



## Curriculum Intent

# Design and Technology

### Principles

Design and Technology is an inspiring, rigorous and practical subject. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At Loughton Manor First School, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim to, wherever possible, link work to other disciplines such as Science, Computing, Geography, History and Art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers.

This will provide the children with the means to confidently develop a critical appreciation of arts, crafts and design into adulthood. In developing this broad understanding and appreciation of the possibilities that the creative arts hold, children are able to think independently about their creations and make confident and informed decisions around media, materials and skills.

By the time children leave Loughton Manor First School at the age of seven, they will be able to apply different Design and Technology techniques confidently, allowing them to develop and share their ideas, experiences and imagination. We offer opportunities for children to explore a range of styles and genres in 2D and 3D.

By the time children leave Loughton Manor First School at the age of seven, they will have explored a variety of media and developed a range of skills. Children will:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality products covering a wide range of skills and have learnt to evaluate and test their ideas and products and the work of others.
- understand and apply the principles of nutrition and learn how to cook.

- design and make a range of products. A good quality finish will be expected in all design and activities made appropriate to the age and ability of the child.
- learn how to take risks, becoming resourceful, innovative, enterprising and capable adults.



## Progression in Design and Technology Skills and Understanding

KEY VOCABULARY			
Design	Foundation Stage	Year 1	Year 2
<p>planning, investigating design, evaluate, make, user, purpose, ideas, product,</p>	<p>Select appropriate resources. Use gestures, talking and arrangements of materials and components to show design. Use contexts set by the teacher and myself. Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)</p>	<p>Have own ideas. Explain what I want to do. Explain what my product is for, and how it will work. Use pictures and words to plan, begin to use models. Design a product for myself following design criteria. Research similar existing products.</p>	<p>Have own ideas and plan what to do next. Explain what I want to do and describe how I may do it. Explain purpose of product, how it will work and how it will be suitable for the user. Describe design using pictures, words, models, diagrams, begin to use ICT. Design products for myself and others following design criteria. Choose best tools and materials, and explain choices. Use knowledge of existing products to produce ideas.</p>
Make	Foundation Stage	Year 1	Year 2
	<p>Construct with a purpose, using a variety of resources. Use simple tools and techniques. Build / construct</p>	<p>Explain what I'm making and why. Consider what I need to do next. Select tools/equipment to cut, shape,</p>	<p>Explain what I am making and why it fits the purpose. Make suggestions as to what I need to do next.</p>

	<p>with a wide range of objects.  Select tools &amp; techniques to shape, assemble and join.  Replicate structures with materials / components.  Discuss how to make an activity safe and hygienic.  Record experiences by drawing, writing, voice recording.  Understand different media can be combined for a purpose.</p>	<p>join, finish and explain choices.  Measure, mark out, cut and shape, with support.  Choose suitable materials and explain choices.  Try to use finishing techniques to make product look good.  Work in a safe and hygienic manner.</p>	<p>Join materials/components together in different ways.  Measure, mark out, cut and shape materials and components, with support.  Describe which tools I'm using and why.  Choose suitable materials and explain choices depending on characteristics.  Use finishing techniques to make product look good.  Work safely and hygienically.</p>
<b>Evaluate</b>	<b>Foundation Stage</b>	<b>Year 1</b>	<b>Year 2</b>
	<p>Adapt work if necessary.  Dismantle, examine, talk about existing objects/structures.  Consider and manage some risks. Practise some appropriate safety measures independently.  Talk about how things work.  Look at similarities and differences between existing objects / materials / tools.  Show an interest in technological toys. Describe textures.</p>	<p>Talk about my work, linking it to what I was asked to do.  Talk about existing products considering: use, materials, how they work, audience, where they might be used.  Talk about existing products, and say what is and isn't good.  Talk about things that other people have made.  Begin to talk about what could make product better.</p>	<p>Describe what went well, thinking about design criteria.  Talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion.  Evaluate how good existing products are.  Talk about what I would do differently if I were to do it again and why.</p>

Technical Knowledge – material structures	Foundation Stage	Year 1	Year 2
cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder		Begin to measure and join materials, with some support. Describe differences in materials. Suggest ways to make material/product stronger.	Measure materials. Describe some different characteristics of materials.  Join materials in different ways.  Use joining, rolling or folding to make it stronger.  Use own ideas to try to make product stronger
Technical Knowledge – mechanisms	Foundation Stage	Year 1	Year 2
vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used		Begin to use levers or sliders. Begin to use wheels and understand about axles.	Use levers or slides. Use wheels and begin to use axles.

