



# **Design & Technology Curriculum**



## Early Years Foundation Stage

### Expressive arts and design

	Children will be learning to...	Examples of how to support this...
Birth to three	<p>Explore different materials, using all their senses to investigate them. Manipulate and play with different materials.</p> <p>Use their imagination as they consider what they can do with different materials.</p> <p>Make simple models which express their ideas.</p> <p>Start eating independently and learning how to use a knife and fork</p>	<p>Stimulate young children’s interest in modelling. Suggestions: provide a wide range of found materials (‘junk’) as well as blocks, clay, soft wood, card, offcuts of fabrics and materials with different textures. Provide appropriate tools and joining methods for the materials offered.</p> <p>Encourage young children to explore materials/ resources finding out what they are/what they can do and decide how they want to use them.</p>
3 & 4-year olds	<p>Explore different materials freely, to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Join different materials and explore different textures.</p> <p>Use one-handed tools and equipment, for example, making snips in paper with scissors. Use a comfortable grip with good control when holding pens and pencils. Show a preference for a dominant hand</p> <p>Make healthy choices about food, drink.</p>	<p>Offer opportunities to explore scale. Suggestions:</p> <ul style="list-style-type: none"> <li>• long strips of wallpaper</li> <li>• child size boxes</li> <li>• different surfaces to work on e.g., paving, floor, tabletop or easel</li> </ul> <p>Listen and understand what children want to create before offering suggestions.</p> <p>Invite artists, musicians and craftspeople into the setting, to widen the range of ideas which children can draw on.</p> <p>Suggestions: glue and masking tape for sticking pieces of scrap materials onto old cardboard boxes, hammers and nails, glue guns, paperclips and fasteners.</p> <p>Give children the opportunity to try different fruits/vegetables/healthy food options.</p> <p>Children to prepare simple food e.g. chopping fruit vegetables, mixing/kneading dough for bread etc.</p>



Reception	<p>Explore, use and refine a variety of artistic effects to express their ideas and feelings.</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources and skills.</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. Begin to operate simple equipment e.g. toys with buttons, flaps and simple mechanisms .</p> <p>Know and talk about the different factors that support their overall health and wellbeing: regular physical activity &amp; healthy eating</p>	<p>Provide opportunities to work together to develop and realise creative ideas. Provide children with a range of materials for children to construct with. Encourage them to think about and discuss what they want to make. Discuss problems and how they might be solved as they arise. Reflect with children on how they have achieved their aims.</p> <p>Teach children different techniques for joining materials, such as how to use adhesive tape and different sorts of glue.</p> <p>Provide a range of materials and tools and teach children to use them with care and precision. Promote independence, taking care not to introduce too many new things at once.</p> <p>Talk with children about exercise, healthy eating and the importance of sleep. Ask the children to help with snack and talk about the fruit/vegetables they get to share.</p> <p>Engage in food preparation activities such as: baking, making fruit kebabs, preparing a sandwich.</p>
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**Early Learning Goal: Creating with Materials**

Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;
- Share their creations, explaining the process they have used;

**ELG: Managing self**

Children at the expected level of development will:

- Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

**ELG: Physical development – Fine motor skills**

Children at the expected level of development will:

- Use a range of small tools, including scissors, paint brushes and cutlery.



## Key Stage 1

### **Purpose of study**

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

- **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 wide range of **materials and components**, including construction materials, textiles and ingredients, according to their characteristics
- Select from and use a range of **tools and equipment** to perform practical tasks such as cutting, shaping, joining and finishing
- **Evaluate** their ideas and products against **design criteria**
- Explore and **evaluate** a range of **existing products**
- **Build structures**, exploring how they can be made stronger, stiffer and more stable
- Explore and use **mechanisms**, such as levers, sliders, wheels and axles, in their products.
- Use the basic principles of a healthy and varied diet to **prepare dishes**.
- Understand **where food comes from**.



In Year 1 children will:

