

D&T Level Expected at the End of EYFS

During the Early Years Foundation Stage, the essential building blocks of children's design and technology capability are established. There are many opportunities for carrying out D&T-related activities across all areas of learning.

By the end of the reception year most children should be able to:

Construct with a purpose in mind, using a variety of resources.	Build and construct with a wide range of objects, selecting appropriate resources and adapting their work when necessary.
Use simple tools and techniques competently and appropriately.	Select the tools and techniques they need to shape, assemble and join materials they are using.

D&T-related activities in the EYFS should be appropriate to the developmental stage of the children. Activities should look quite different from those carried out in KS1.

Effective practice in the EYFS has the following characteristics:

Designing does not necessarily entail drawing	Designing does not necessarily entail drawing
Designing can mean using hand gestures, arranging and re-arranging materials and components, talking and listening	Designing can mean using hand gestures, arranging and re-arranging materials and components, talking and listening
Designing is usually intuitive	Designing is usually intuitive
The designing and making process is fluid	The designing and making process is fluid
Sometimes practical skills are taught directly	Sometimes practical skills are taught directly

Design and Technology activities in Reception should include

Construction	Learning to construct with a purpose in mind, e.g. using scissors, glue, string and a hole-punch to make a bag to store items collected during a Forest School session
Structure and Joins	Observing closely and replicating a structure, e.g. following a visit, children make a milking shed, church tower out of small wooden bricks
Using a Range of Tools	Learning about planning and adapting initial ideas to make them better, e.g. a child might choose to use scissors, a stapler, elastic bands and glue to join bits together to make a toy vehicle. But they might then modify their initial idea by using masking tape. Children should use a range of tools including scissors, hole punch, stapler, glue spreader, rolling pin, cutter and grater
Cooking	Beginning to understand some of the tools, techniques and processes involved in food preparation. E.g. taking turns stirring the mixture for a cake and then watching it rise while cooking. Children should practise stirring, mixing, pouring and blending ingredients during cookery activities
Exploration	Learning about how everyday objects work by dismantling things and looking closely at their component parts, e.g. a child might dismantle a pepper grinder and discover how it is put together and the materials different parts are made from.
Discussion	Opportunities to discuss reasons that make activities safe or unsafe e.g. hygiene and electrical awareness. Opportunities to discuss appropriate use of senses e.g. when tasting different foods. Opportunities to use the language of designing and making, e.g. words such as 'join', 'build' and 'shape' as well as evaluative and comparative language - 'longer', 'shorter', 'lighter', 'heavier' and 'stronger'. Children should also learn to record their experiences by, for example, drawing, writing, voice recording or modelling

D&T National Curriculum Expectations for KS1 & KS2

The National Curriculum areas demonstrate how we enable our students to fulfil the 6 essentials.			
Area of Study		KS1	KS2
DESIGNING	Understanding contexts, users and purposes	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> • Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment. • State what products they are designing and making • Say whether their products are for themselves or other users • Describe what their products are for • Say how their products will work • Say how they will make their products suitable for their intended users • Use simple design criteria to help develop their ideas 	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • Describe the purpose of their products • Indicate the design features of their products that will appeal to intended users • Explain how particular parts of their products work
	Generating, developing, modelling and communicating ideas	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> • Generate ideas by drawing on their own experiences • Use knowledge of existing products to help come up with ideas • Develop and communicate ideas by talking and drawing • Model ideas by exploring materials, components and construction kits and by making templates and mockups • Use information and communication technology, where appropriate, to develop and communicate their ideas 	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • Share and clarify ideas through discussion • Model their ideas using prototypes and pattern pieces • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • Use computer-aided design to develop and communicate their ideas
MAKING	Planning	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> • Plan by suggesting what to do next • Select from a range of tools and equipment, explaining their choices • Select from a range of materials and components according to their characteristics 	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • Select tools and equipment suitable for the task • Explain their choice of tools and equipment in relation to the skills and techniques they will be using • Select materials and components suitable for the task • Explain their choice of materials and components according to functional properties and aesthetic qualities
			<p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • Order the main stages of making
			<p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> • Analyse findings and draw conclusions from their research • Distinguish between needs, wants, values, interests and preferences. • Design products for individuals, clients, consumers and target groups.
			<p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • Generate realistic ideas, focusing on the needs of the user • Make design decisions that take account of the availability of resources
			<p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> • Generate innovative ideas, drawing on research • Make design decisions, taking account of constraints such as time, resources and cost

