EPWORTH
EDUCATION TRUST

Progression in Skills & Knowledge – D.T.			
EYFS	**Key Stage One**	**Lower Key Stage Two**	**Upper Key Stage Two**
Designing			
Designing	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.	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.	
Understanding contexts, users and purposes	*Understanding contexts, users and purposes*	*Understanding contexts, users and purposes*	
• Develop an understanding of context through story, local environment and home • Begin to describe what they are going to design and make • Begin to think about user, e.g. themselves or another person • Use given design criteria to support their ideas	• 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	• 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 carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups
Generating, developing, modelling and communicating ideas	*Generating, developing, modelling and communicating ideas*	*Generating, developing, modelling and communicating ideas*	

• Explore, use and refine a variety of artistic effects to express their ideas and feelings • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Talk about 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 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	• 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 • generate realistic ideas, focusing on the needs of the user	• 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 • generate innovative ideas, drawing on research
Making			
Exploring and making	When making, select from and use a range of tools and equipment to perform practical tasks for example, cutting, shaping, joining and finishing. According to their characteristics, select from and use a wide range of materials and components including construction materials, textiles and ingredients	When making, select from and use a wider range of tools and equipment to perform practical tasks accurately for example when cutting, shaping, joining and finishing. According to their functional properties and aesthetic qualities, select from and use a wide range of materials and components, including construction materials, textiles and ingredients.	
Planning	*Planning*	*Planning*	
• Use a range of small tools, including scissors, paint brushes and cutlery. • Select from a given range of materials and components	• select from a range of tools and equipment • 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	• 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	*Practical skills and techniques*	
• Make models using different construction materials such construction kits and reclaimed materials. • Experiment with different ways to build, construct and join resources. • Use manipulation and control when using tools and equipment. • Create collaboratively, sharing ideas, resources and skills. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	• 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 shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design	• 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 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	• 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 • 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			
Evaluating	Explore and evaluate a range of existing products as well as evaluating their ideas and products against design criteria.	Investigate and analyse a range of existing products. Evaluating their ideas and products against their own design criteria as well as considering the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world.	
Own ideas and products	Own ideas and products	Own ideas and products	

• Share their creations, explaining the process they have used. • Return to and build on their previous learning, refining ideas and developing their ability to represent them.	• 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	• identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work • 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 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	*Existing products*	*Existing products*	
Explore existing products for: • materials used • taste • how they work • what they are used for • likes/dislikes	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	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 • who designed and made the products • where products were designed and	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 • how much products cost to make • how innovative products are

		made • when products were designed and made • whether products can be recycled or reused	• how sustainable the materials in products are • what impact products have beyond their intended purpose
	Key events and individuals	*Key events and individuals*	
		• should know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	• should know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products
Technical Knowledge			
Tools, equipment and safety	Build structures by 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.	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Understand and use mechanical systems in their products such gears, pulleys, cams, levers and linkages. Understand and use electrical systems in their products such as series circuits incorporating switches, bulbs, buzzers and motors. Apply their understanding of computing to program, monitor and control their products	
Making products work	*Making products work*	*Making products work*	
Should know: • how to use simple equipment and tools to build, construct and make simple models and constructions. • how to safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function.	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, stiffer and more stable • that a 3-D textiles product can be assembled from two identical fabric shapes • that food ingredients should be	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	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

	combined according to their sensory characteristics • the correct technical vocabulary for the projects they are undertaking	• the correct technical vocabulary for the projects they are undertaking • 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	correct technical vocabulary for the projects they are undertaking • 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			
Use the basic principles of a healthy and varied diet to prepare dishes as well as understanding where food comes from	Use the basic principles of a healthy and varied diet to prepare dishes as well as understanding where food comes from.	Understand and apply the principles of a healthy and varied diet to prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.	
Where food comes from	*Where food comes from*	*Where food comes from*	
Should know: • that all food comes from plants or animals	Should know: • that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught	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	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	*Food preparation, cooking and nutrition*	
Should know: • Have knowledge of fruits and	Should know: • how to name and sort foods into the	Should know: • how to prepare and cook a variety of	Should know: • how to prepare and cook a variety of

vegetables that need peeling and preparing. • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.	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	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 • 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	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 • 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