Resources needed at home – internet access, basic drawing equipment including colouring pencils***

***Parental support:***

- ***Ensure students are regularly checking TEAMS and are on top of their work. If a lesson is missed it is the student's responsibility to catch up on the lesson missed.***
- ***Purchase of Clear Revise PG Online Design and Technology Book***
- ***Visit the Design Museum, British Museum, V&A, Science Museum***

***Where will we use these ideas again:***

***This area will be assessed in both the final exam at the end of KS4 and within the NEA self-study project.***

***Resources to use at home:***

*Online resources*

- [THE NEW DESIGN AND TECHNOLOGY GCSE \(technologystudent.com\)](http://technologystudent.com)
- [GCSE Design and Technology - AQA - BBC Bitesize](#)

*Video Resources:*

- [DTtoolbox - YouTube](#)
- [GCSE Design and Technology: Core principles - YouTube](#)