

Year 7 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	Electronics
Big ideas/ topics	<p>Work safely in a kitchen How to use a chef's knife Use an oven Understand the Eatwell Guide and how to plan a balanced healthy diet. Understand how the body uses different nutrients. Prepare six healthy dishes. How to use Sensory Analysis descriptors.</p>	<p>Learn that designing has environmental, social and ethical dimensions. Use a range of manufacturing techniques, e.g. using paper templates and creating surface decoration. Use of hand tools such as scissors, pins and needles and sewing machines to cut and join materials safely. Learn what a smart material is.</p>	<p>Understand the importance of health & safety when working in the workshop Knowledge of different types of wood and their properties Learning to use a variety of tools, machines and equipment in the workshop Development of drawing skills and techniques</p>	<p>Improve skills working with a range of tools, equipment, electronic and mechanical components. To develop pupil understanding of basic electronic principles. Awareness of a range of electronic components and their role within a circuit. Develop pupil understanding of the basics of 2D design. Awareness of the origin, uses and processes of plastic. Improve electronic and mechanical assembly skills.</p>
Key Knowledge	<p>Health and Safety in the Food Rooms. The Eatwell Guide Cous Cous Salad Practical Safe food preparation. Safe use of Hob and oven Pizza Toast Practical Nutrients Sensory Analysis Frittatas Practical Eatwell Guide Salmonella Fruity Muffins Sugars Apple Crumble Origin of Fruits Fruit Scones 8 tips for healthy eating Seasonality</p>	<p>Design Brief and Existing Products Research Smart Materials Customer Profile Design Specification & Primary and Secondary sources of inspiration. Cotton and the Environment. Sewing Machine practice Initial Ideas Final Design Development Paper Templates Making an applique recycled monster using a sewing machine Maths in Textiles Evaluation</p>	<p>Types of Timber Design a key ring, Health & safety in the Workshop, Make a keyring Task Analysis - Caddi Initial Ideas of Caddi x 4 Final Design Learning to use pillar drill, tenon saw, Hegner saw, templates whilst making the Caddi Introduction to Orthographic Drawing</p>	<p>Task Analysis Moodboard Design brief and Specification Generate design Ideas Using 2D Design software Generating Final idea Simple circuits, conductors and Insulators Series and parallel circuits Resistors and Diodes LED's, circuit design and Yenka Making a Circuit Properties and origins of Plastics 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.