



Year 7 Design Technology

Aims:

- *To introduce students to the Design Process and how to realise creative ideas. Students will all have the same design brief but will have the freedom to innovate their own response. Design ideas will be realised in 2D, 3D and CAD.*
- *To develop problem solving skills and resilience. Students will encounter manufacturing problems and resilience and problem solving skills will be vital. After workshop and food room induction students will be encouraged to problem solve for themselves.*
- *To use tools and equipment safely to produce a quality product.*
- *To understand Cooking techniques and healthy eating.*

Content:

In year 7 students will gain knowledge of all Design Technology disciplines including Product Design, Graphics Technology, and Food. There are three main STRIPE projects which focus on problem solving, communicating design ideas and realising a quality final outcome. Students will be introduced to industry standard equipment including laser cutters, CAD software and 3D printing. In the summer term students will study Food Technology and will plan and produce a range of nutritious dishes.

Design Technology is a STRIPE subject and in year 7 students will work on three larger projects that cross into other curriculum areas. Maths will be used to evaluate and compare finished products, Art will be used to help students communicate design ideas and Science will be used to give students an understanding of how designed products work.

Curriculum Map

Year	Term	Curriculum	Assessment
7	Term 1	Introduction to the workshop and CAD design suite. Students will design and make their own disaster relief vehicle using workshop machinery and equipment. On completion, students will test their vehicle over a range of terrain evaluating how successful it has been in terms of aesthetics and function.	Students will be assessed on design and communication skills, ability to produce a quality practical outcome in the workshop and in written communication through research and evaluation.
	Term 2	Graphic design based project which will introduce students to the laser cutter and CAD suite. Considering the driving question 'What are the challenges facing our world?' students will research and understand the environmental impact of design and materials. Students will design a board game in the style of snakes and ladders, designing their own theme, characters, board and game pieces. The final outcome may incorporate a textiles pouch.	Self and peer assessment as project evolves. Formal assessment of practical outcome, knowledge of CAD, CAM and communication of design idea. Students will have a longer extended learning piece, which will cover environmental problems with common materials.
	Term 3	Introduction to cooking and nutrition. Students will understand key themes of Food Technology including healthy eating, Ethical food choices and	Students will be assessed on practical cooking skills and their ability to design and adapt



	safety & hygiene. Alongside theory content students will cook a range of sweet and savoury dishes developing basic preparation and cooking techniques.	recipes and menu items. Students will have an end of unit test to consolidate learning of topics including healthy eating and ethical food consumption.
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Assessment:

In year 7 students will use self and peer assessment as design ideas and products evolve. This form of assessment will develop students' ability to take on advice and to consider how to further develop their ideas. As project work evolves there will be key points where work is marked and students will be given time in lesson to consider and work on feedback. This will also be the case for extended learning projects. All will develop reflective skills and enable students to improve their work. At the end of a project, students will be assessed on their work and effort and will be specific to the content of the project. This may be creativity, practical ability or written communication. Subject specific assessment will be alongside STRIPE skills and achievements.

Extended Learning:

Design Technology is a broad subject with scope for students to develop a love of making, cooking, designing, fashion and engineering. Extended learning projects will be student-led and in term one students will research and design a brand identity of their vehicle they are developing at school. In term two alongside shorter home-learning pieces students will research the environmental impact of a plastic product and evaluate how it could be re-designed for the better. Term three will cover food topics and students will research how food is used to celebrate in different cultures.

Connection to the JTFS Approach

Whole School Theme	How does <i>Design Technology</i> support this?
STRIPE	Students will innovate and create a design solution to a given design brief. Across all three terms students will need to be reflective and resilient when introduced to challenging tools and equipment. New topics including extended learning will need enquiry skills to research and communicate the wider issues around a topic.
STEAM	All three projects will include real life, industry quality machinery including laser cutters, workshop tools and kitchens. Students will understand engineering, manufacture, maths and science in realising their design ideas. Art will play its part in helping students to be creative and communicate their ideas.
Literacy	Across all project work and extended learning students will need to communicate their thoughts and design ideas. Students will need to evaluate their work and be able to present their ideas to peers.
Numeracy	Students will need to measure, weigh and calculate in all three projects. To achieve a quality outcome, students will need to be accurate, use materials wisely and to test and evaluate.
SMSC, British Values and Citizenship	Themes of sustainability and ethical consumption run through all projects. Students will develop an understanding of design, materials and the wider implications of humans and products on the planet.