EVALUATING	Practical Skills and techniques	Across KS1 pupils should: <ul style="list-style-type: none">Follow procedures for safety and hygieneUse a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical componentsMeasure, mark out, cut and shape materials and componentsAssemble, join and combine materials and componentsUse finishing techniques, including those from art and design	Across KS2 pupils should: <ul style="list-style-type: none">Select tools and equipment suitable for the taskExplain their choice of tools and equipment in relation to the skills and techniques they will be usingSelect materials and components suitable for the taskExplain their choice of materials and components according to functional properties and aesthetic qualities	
			In early KS2 pupils should also: <ul style="list-style-type: none">Order the main stages of making	In late KS2 pupils should also: <ul style="list-style-type: none">Produce appropriate lists of tools, equipment and materials that they needFormulate step-by-step plans as a guide to making
	Own Ideas and products	Across KS1 pupils should: <ul style="list-style-type: none">Talk about their design ideas and what they are makingMake simple judgements about their products and ideas against design criteriaSuggest how their products could be improved	Across KS2 pupils should: <ul style="list-style-type: none">Identify the strengths and areas for development in their ideas and productsConsider the views of others, including intended users, to improve their work	
			In early KS2 pupils should also: <ul style="list-style-type: none">Refer to their design criteria as they design and makeUse their design criteria to evaluate their completed products	In late KS2 pupils should also: <ul style="list-style-type: none">Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and makeEvaluate their ideas and products against their original design specification
	Existing products	Across KS1 pupils should explore: <ul style="list-style-type: none">What products areWho products are forWhat products are forHow products workHow products are usedWhere products might be usedWhat materials products are made fromWhat they like and dislike about products	Across KS2 pupils should investigate and analyse: <ul style="list-style-type: none">How well products have been designedHow well products have been madeWhy materials have been chosenWhat methods of construction have been usedHow well products workHow well products achieve their purposesHow well products meet user needs and wants	
		In early KS2 pupils should also investigate and analyse: <ul style="list-style-type: none">Who designed and made the productsWhere products were designed and madeWhen products were designed and madeWhether products can be recycled or reused	In late KS2 pupils should also investigate and analyse: <ul style="list-style-type: none">How much products cost to makeHow innovative products areHow sustainable the materials in products areWhat impact products have beyond their intended purpose	
	Key events and Individuals		Across KS2 pupils should: <ul style="list-style-type: none">Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	

TECHNICAL KNOWLEDGE	Making Products Work	<p>Across KS1 pupils should know:</p> <ul style="list-style-type: none"> About the simple working characteristics of materials and components About the movement of simple mechanisms such as levers, sliders, wheels and axles How freestanding structures can be made stronger, stiffer and more stable That a 3-D textiles product can be assembled from two identical fabric shapes That food ingredients should be combined according to their sensory characteristics The correct technical vocabulary for the projects they are undertaking 	<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> How to use learning from science to help design and make products that work How to use learning from mathematics to help design and make products that work That materials have both functional properties and aesthetic qualities That materials can be combined and mixed to create more useful characteristics That mechanical and electrical systems have an input, process and output The correct technical vocabulary for the projects they are undertaking 	
			<p>In early KS2 pupils should also know:</p> <ul style="list-style-type: none"> How mechanical systems such as levers and linkages or pneumatic systems create movement How simple electrical circuits and components can be used to create functional products How to program a computer to control their products How to make strong, stiff shell structures That a single fabric shape can be used to make a 3D textiles product That food ingredients can be fresh, pre-cooked and processed 	<p>In late KS2 pupils should also know:</p> <ul style="list-style-type: none"> How mechanical systems such as cams or pulleys or gears create movement How more complex electrical circuits and components can be used to create functional products How to program a computer to monitor changes in the environment and control their products How to reinforce and strengthen a 3D framework That a 3D textiles product can be made from a combination of fabric shapes That a recipe can be adapted by adding or substituting one or more ingredients
COOKING AND NUTRITION	Where food comes from	<p>Across KS1 pupils should know:</p> <ul style="list-style-type: none"> That all food comes from plants or animals That food has to be farmed, grown elsewhere (e.g.home) or caught 	<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> That a recipe can be adapted a by adding or substituting one or more ingredients That food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world 	<p>In late KS2 pupils should also know:</p> <ul style="list-style-type: none"> That seasons may affect the food available How food is processed into ingredients that can be eaten or used in cooking
	Food preparation, cooking and nutrition	<p>Across KS1 pupils should know:</p> <ul style="list-style-type: none"> How to name and sort foods into the five groups in 'The eatwell plate' That everyone should eat at least five portions of fruit and vegetables every day How to prepare simple dishes safely and hygienically, without using a heat source How to use techniques such as cutting, peeling and grating 	<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> How to prepare and cook a variety of predominantly savoury dishes safely and hygienically [including, where appropriate, the use of a heat source] How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking 	
			<p>In early KS2 pupils should also know:</p> <ul style="list-style-type: none"> That a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The eatwell plate'. That to be active and healthy, food and drink are needed to provide energy for the body 	<p>In late KS2 pupils should also know:</p> <ul style="list-style-type: none"> That recipes can be adapted to change the appearance, taste, texture and aroma That different food and drink contain different substances – nutrients, water and fibre – that are needed for health

