Curriculum Mapping: Design & Technology -Year 7-9

We have designed our Design and Technology curriculum to cover the wide and diverse aspects of our subject in a sequenced learning journey that builds upon prior knowledge whilst introducing new concepts. Our core key areas of design, nutrition, material/ingredient knowledge, practical skills, and evaluation feature throughout the three years. Year 7 & 8 pupils study DT via a carousel of 4 subject areas rotate approximately every 14 lessons, whilst year 9 focus on 3 subject areas rotating each term. Pupils will develop their Health & Safety knowledge alongside their learning and will have an additional 3 lesson topic each year to learn additional core topics which include drawing skills, sustainability and careers within DT.

Year 7 - Design & Technology

Core Skills	Food & Nutrition	Product Design	Product Design	Textiles
3D Drawing	**Diet & Nutrition**	**Designing with Computers**	**Graphic Communication**	**E-Textiles**
Concepts/Tier 3 vocabulary ***Isometric drawing, crating, rendering, two point perspective,***	***Concepts/Tier 3 vocabulary*** ***Food safety and good hygiene, Eatwell guide, fruit and vegetable, dairy and alternatives, carbohydrates, protein, takeaway foods and their impact on the body, and evaluating dishes, pizza toast, pasta salad, carrot cakes, scones, chicken stir fry and lamb koftas***	***Concepts/Tier 3 vocabulary*** ***Computer aided design, computer aided manufacture, virtual modelling, programming. 2D Design, Tinkercad, BBC Microbit, powerpoint. Vectorising, 2D, 3D, cutting path, bitmap, dimensioning, digital.***	***Concepts/Tier 3 vocabulary*** ***Graphics, visual communication, packaging, nets, promote, protect, inform, card, scoring, craft knife, medium density fibreboard (MDF), high impact polystyrene (HIPS), vacuum forming, scroll saw, sand paper, PVA glue, isometric drawing, design ideas specification.***	***Concepts/Tier 3 vocabulary*** ***Natural fibres, cotton, silk, wool, product analysis, soldering, solder, , cell holder, circuit board, LED, resistor, design ideas, annotation, final design, pattern, stitching, sewing thread, needle, pins, embroidery, iron, fleece, fur, felt.***
Justification: Pupils develop their skills when drawing in 3D using isometric and crating techniques. This will act as a recap on skills already learnt and build upon them to support future lessons in DT producing design ideas. A baseline test will follow to assess skills learnt.	***Justification:*** Pupils develop their practical making skills through the preparation and cooking of *pizza toast, pasta salad, carrot cakes, scones, chicken stir fry and lamb koftas.* Pupils will gain knowledge of food safety and hygiene practices in a kitchen, nutritional value, classification and sources of food types, focusing on fruit and vegetables. Pupils will apply this knowledge in practical lessons. The theory will be reinforced with practical lesson	***Justification:*** Pupils develop their IT and designing skills using: 2D Design, Tinkercad and Microbit. Pupils will gain knowledge of how computers are used to design products. A series of exercises will take pupils through the various software tools looking at dimensioning, vectorising, and adding fills in 2D Design. Producing 3D objects in Tinkercad as virtual models and using programming commands to operate a Microbit processor. This will give pupils access to modern approaches to design and prepare them for GCSE and A Level.	***Justification:*** Pupils develop their practical making skills through the production of a card net with a craft knife and drawn graphics, MDF mould using drills and scroll saws and HIPs chocolate mould using the vacuum former. They will use isometric drawing to produce their mould designs. Pupils will gain knowledge of the use of graphics on packaging, working properties of MDF and HIPs so that they can apply these practices to their future designs.	***Justification:*** Pupils develop their practical making skills through the production of a sensory toy for a small child made from a variety of fabrics, embellished with details such as textured fabrics and LEDs. They will learn about creating a LED circuit and use soldering irons to make one for their product. They will use pattern making to plan out their sensory toy before stitching it together. Pupils will gain knowledge of designing a specific product, natural fibres in textiles and product analysis. This gives pupils access to the fundamental skills that will be built on in future years.
Assessment: *Pupils are assessed at the end of each rotation on their making and designing skills and given a grade. Grades for each rotation are tracked across the year and averaged to generate an overall progress grade for DT.*				

Wider reading/Cultural capital

We run a KS3 Food and Textiles club afterschool once a week for pupils to apply their skills further and produce a range of products outside of the curriculum. We endeavour to build in real life examples of topics/products to enable pupils to relate their learning to situations they understand using videos, pictures, and discussion. Pupils are encouraged to continue their understanding of why design matters via programmes such as: How stuff is made. Year 7 pupils are also invited to attend our annual summer exhibition to view the work of our GCSE and A-level pupils. ***Wider reading includes:*** *https://www.technologypupil.com/designpro/drawdex.htm#google_vignette, KS3 D&T Dictionary – Peter Bull - 50 Trade Secrets of Great Design Packaging by Stafford Cliff, How Technology Works by Dorling Kindersley, Exploring Food & Nutrition for KS3 by Bev Saunder and Yvonne Mackey - Hodder.*