Curriculum Narrative: Design Technology

Year 6

Design & Make – Felt Phone Cases

Cooking & Nutrition – Vegetable Curry

Stretch – Bridges

Welcome to secondary school!

Year 5

Stretch – Sewing

Cooking & Nutrition – Pretzels

Design & Make – Fair Ground Rides

Year 4

Design & Make – Creative Shoes

Cooking & Nutrition – Pasta

Stretch – Dyson Challenges

Year 3

Stretch – Micro-bit Smart Wearables

Cooking & Nutrition – Fruit Crumble

Design & Make – Branding and Packaging

Year 2

Stretch – Marking out and cutting

Design & Make – Patchwork

Cooking & Nutrition – Sandwiches

Stretch – Castles, Nets and Structures

Year 1

Cooking & Nutrition – Fruit Smoothies

Design & Make – Moving Pictures

Cooking & Nutrition – Fruit Salad, Fruit Kebab

Design & Make – Junk Modelling, Bug Mobiles

EYFS

Your Design Technology journey starts here!!

Why do designers read?
To find out specific information about products (materials, processes etc…)
To gain inspiration
 To learn about the history of products
To help develop their own creative skills

Write like a designer
Create design plans, explaining thought processes.
Evaluate own products as well as pre-existing products.
Produce questionnaires to acquire customer views.
Collate research to present design ideas/products.
Correctly use design vocabulary and technological key terms
Use labels and annotations on diagrams

Threshold Concepts	
	Design
	Make
	Evaluate
	Technical Knowledge

Design and Technology is a practical and extremely valuable subject. It enables children and young people to actively contribute to the creativity, culture, wealth and well-being of themselves, their community and their nation. It teaches them how to take risks and so become more resourceful, innovative, enterprising, innovative and capable. It encourages them to develop a critical understanding of the impact of design and technology on daily life and the wider world. It also provides excellent opportunities for children to develop and apply valuable judgements of an aesthetic, economic, moral, social and technical nature both in their own designing and when evaluating the work of others.

Our Design Technology curriculum aims to excite and ignite our pupils' interest in design and technology and prepare them to participate in the development of a rapidly changing world. In each unit of work, they design and make products for a specific need or purpose - solving real and relevant problems within a variety of contexts. Through carefully constructed sequences of learning, they are taught about the world we live in and develop a wide range of skills embedded through the threshold concepts of designing, making, evaluating and problem solving – they are exposed to an abundance of technical knowledge in each and every lesson.

The curriculum has been carefully created by Primary Subject Leads and Secondary Heads of Department colleagues, who have worked collaboratively to create high quality toolkits to deliver the threshold concepts. An effective Design and Technology curriculum should encompass all of the threshold concepts within the delivery of each project.

Threshold concepts

Design:

- Using research and exploration to identify and understand user needs.
- Identifying and solving design problems.
- Developing specifications to inform the design of innovative, functional and appealing products in a variety of situations.
- Using a variety of approaches to generate creative ideas.
- Developing and communicating design ideas in a variety of formats.

Make:

- Selecting and using specialist tools, techniques, processes, equipment and machinery.
- Selecting and using a wide and complex range of materials, components and ingredients – considering their properties.
- Preparing and cooking a variety of dishes using a range of cooking techniques

Evaluate:

- Analysing the work of past and present professionals.
- Investigating new and emerging technologies.
- Using a design specification and user feedback to test, evaluate and refine ideas.
- Exploring the impact of design and technology on society and the environment.

Technical Knowledge:

- Understanding and using materials based on their properties and structural performance.
- Understanding how mechanical systems are used in products to change movement and force.
- Understanding how electrical and electronic systems are used and can be powered within products.
- Applying computing and programmable computers to embed intelligence into products.
- Understanding the principles of a healthy and varied diet.
- Understanding seasonality and food sources.

In order to equip children with a breadth and depth of knowledge, the curriculum embeds these threshold concepts through the completion of three projects/units in each year group:

- *Cooking and Nutrition*
- *Design and Make*
- *Stretch.*

In **EYFS**, pupils will be introduced to Cooking & Nutrition by preparing and tasting a range of fruits. Design skills will be developed through junk modelling, providing opportunities to use a range of motor skills. As they move into **Year 1**, pupils will further develop their design skills while making a 'moving picture'; simple mechanisms will be introduced and motor skills will be honed while using tools and making simple devices. Fruit smoothies will be created, allowing them to investigate food sources and origins. In **Year 2**, pupils will continue to investigate food sources and origins while preparing their own sandwiches. A communal patchwork piece will be created, allowing them to develop textile skills, focusing upon modelling and product knowledge. Measuring, marking and joining skills will be used while working on a stretch unit – a castles project. On entering **Year 3**, the pupils will further develop their design skills while developing their own packaging. They will be introduced to programming via micro-bit technology, learning about simple electrical circuits and components. Fruit crumbles will be baked, allowing pupils to gain skills in food preparation and understand the safe use of a heat source. Moving into **Year 4**, pupils will look at seasonality and a healthy balanced diet while cooking their own pasta sauce. Creative shoes will be designed while pupils learn to work to a design criteria. Assembling, joining and combining skills will be further developed. Pupils will also work in groups on a range of Dyson challenges. In **Year 5**, pupils will build upon their knowledge of mechanisms and further develop their ability to design and make 3D outcomes. Sewing skills will be honed during the stretch project, focusing upon different types of stitch and applique techniques. Whilst making pretzels, pupils will look at food processing and options for adapting recipes. As they enter into **Year 6** pupils will utilise the textiles skills gained from prior learning while designing and making a felt phone case. The bridges project will allow them to gain further knowledge about structures while building upon their assembling, joining and combining skills. While cooking a curry, pupils will learn more about recipe adaptation while further developing their food hygiene and preparation skills.

Each project has been specially designed to provide children with the wide range of skills and technical knowledge needed to allow them to succeed and thrive in Design Technology. Materials have been designed to ensure clarity and consistency of delivery to ensure an agreed standard. Core skills are sequenced to be revisited at least once within each key stage to ensure that knowledge is built upon and developed through retrieval and skill practise. Recall is a feature of theory sessions, developing student's ability to transfer skills between projects and different media.