Amport CE (Aided) Primary School

Design and Technology Progression of Skills and Knowledge

Designing	EYFS	KS1	Across KS2	LKS2	UKS2
Understanding contexts, users and purposes	Pupils will: Share their creations, explaining the process they have used.	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	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	Gather information about the needs and wants of particular individuals and groups Develop their own design criteria and use these to inform their ideas.	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		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	Share and clarify ideas through discussion Model their ideas using prototypes and pattern pieces Use annotated sketches, cross-sectional drawings	Generate realistic ideas, focusing on the needs of the user Make design decisions that take account of the availability of resources	Generate innovative ideas, drawing on research Make design decisions, taking account of constraints such

		materials, components and construction kits and by making templates and mock-ups Use information and communication technology, where appropriate, to develop and communicate their ideas	and exploded diagrams to develop and communicate their ideas Use computer-aided design to develop and communicate their ideas		as time, resources and cost

Making	EYFS	KS1	Across KS2	LKS2	UKS2
Planning	Pupils will: Use various construction materials, e.g. joining pieces, stacking vertically and horizontally, balancing, making enclosures and creating spaces Use tools for a purpose. Use simple tools to effect	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	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	Order the main stages of making	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	changes to materials. Handle tools, objects, construction and malleable materials safely	Follow procedures for safety and hygiene Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components Measure, mark out, cut and	Follow procedures for safety and hygiene Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients,	Measure, mark out, cut and shape materials and components with some accuracy Assemble, join and combine materials and components with some accuracy	Accurately measure, mark out, cut and shape materials and components Accurately assemble, join and combine

	and with increasing control and intention. Show a preference for a dominant hand.	shape materials and components Assemble, join and combine materials and components Use finishing techniques, including those from art and design	mechanical components and electrical components	Apply a range of finishing techniques, including those from art and design, with some accuracy	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 problem

Evaluating	EYFS	KS1	Across KS2	LKS2	UKS2
Own ideas and products	Pupils will: be proactive in seeking adult support and able to articulate their wants and needs. Be able to describe their competencies, what they can do well and are getting better at; describing	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	Identify the strengths and areas for development in their ideas and products Consider the views of others, including intended users, to improve their work	Refer to their design criteria as they design and make Use their design criteria to evaluate their completed products	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 Key events and individuals	themselves in positive but realistic terms. Have a clear idea about what they want to do in their play and how they want to go about it. Show confidence in choosing resources and perseverance in carrying out a chosen activity.	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 Not a requirement in KS1	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 Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	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	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

Technical knowledge	EYFS	KS1	Across KS2	LKS2	UKS2
Making products work	Pupils will: Use their increasing knowledge and understanding of tools and materials to explore their interests and enquiries and	Pupils will 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, stiffer	Pupils will 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	Pupils will 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	Pupils will know: • how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components

	develop their thinking. Develops their own ideas through experimentation with diverse materials, e.g. light, projected image, loose parts, watercolours, powder paint, to express and communicate their discoveries and understanding. Expresses and communicates working theories, feelings and understandings using a range of art forms, e.g. movement, dance, drama, music and the visual arts.	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	• 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	• 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	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	KS1	Across KS2	LKS2	UKS2

Where food comes from Food preparation, cooking and nutrition	Pupils will: -begin to develop food vocabulary using taste, texture and feel. explore familiar food products (e.g. fruit and vegetables, baking.) -stir, spread, knead or shape a range of food and ingredients. -begin to work hygienically and safely with guidance. -think about the needs for a variety of food in diet. - know that vegetables are grown	Pupils will Know: • that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught Pupils will 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	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 Pupils will 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	Pupils will 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	Pupils will know: • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking Pupils will 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