

Year 9– Product Design Curriculum

Due to the facilities and equipment, after you have completed the V&A design competition, you will complete the other projects at different points in the school year.

Words in italics won't be on the website.	What will I learn? <i>What topics, knowledge and skills do we cover?</i>	How will I learn it? <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>	Why is it important that I learn this? <i>What is the purpose of learning this knowledge and skills? (This will link to the curriculum ambition.)</i>	Why am I learning this now? <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 9 Half Term 1	<u>Inclusive design</u> You will learn about ergonomics and anthropometrics; this involves thinking about measurements and movements we make as individuals and how we apply this to the design of products.	You will look at a range of smart materials and think about how those can influence the design element of products. You will be able to experiment using a range of smart materials to understand how they work.	It is important to understand a range of materials around you and ones of which you may not have experienced before. You will learn the impact that smart materials have on your every day life.	By doing this you will build on your experience of materials which you have learnt in Year 7/8 and begin to understand how new materials can have an impact on inclusivity.

Year 9 Half Term 2	<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 9 Half Term 3	<u>Architecture Challenge</u> You will design from the mindset of an architect. You will be given a brief in which you have to choose a building/area to design and create an architectural model with a focus on sustainable design.	You will learn this through a range of research tasks and drawing tasks, such as isometric and perspective. You will be shown a range of examples of how you could possibly design and create your own model to build your skills with another category of materials. Your assessment will focus on the quality of your designs using Architectural skills plus the quality and accuracy of your final model.	This project will help you to widen your design skills and think about the area that you are surrounded in, your local community. You will also get the opportunity to understand a range of architects and how they could inspire your thoughts when designing.	You are learning this now to understand a different aspect of Product Design and how it can impact a range of environments that we live in. This also has a strong link to careers and gives you an insight to how professional designers and Architects work.
Year 9 Half Term 4 and 5	<u>Passive Amplifier</u> You will design and make a passive amplifier that amplifies the music on your mobile phone. To do this you will use a range of tools, equipment and	You will be shown a range of materials, their properties and possibilities and asked to create a series of ideas. Your teacher will show you different techniques for developing ideas to reach the best possible final design. Once you have settled on your design, you will begin to make your Passive Amp using a range of Timbers, you	You will use a wide range of tools and equipment to help you to achieve your final outcome. Using a wide range of tools and equipment increases your confidence within the workshop, this in turn enables you to become a	Using the skills that you learnt when designing and making in years 7/8, you will build on these skills further during this project which includes the use of using a range of timbers. You will have further independence on using different tools and machinery. Science is also a linked subject with this project due to

	materials with a focus on Timbers.	could select hardwoods or softwoods. The product will need to support your mobile phone but also have an internal channel to amplify the sound. There is also an opportunity in this project to design decoration and have this Laser cut onto your Timber by CAD/CAM. Your amplifier will be tested to check its success.	more versatile Product Designer and Manufacturer.	understanding sound and its amplification.
Year 9 Half Term 6	<p><u>Biomimicry</u></p> <p>You will understand Biomimetic design in real world environments and apply this to your own designs.</p>	<p>You will firstly understand what Biomimetic Design is through a range of activities to help you to learn the concept.</p> <p>You will then create your own Biomimetic 'seating' design and model this with Biomimicry in mind. An extra challenge within this mini-project is to design the seating as collapsible!</p>	<p>This project will help you to understand Biomimicry and its impact it can have in our environment. Professional designers use the strengths in nature to help them design successful products, you will be doing the same in this project.</p>	<p>This project enables you to think about the outside world and the impact that nature has on our every day lives. This will also help creativity in your next step when designing and researching at GCSE.</p>