Project 1 (Textiles)	Project 2 (Construction kits/Structures)	Project 3 (Simple mechanisms)	Cooking & Nutrition
<ul style="list-style-type: none"> <li>• Explore an existing product to understand what it is for, how it works and the materials used</li> <li>• Draw on their own experience to generate ideas for their design</li> <li>• Plan by suggesting what to do next</li> <li>• Follow safety rules e.g. when carrying scissors, using a hole punch</li> <li>• Select from a range of tools, materials and components</li> <li>• With help measure, mark out, cut and shape materials</li> <li>• Talk about the strengths of their product and how to make it better</li> </ul>	<ul style="list-style-type: none"> <li>• Talk about what they like and dislike about an existing product and explain why</li> <li>• Suggest ideas and explain what they are going to do</li> <li>• Select from a range of tools, materials and components</li> <li>• Assemble, join and combine materials and components together using a variety of temporary methods e.g. glue or masking tape</li> <li>• Know how freestanding structures can be made stronger, stiffer and more stable</li> <li>• Talk about the strengths of their product and how to make it better</li> </ul>	<ul style="list-style-type: none"> <li>• Know how to operate simple equipment e.g. toys with buttons, flaps and simple mechanisms (including technology)</li> <li>• Develop their ideas through talk and drawings</li> <li>• Select from a range of tools, materials and components</li> <li>• Make templates and mock ups of their ideas in card or paper</li> <li>• Explore and use mechanisms e.g. levers &amp; sliders, in their products</li> <li>• Start to evaluate their product by discussing how well it works in relation to the purpose</li> </ul>	<ul style="list-style-type: none"> <li>• Follow hygiene rules e.g. hand washing</li> <li>• Understand that all food comes from plants or animals and explore the understanding that food has to be farmed, grown elsewhere (e.g. home) or caught.</li> <li>• Explore an existing product to understand their ingredients and where they are from</li> <li>• Prepare a simple dish safely, using a range of ingredients</li> <li>• Use techniques such as cutting, peeling and grating</li> </ul>
<p>Key Vocabulary  <b>product material idea design safe equipment tools make cut measure shape evaluate improve</b></p>	<p>Key Vocabulary  <b>product like/dislike plan materials assemble join attach glue tape strong stronger stiffer stable evaluate improve</b></p>	<p>Key Vocabulary  <b>mechanism operate use equipment lever slider draw talk evaluate purpose</b></p>	<p>Key Vocabulary  <b>hygiene food plant animal farm grow catch prepare ingredients cut peel grate mash stir mix</b></p>



**In Year 2 children will:**

Project 1 (Textiles)	Project 2 (Construction kits/Structures)	Project 3 (Simple mechanisms)	Cooking & Nutrition
<ul style="list-style-type: none"> <li>• Explore ideas for a design using own or others experiences, including existing products.</li> <li>• Design ideas by talking, drawing, labelling materials and components and/or modelling (including construction and computing).</li> <li>• Name equipment and use it safely.</li> <li>• Make a product by following a design criteria.</li> <li>• Explain how their products work and how they are intended for users.</li> <li>• Evaluate a product and explain what can be improved</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate existing products and plan to make their own version (eg, a moon buggy)</li> <li>• Suggest ideas, make a plan and explain what they are going to do</li> <li>• Design their product, label it and list materials and tools required</li> <li>• Assemble, join and combine materials and components together using a variety of secure methods e.g. split pins, rods and axels, or fastening components</li> <li>• Use a range of materials, components, construction kits and mechanical products.</li> <li>• Begin to accurately measure, mark out, cut and shape a range of materials and components.</li> <li>• Use finishing techniques, based on their own design ideas and those from art and design sessions.</li> </ul>	<ul style="list-style-type: none"> <li>• Operate equipment with mechanisms, explore what products are, what they are made from, who they are for, how they are used and where they might be used.</li> <li>• use knowledge of working mechanisms to plan own design</li> <li>• Create a mock up and test their design for a moving mechanism</li> <li>• Talk about their design, explain how it works, identify strengths and make suggestions about how to improve it</li> <li>• refer to their design criteria as they design and make.</li> <li>• Think about whether products can be recycled.</li> <li>• Build structures, exploring how they can be made stronger, stiffer and more stable.</li> <li>• With confidence talk about their ideas, saying what they like and dislike about them.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain where food comes from.</li> <li>• Explore an existing food using the senses</li> <li>• Understand how to name and sort foods into the 5 groups in 'The Eat well plate'.</li> <li>• Plan and use a range of healthy ingredients</li> <li>• Demonstrate how to prepare simple dishes safely and hygienically, without using a heat source.</li> <li>• Evaluate a dishes made and be able to explain where ingredients are from</li> </ul>
<p>Key Vocabulary  <b>design product idea draw label construction component material equipment evaluate improve</b></p>	<p>Key Vocabulary  <b>product label materials tools components assemble join secure construct construction measure finish</b></p>	<p>Key Vocabulary  <b>mechanism product use mock-up strength like improve suggest recycle build structure stronger stiffer stable</b></p>	<p>Key Vocabulary  <b>Food source (farm, grow, catch) healthy eating ingredients prepare recipe hygiene evaluate</b></p>