Design and Technology Progression Framework

Design and Technology Association
National Curriculum Expert Group for D&T

EYFS Key Stages 1 and 2

National Curriculum 2014 – statements which are either derived directly from the programmes of study for D&T or provide an age-related interpretation of the requirements are shown in regular font

School Curriculum – statements which are additional to the programmes of study for D&T are shown in italic font

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Designing	EYFS	Key Stage 1	Key Stage 2
Understanding contexts,users and purposes	Children in Reception should: • work within a rangeof contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment ▪ think about what their product is for e.g. fruit drink for a party; who their product is for e.g. coat for Teddy.	Across KS1 pupils should: • work confidently within a rangeof 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 arefor themselves or other users • describe what their productsare for • say how their products willwork • say how they will make their products suitable for their intended users • use simple design criteria tohelp develop their ideas	Across KS2 pupils should: • 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 In early KS2 pupils should also: • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas In late KS2 pupils should also: • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • *develop a simple design specification to guide their thinking*
Generating, developing, modelling and communicating ideas	Children in Reception should: ▪ explore, use and refine a variety of artistic effects to express their ideas and feelings. ▪ return to and build on their previous learning, refining ideas and developing their ability to represent them. ▪ create collaboratively, sharing ideas, resources and skills.	Across KS1 pupils should: • generate ideas by drawing on their own experiences • use knowledge of existing products to help come up withideas • develop and communicate ideas by talking and drawing • model ideas by exploring materials, components and construction kits and by making templates and mock-ups • use information and communication technology, where appropriate, to developand communicate their ideas	Across KS2 pupils should: • 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 andcommunicate their ideas • use computer-aided design to develop and communicate their ideas In early KS2 pupils should also: • generate realistic ideas, focusing on the needs of the user • *make design decisions that take account of the availability of resources* In late KS2 pupils should also: • generate innovative ideas, drawing on research • *make design decisions, taking account of constraints such as time, resources and cost*
Making	**EYFS**	**Key Stage 1**	**Key Stage 2**
Planning	Children in Reception should: ▪ choose the right resources to carry out their own plan. For example, choosing a spade to enlarge a small hole they dug with a trowel.	Across KS1 pupils should: • *plan by suggesting what to donext* • select from a range of tools and equipment, *explaining theirchoices* • select from a range of materialsand components according to their characteristics	Across KS2 pupils should: • select tools and equipment suitable for the task • *explain their choice of tools and equipment in relation to the skills and techniques they will beusing* • select materials and components suitable for the task • explain their choice of materials and components according to functional properties andaesthetic qualities In early KS2 pupils should also: • *order the main stages of making* In late KS2 pupils should also: • *produce appropriate lists of tools, equipment and materials that they need* • *formulate step-by-step plans as a guide to making*

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Practical skills and techniques	Children in Reception should: ▪ develop 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. ▪ make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. ▪ join different materials and explore different textures.	Across KS1 pupils should: • follow procedures for safetyand hygiene • use a range of materials and components, including construction materials and kits,textiles, food ingredients and mechanical components • measure, mark out, cut and shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design	Across KS2 pupils should: • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materialsand kits, textiles, food ingredients, mechanical components and electrical components In early KS2 pupils should also: • measure, mark out, cut and shape materials and components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques, including those from art and design, with someaccuracy In late KS2 pupils should also: • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design • *use techniques that involve a number of steps* • demonstrate resourcefulness when tackling practical problems

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Evaluating	EYFS	Key Stage 1	Key Stage 2
Own ideas and products	Children in Reception should: ▪ orally communicate what they are doing and have done. ▪ *think how they can improve a product. E.g. How to stop their structures from falling over and how to make them stronger.*	Across KS1 pupils should: • talk about their design ideasand what they are making • make simple judgements about their products and ideasagainst design criteria • *suggest how their products could be improved*	Across KS2 pupils should: • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work In early KS2 pupils should also: • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products In late KS2 pupils should also: • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • *evaluate their ideas and products against their original design specification*
Existing products	Children in Reception should: ▪ think about the materials that have been used and how the products have been made. ▪ say what they like or dislike about the design of the products.	Across KS1 pupils should explore: • what products are • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products	Across KS2 pupils should investigate and analyse: • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants In early KS2 pupils should also investigate and analyse: • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused In late KS2 pupils should also investigate and analyse: • how much products cost to make • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose
Key events andindividuals	Not a requirement in EYFS	Not a requirement in KS1	Across KS2 pupils should know: • about inventors, designers, engineers, chefs and manufacturers who have developedground-breaking products
Technical knowledge	**EYFS**	**Key Stage 1**	**Key Stage 2**
Making products work	Children in Reception should: ▪ have opportunities to create products that have to work in some way in order to be successful e.g. using a construction kit, make a wall strong and stable enough for Humpty Dumpty.	Across KS1 pupils should know: • 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, stifferand more stable • *that a 3-D textiles product canbe assembled from two identical fabric shapes* • *that food ingredients should be combined according to their sensory characteristics* • *the correct technical vocabulary for the projects theyare undertaking*	Across KS2 pupils should know: • 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* In early KS2 pupils should also know: • 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* In late KS2 pupils should also know: • 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 theirproducts • 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*

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Cooking and nutrition		Key Stage 1	Key Stage 2
Where food comes from	Not a requirement in EYFS	Across KS1 pupils should know: • that all food comes from plantsor animals • that food has to be farmed, grown elsewhere (e.g. home)or caught	Across KS2 pupils should know: • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickensand cattle) and caught (such as fish) in the UK, Europe and the wider world In late KS2 pupils should also know: • 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	Not a requirement in EYFS	Across KS1 pupils should know: • how to name and sort foodsinto 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	Across KS2 pupils should know: • how to prepare and cook a variety of predominantly savoury dishes safely and hygienicallyincluding, 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 In early KS2 pupils should also know: • that a healthy diet is made up from a variety and balance of different food and drink, asdepicted in The eatwell plate • that to be active and healthy, food and drink are needed to provide energy for the body In late KS2 pupils should also know: • *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 – thatare needed for health