WHOLE SCHOOL DESIGN & TECHNOLOGY PROGRESSION DOCUMENT

DESIGNING	EYFS	KEY STAGE 1	KEY STAGE 2
UNDERSTANDING CONTEXTS, USERS AND PURPOSES		**Across KS1 pupils should:** • 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	**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	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 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	**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 and communicate 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		**Across KS1 pupils should:** • 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	**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 be using • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic 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
PRACTICAL SKILLS AND TECHNIQUES	Explore, use and refine a variety of artistic effects to express their ideas and feelings.	**Across KS1 pupils should:** • follow procedures for safety and hygiene • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components	**Across KS2 pupils should:** • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical 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	**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 some accuracy **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
EVALUATING	**EYFS**	**KEY STAGE 1**	**KEY STAGE 2**
OWN IDEAS AND PRODUCTS	Return to and build on their previous learning, refining ideas and developing their ability to represent them.	**Across KS1 pupils should:** • talk about their design ideas and what they are making • make simple judgements about their products and ideas against 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		**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 AND INDIVIDUALS		**Not a requirement in KS1**	**Across KS2 pupils should know:** • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products
TECHNICAL KNOWLEDGE	**EYFS**	**KEY STAGE 1**	**KEY STAGE 2**
MAKING PRODUCTS WORK		**Across KS1 pupils should know:** • about the simple working characteristics of materials and components	**Across KS2 pupils should know:** • how to use learning from science to help design and make products that work

		• 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	• 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 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	**EYFS**	**KEY STAGE 1**	**KEY STAGE 2**
WHERE FOOD COMES FROM		**Across KS1 pupils should know:** • that all food comes from plants or 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, chickens and 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		**Across KS1 pupils should know:** • 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	**Across KS2 pupils should know:** • 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 **In early KS2 pupils should also know:** • 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 **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 – that are needed for health