Year 8

In Year 8 students study and undertake a variety of Design and make activities to use and extend previously learnt knowledge, understanding and skills to design and build more complex and challenging projects. In Year 8 we incorporate more in-depth technical concepts (electronics). Students also develop their designing, modelling, communicating and evaluating skills to a higher level. Like in Year 7, work is structured into separate projects, each aimed to teach, develop and extend key subject skills.

At the start of Year 8 students are required to design a clock, having developed knowledge of a range of design styles. They are taught the importance of these styles and how they influence the products they buy today. This is introduced to them now as they will be able to draw on these design styles and further develop their abilities designing. Iterative design skills are taught through this so students can create and draw designs. Following this they go-on to prototype their design through modelling ideas in compliant materials allowing us to introduce prototyping to them. They evaluate and refine their designs using card, and importance is placed on the making of accurate models so what is produced is made to a high standard.

Accurate and safe making skills are developed, reinforced and improved using a wide range of workshop machines. In addition to the tools and processes used in Yr7, students learn: Cutting card, using craft knives, modelling rulers and cutting mats, independent use of the electric fret saw, independent use of pillar drill and use of soldering equipment. This develops their confidence and practical abilities. The understanding of more complex assembly techniques is covered and slot-joining is taught for use with thin plywood which students are given the opportunity to use in the making of their clock.

An emphasis is placed on accuracy and neatness of the final construction of this project, developing students' appreciation of the importance of both product design and quality manufacture.

CAD project: Students are then reintroduced to computer aided design. They design a speaker dock based on the work of Braun and Dieter Rams. This is a task that allows them to build upon the skills and knowledge taught in Year 7. Students develop their CAD skills to build a more advanced product using a computer modelling package whilst looking at others design work. They will develop skills using 3D design tools to produce a final drawing with an orthographic view, learning how powerful these computer packages are for design work.

We build on the knowledge and skills learnt in Yr. 7 in a Textiles project. They start with a Design brief and consider user needs and this is used to then write a specification for their product. From this they are encouraged to be creative and produce a range of ideas. Students are expected to be able to justify the chosen ideas using the specification they have written.
Students continue to develop their practical skills using the sewing machine for all the construction sewing. There is a focus on improving accuracy and the use of quality control to help ensure a good product at the end.
Students also learn how fabrics are constructed and develop an understanding of the difference between conventional textiles and technical textiles. (Conventional textiles are made primarily for aesthetics and secondarily for use. They include clothing and decorative items like throw pillows. Technical textiles are made primarily for function but can also be aesthetically pleasing).

Festival Torch project - product evaluation. This project also introduces students to the basic principles of electronics, teaching them how to assemble printed-circuit boards using solder and

soldering irons, and it develops knowledge and understanding of electrical circuits and components. This is taught at this stage as Science looks at this topic of electricity this year.
Graphic design project: This is a short project focusing on graphic design, drawing, CAD and cutting skills. Students are tasked with producing an iterative design that helps with the promotion of a music festival. They will develop an understanding of visual communication styles, creating a range of possible designs. They improve their designs and communication skills by making a prototype. They will also gain an understanding of the importance of colour in Design. They will develop their design using another CAD package to produce a final design.

Homework runs alongside all projects as and when is needed and can be, for example, research, revision and quizzes.