Technical Knowledge – textiles	Foundation Stage	Year 1	Year 2
<p>joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish</p>		<p>Measure, cut and join textiles to make a product, with some support. Choose suitable textiles.</p>	<p>Measure textiles.</p> <p>Join textiles together to make a product, and explain how I did it. Carefully cut textiles to produce accurate pieces.</p> <p>Explain choices of textile.</p> <p>Understand that a 3D textile structure can be made from two identical fabric shapes.</p>
Technical Knowledge – food and nutrition	Foundation Stage	Year 1	Year 2
<p>fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients</p>	<p>Begin to understand some food preparation tools, techniques and processes. Practise stirring, mixing, pouring, blending. Discuss how to make an activity safe and hygienic. Discuss use of senses. Understand need for variety in food. Begin to understand that eating well contributes to good health.</p>	<p>Describe textures. Wash hands and clean surfaces. Think of interesting ways to decorate food. Say where some foods come from, (i.e. plant or animal). Describe differences between some food groups (i.e. sweet, vegetable etc). Discuss how fruit and vegetables are healthy. Cut, peel and grate safely, with support.</p>	<p>Explain hygiene and keep a hygienic kitchen. Describe properties of ingredients and importance of varied diet. Say where food comes from (animal, underground etc). Describe how food is farmed, home-grown, caught.</p> <p>Draw eat well plate; explain there are groups of food.</p> <p>Describe “five a day”. Cut, peel and grate with increasing confidence.</p>

## **Implementation**

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in the process of designing and making. The children design and create products that consider function and purpose and which are relevant to a range of environments.

## **Differentiation and Inclusion**

The teacher, via observation, will make opportunities for children who need additional support to be supported, either by proximity to confident, accurate pupils or an adult to enable participation.

Some children with SEND will participate with the support of a 1:1 adult, who gauges the appropriateness of the activity and scaffolds and modifies as needed.

Opportunities for children to lead and develop ideas will contribute to the extension for more able children. Teachers' should plan lessons and activities that incorporate scope for elaboration, demonstration, leading, independent work etc for children who demonstrate strength in Design and Technology.

## **Assessment**

Assessment in Design and Technology is light touch, and almost all via observation, either by the teacher leading, or by the supporting teaching assistant. It is this observation that will inform what scaffolding is needed. Photos of pupils' work are included in their Topic Books, clearly labelled with the learning intention of the lesson(s).



## FS2 Assessment – Outcome Statements for DT

FS2 Class \_\_\_\_\_

Transfer information for Yr 1 teacher

Number of SEN \_\_\_\_\_

Number of EAL \_\_\_\_\_

Number of PP \_\_\_\_\_

The majority of the class will meet the expected outcomes. See notes below for children emerging or exceeding expectations (Put in brackets if they are SEN/EAL/PP).

### I am a Foundation Stage 2 child. I can...

- safely use and explore a variety of materials
- safely use and explore a variety of tools
- safely use and explore a variety of techniques
- experiment with colour
- experiment with texture
- experiment with form and function
- experiment with design
- share my creations, explaining how I have made it

### Emerging (names and comments)



**Year 1 Assessment – Outcome Statements for DT**

Yr 1 Class \_\_\_\_\_ Transfer information for Yr 2 teacher

Number of SEN \_\_\_\_\_

Number of EAL \_\_\_\_\_

Number of PP \_\_\_\_\_

The majority of the class will meet the expected outcomes. See notes below for children emerging or exceeding expectations (Put in brackets if they are SEN/EAL/PP).

**I am a Year 1 child. I can...**

**Design**

- 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.

**Make**

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

**Evaluate**

- explore and evaluate a range of existing products.
- evaluate their ideas and products against design criteria.

**Technical Knowledge – Materials-structures**

- build structures, exploring how they can be made stronger, stiffer and more stable.

**Technical Knowledge - Mechanisms**

- explore and use mechanisms in their products; begin to use levers or slides, begin to use wheels.

**Technical Knowledge – Food and Nutrition**

- use the basic principles of a healthy and varied diet to prepare dishes.
- understand where food comes from.

**Emerging** (names and comments)

**Exceeding** (names and comments)

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**Year 2 Assessment – Outcome Statements for DT**

Year 2 Class \_\_\_\_\_ Transfer information to KS2

Number of SEN \_\_\_\_\_

Number of EAL \_\_\_\_\_

Number of PP \_\_\_\_\_

The majority of the class will meet the expected outcomes. See notes below for children emerging or exceeding expectations (Put in brackets if they are SEN/EAL/PP).

**I am a Year 2 child. I can...**

**Design**

- 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.

**Make**

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

**Evaluate**

- explore and evaluate a range of existing products.
- evaluate their ideas and products against design criteria.

**Technical Knowledge – Materials-structures**

- build structures, exploring how they can be made stronger, stiffer and more stable.

**Technical Knowledge - Mechanisms**

- explore and use mechanisms in their products; use levers or slides, use wheels and begin to use axles.

**Technical Knowledge – Food and Nutrition**

- use the basic principles of a healthy and varied diet to prepare dishes. understand where food comes from.

**Emerging** (names and comments)

**Exceeding** (names and comments)

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