



Year 8 Design and Technology – Outline Programme of Study

Taught on a Carousel System with different start points for different classes. All students will have covered each topic by the end of the academic year.

	Food	Textiles	Product Design	Mechanisms
Big ideas/ topics	<p>The relationship between diet and health</p> <p>Understanding of Macro and Micronutrients.</p> <p>Safe and hygienic handling and storage of food</p> <p>Food preparation and cooking techniques.</p> <p>The moral and ethical issues concerning restaurants and the Catering Industry.</p>	<p>Learn how designers generate ideas.</p> <p>Learn how to research design themes such as Kwaii.</p> <p>Learn how to insert a zip in a textile product.</p> <p>Explore new technologies such as sublimation printing.</p> <p>Make a pencil case joining the components accurately.</p> <p>Evaluate design ideas developing and changing them if necessary to ensure that the design specification has been met.</p>	<p>Learn about the properties of materials, metals and metal stock forms.</p> <p>Learn about CAD using 2D Design software</p> <p>Cut, shape and join metal using brazing and cold forging</p> <p>Produce a laser cut acrylic clock with metal legs and a wooden base.</p> <p>Evaluate design ideas developing and changing them, if necessary, to ensure that the design specification has been met.</p>	<p>Learn about the mechanisms that make up simple machines.</p> <p>Learn about CAMs and the movements that they produce.</p> <p>Cut shape, join and stain wood to represent a style influenced by a designer.</p> <p>Produce a CAM toy with a wooden frame.</p> <p>Evaluate design ideas developing and changing them if necessary, to ensure that the design specification has been met.</p>
Key Knowledge	<p>Energy Balance</p> <p>Carbohydrate theory</p> <p>Make Pasta bake.</p> <p>Protein theory</p> <p>Make Fish Goujons</p> <p>Fats theory</p> <p>Make Burgers</p> <p>Vitamins and Minerals theory</p> <p>Make Roasted vegetable + pesto tarts.</p> <p>Food Safety + Temperature Control theory</p> <p>Chicken Stir Fry</p> <p>Reducing fat salt and sugar in foods.</p> <p>Vegetable Curry</p>	<p>Learn how ideas are generated.</p> <p>Research Food Imagery</p> <p>Create a Design brief and Design Specification.</p> <p>H&S, Initial Ideas, Sewing Machine Practice.</p> <p>Learn how to construct a pocket.</p> <p>Costing products</p> <p>Final Design</p> <p>Sublimation printing</p> <p>Designing a food print.</p> <p>Making a Pencil Case with a zip, print and pocket.</p> <p>Evaluation</p>	<p>Analysing a task</p> <p>Primary & Secondary Research</p> <p>Existing Products Analysis</p> <p>Design Brief and Specification</p> <p>Initial Ideas</p> <p>CAD/CAM 2D Design</p> <p>Modelling and Development of Design Ideas</p> <p>Final Design</p> <p>Making a clock by cutting and forging metal, shaping wood and cutting acrylic using CAD.</p> <p>Flow Diagram</p> <p>Ferrous and Non-Ferrous Metals, Stock forms of Metals</p> <p>Properties of Materials</p> <p>Evaluation</p>	<p>Simple Mechanisms & Types of Motion</p> <p>Linkages</p> <p>CAMS</p> <p>Task Analysis</p> <p>Designer Research</p> <p>Design Specification Initial Ideas</p> <p>Modelling</p> <p>Final Design</p> <p>Making a Cam toy</p> <p>Gears and Levers</p> <p>Evaluation</p>

Further information and reading list

Explorer Activities

- Watch any of the **How Its Made** series on You Tube
- Watch **Inside The Factory** on BBC
- STEM Design and Technology resources for home learning;

<https://www.stem.org.uk/secondary/resources/collections/home-learning-support/d-and-t-resources>

- Pinterest 34 Teaching Ideas D&T & STEM:

<https://www.pinterest.co.uk/rachelhaddell/teaching-ideas-dt/>

- BBC Good Food, A guide to cookery skills by age

<https://www.bbcgoodfood.com/howto/guide/guide-cookery-skills-age>

- British Nutrition Foundation

<https://www.nutrition.org.uk/healthy-sustainable-diets/>

- Technology Student.com; <https://www.technologystudent.com/>

- You Tube has many useful videos, just search topics.

Books

- You Can Draw Tom Gates with Liz Pichon



Cooking Step By Step: More than 50 Delicious Recipes for Young Cooks

- 100 Things to Know About Inventions - In a Nutshell by Clive Gifford
- 100 Things to Know About Architecture - In a Nutshell by Louise O'Brien

Ways to support and extend student learning in this subject

Support for pupils

All of our KS3 work booklets are well scaffolded with tables, cloze sentences, visual aids, questions to help focus analysis etc. This is very helpful for SEN students especially those who struggle to organise their thoughts and it also helps all students to work independently. This means that it is possible to catch up on missed work at home using the online booklet and lesson Power Points on Google Classroom. You can refer to these to help your child with their homework or if they are absent from school or prior to a lesson to give them a head start.

Encourage your child to come to D&T after school clubs to build on their practical skills.

Stretch and Challenge Pupils.

Pupils are encouraged to challenge themselves by both answering super questions when they have completed their work and ensuring they have fully completed the "Challenge Yourself" sections in their work books. They can have a go at this online if they do not manage to get it done in class.

Learn key words: use the glossary at the back of your booklets, (copy on Google Classroom) to identify key words that cannot not yet be recalled or spelt correctly. Create flashcards and complete regular quizzing at home.