

# Design & Technology Curriculum

In teaching children Design and technology, our intent is that they develop a passion for the subject and the ability to work constructively and productively independently and with others. Children will use their initiative and ask questions to become **confident** researchers.

## Threshold concepts and skills

### Master practical Skills

Design, make, evaluate and improve

Take inspiration from design throughout history

### EVFS

The EVFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The most relevant statements for Design Technology are taken from Physical Development and Expressive Arts and Design.

## Breadth of study

### KS1

- design purposeful, functional, appealing products for themselves and other users based on design criteria.
  - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.
  - select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing.
  - select from and use a wide range of materials and components, including construction materials, textiles and ingredients.
  - explore and evaluate a range of existing products.
  - evaluate their ideas and products against design criteria.
  - build structures, exploring how they can be made stronger, stiffer and more stable.
  - explore and use mechanisms.
- #### Cooking and nutrition
- use the basic principles of a healthy and varied diet to prepare dishes.
  - understand where food comes from.

### KS2

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.
  - generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
  - select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately.
  - select from and use a wider range of materials and components, including construction materials, textiles and ingredients.
  - investigate and analyse a range of existing products.
  - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
  - understand how key events and individuals in design and technology have helped shape the world
- #### Technical knowledge
- apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
  - understand and use mechanical systems in their products.
  - understand and use electrical systems in their products.
  - apply their understanding of computing to programme, monitor and control their products.
- #### Cooking and nutrition
- understand and apply the principles of a healthy and varied diet.
  - prepare and cook a variety of dishes using a range of cooking techniques.
  - understand seasonality and how a variety of ingredients are grown, reared, caught and processed

# Design & Technology Whole School Overview

## Early years foundation stage (EYFS) statutory framework

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Pupils are given opportunities to: Children develop their own ideas through selecting and using materials and working on processes that interest them. Through their explorations they find out and make decisions about how media and materials can be combined and changed.

Children are taught to:

Hold a paint brush correctly; wash the brush before changing colour; begin to control the paintbrush; experience and use primary colours and know their names; explore, experiment and respond to colour through collecting, sorting and matching; experiment with mixing colours; explore and investigate the possibilities of painting implements; express and represent observations, ideas and feelings through paintings; apply different amounts of pressure to create different marks (thick/thin/long/short); paint simple shapes to represent objects

Exploring and using media and materials

Early Learning Goal:

Develop ideas and interests

Have specific foci for creative designs/purpose

Combine and change their creation purposefully reflecting and reviewing their work

Talk about the ideas and processes they have used in their own and others work



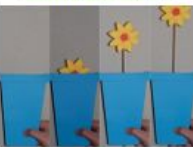

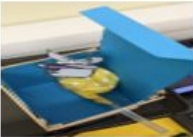



Recognise the strengths of their own work and others




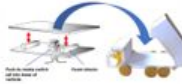

Being imaginative.

Early Learning Goal:

Children talk about the ideas and processes which have led them to make designs, or images. They can talk about features of

their own and others' work, recognising the differences between them and the strengths of others.

2022-2023	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Autumn 1</b>	<p><b>Art</b></p>	<p>Pop up books – Mechanism inserting a slider</p> <p>Use a range of pop-ups including a box pop-up. To include a slider mechanism to show movement.</p> 	<p>Structure: Make a box with lollipop sticks and hinges. Stiffen, strengthen and reinforce linked with pneumatics.</p> <p>To create a strong box structure</p> 	<p>Textiles - Make a pencil case (add a way to close it - button)</p> <p>Using felt to make a case that holds items. A fastening button to be included so the items are secure. Includes the skill of sewing.</p>	<p><b>Art</b></p>	<p><b>Art</b></p>
<b>Autumn 2</b>	<p>Moving monsters/ <u>minibeasts</u> (mechanisms) Sliders and Levers</p> 	<p>Moving Vehicles – Wheels and Axles (mechanisms)</p> 	<p>Pneumatics – Make a mascot. Pump a syringe and it opens</p> 	<p><b>Art</b></p>	<p><b>Art</b></p>	<p>Fairgrounds – motor, battery, pulley, elastic band</p> 
<b>Spring 1</b>	<p>Design and make a healthy lunch for Teddy. Prepare fruit and veg. To include where food comes from.</p> <p>Design, make and evaluate a fruit or vegetable skewer. To go through food hygiene and safety when cutting.</p>	<p><b>Art</b></p>	<p><b>Art</b></p>	<p>Graphics – CAD (Computer Aided Design)</p> <p>Design and use software to create graphics and images.</p> 	<p>Mini enterprise –Design and make food and sell it. Design the packaging.</p> 	<p><b>Art</b></p>

<p><b>Spring 2</b></p>	<p><b>Art</b></p>	<p>Textiles – make a puppet Explore different ways of joining fabric together (gluing, pinning, stapling) to make a puppet using felt.</p> 	<p><b>Art</b></p>	<p><b>Art</b></p>	<p>Mini enterprise –Design and make food and sell it. Design the packaging.</p> <p>Pizza made and placed in the packaging made to sell.</p>	<p><b>Art</b></p>
<p><b>Summer 1</b></p>	<p><b>Art</b></p>	<p><b>Art</b></p>	<p>Food around the world – Cultural Food and eating seasonally</p> <p>To explain that food and vegetables are grown in different countries because of their climate. Understand that seasonal fruits and vegetables grown in their season give the best taste. The effects on the environment. To choose a food that is made seasonally and to make.</p>	<p><b>Art</b></p>	<p>Design and make a bridge. Strengthen, stiffen and reinforce.</p> <p>Explore the different structures of bridges. To choose an appropriate design and to make a strong structure.</p>  	<p>Alarms - Alarming a vehicle (electrical systems)</p> <p>Design and make an electrical alarm system for a car or lorry</p> 
<p><b>Summer 2</b></p>	<p>Design &amp; make a castle (structures)</p> <p>A castle created with its features of a drawbridge, portcullis, tower and turret. How can this structure be strengthened?</p>	<p><b>Art</b></p>	<p><b>Art</b></p>	<p>Torch making (electrical systems – mechanism)</p> <p>To make a working switch, identify the features of a torch, create a functioning torch with a switch</p> 	<p><b>Art</b></p>	<p>Textiles: Make a cushion (add a drawstring)</p> <p>To use a cross-stitch to join two fabrics together, include applique</p> 