

### Year 8 – Product Design Curriculum

Words in italics won't be on the website.	<b>What will I learn?</b>  <i>What topics, knowledge and skills do we cover?</i>	<b>How will I learn it?</b>  <i>What lesson activities and learning and assessment strategies are used? Assessment will ensure that students have gained the knowledge by the relevant endpoint.</i>	<b>Why is it important that I learn this?</b>  <i>What is the purpose of learning this knowledge and skills? (This will link to the curriculum ambition.)</i>	<b>Why am I learning this now?</b>  <i>How does this build on prior learning (inc.KS2)? How does it support future learning in the curriculum (inc. on to A level)? How does it connect with other subjects where relevant?</i>
Year 8 Half Term 1	<u>Acrylic Musical Frame</u>  You will learn about templates and thermoplastics. You will learn how to work with them and form them in to different shapes.	You will create your own template for your storage device and your Product Design teacher will demonstrate a range of possibilities with thermoplastics. With this knowledge, you will be able to create your own storage device. Part of this project requires the laser cutter to etch on to the surface, so CAD/CAM is also included.	It is vital that you understand the properties of a wide range of materials and also how you can work with them to create a wide range of outcomes. This will make you are more versatile Product Designer.	By doing this you will build on your previous manufacturing experience in year 7 and further your knowledge and skill set with a wider range of materials and possibilities. By understanding templates, you will be able to repeat processes to ensure accuracy which in turn will gain more success when manufacturing products.
Year 8 Half Term 2	<u>Manufacturing of the Acrylic Musical Frame</u>  You will learn how to work with Acrylic, drilling, finishing and forming to a high standard.	You will learn this practically, through making your own product. Each stage will be demonstrated to you so you fully understand how to achieve the best outcome.	It is important to work with a wide range of materials. Acrylic is very versatile, so having skills and understanding the properties of working with this is very important for later years when you can create your own designs.	This enables you to work with a wider range of materials, building your confidence in the workshop and also progressing your skills to being able to use a wider range of machinery and produce work of a higher quality.

Year 8 Half Term 3	<u>Pewter Casting</u>  You will learn how to Pewter Cast using a mould you have made using MDF.	You will design a shape for a chosen need and then use MDF and a range of tools to create your mould. This will then be used to create a pewter casting of your design. This will then be polished to finish to a high standard.	This is a fantastic opportunity to use a wide range of materials and understand how they can be used in a different way to what you have experienced previously in KS3.	This is an introduction to Pewter Casting and creating moulds to forms shapes. You will use MDF as your material to create the mould, therefore you will enhance your skills in the workshop through these manufacturing methods.
Year 8 Half Term 4	<u>Pewter Casting</u>  Producing the cast and finishing the Pewter to a high standard.	You will cast the Pewter and then use a range of techniques to polish the product, filing, using wet and dry paper, wire wool, and Brasso.	Finishing products to a high standard is vital in this subject. Understanding how to create outstanding products using your own skills enables you to not only reach the highest grades, but also gives yourself a sense of pride and confidence in your work and abilities.	This builds skills ready for next year which is a lot freer in the creation of products and the designs you go on to realise. You will then be confident in knowing how to produce high quality products.
Year 8 Half Term 5	<u>Soap Box Car Racing</u>  Working in teams to design and create a 'Soap Box Car'	You will work together in a team to create your own mini version of a soap box car. You will understand aerodynamics, weighting cars and building an efficient mechanical system to design a successful car.	You will learn about the 'Red Bull Soap Box Race', team working, aerodynamics, speed and systems to be able to design a small version of your own.	Team working in Product Design is always exciting but also teaches you a lot about yourself and others, about working in industry and the importance of being a valuable team member. Also understanding systems fits in to the curriculum well here, building on previous knowledge of materials and using the workshop.
<b><u>Year 8</u></b> <b><u>Half Term 6</u></b>	<u>Soap Box Car Racing</u>	You will learn how to build a smooth-running successful car that will be able to withstand ramps	You will learn how to use materials in the most suitable way to build your teams	This is an exciting yet valuable way to end the year, enjoying success in a

	Manufacture and Complete the car and joining in on 'Race Day'!	and run straight efficiently to try and win the race.	design of car. You will work together each having job roles and hopefully enjoy the success of a winning design.	team and also learning how to create a moving product to a given specification.
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