

Anston Hillcrest Primary
Design and Technology Curriculum Progression

	FS	KS1 Continuous Provision	KS2 Y3/4 Continuous Provision	KS2 Y5/6 Continuous Provision
Iterative process of designing and making		Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
Design		<p>D1.To design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>D2.To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p>	<p>D1.To 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</p> <p>D2.To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	
		<p>Understand contexts, users and purposes</p> <ul style="list-style-type: none"> • D1.1 Design products that have a clear purpose and an intended user. <p>Generate, develop, model and communicate ideas</p> <ul style="list-style-type: none"> • D1.2 Use simple design criteria to help develop their ideas. • D2.1 Generate ideas by drawing on their own experience or by using knowledge of existing products. • D2.2 Describe and explain what they are making, how it works, why they have chosen specific materials and what they need to do next. • D2.3 Use drawings with notes to communicate their ideas. record materials and show their choice of joining techniques. • D2.4 Create templates or mock- ups to develop ideas. • D2.5 Where appropriate use IT to communicate their ideas. 	<p>Understand contexts, users and purposes</p> <ul style="list-style-type: none"> • D1.1 Describe the purpose of their product. • D1.2 Gather information about the needs of their user. • D1.3 Describe the design features of their products that will appeal to intended users. • D1.4 Develop their own design criteria and use this to inform their ideas <p>Generate, develop, model and communicate ideas</p> <ul style="list-style-type: none"> • D2.1 Develop ideas after research. • D2.2 Communicate ideas in a range of ways including annotated drawings and sketches. • D2.3 Produce a step-by-step plan. • D2.4 Demonstrate a suitable choice of available materials and joining techniques. Discuss and explain this while working. • D2.5 Model and develop their ideas using prototypes and pattern pieces. • D2.6 Use software to design and represent product designs. • D2.7 Persevere and adapt ideas. 	<p>Understand contexts, users and purpose</p> <ul style="list-style-type: none"> • D1.1 Design with the user in mind; justifying how a product will appeal to a specific audience. • D1.2 Justify the purpose of their products <p>Generate, develop, model and communicate ideas</p> <ul style="list-style-type: none"> • D2.1 Develop ideas following market research; using a range of sources to inform their design (surveys, interviews, questionnaires and web-based resources) • D2.2 Create and explain their design criteria. • D2.3 Record designs through cross-sectional and exploded diagrams • D2.4 Use prototypes, pattern pieces or computer aided designs to represent designs. • D2.5 Make design decisions that take account of the availability of resources • D2.6 Produce a step-by-step plan. • D2.7 Refine and adapt ideas.
Key vocabulary (See glossary for more details)	•	• Product, intended user, design criteria	• Product, enterprise, intended user, design criteria, inventor, innovative	• Product, enterprise, intended user, design specification, inventor, manufacturer, innovative,
Make		<p>M1.To select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing)</p> <p>M2.To select from and use a wide range of materials and components, including construction materials, textiles and</p>	<p>M1.To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>M2.To select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p>	

Anston Hillcrest Primary
Design and Technology Curriculum Progression

		ingredients, according to their characteristics.		
		<p>Planning</p> <ul style="list-style-type: none"> M1.1 Follow design when making. M1.2 Select and name the tools needed to work the materials. M1.3 Select materials to meet design criteria. <p>Practical skills and techniques</p> <ul style="list-style-type: none"> M1.4 Cut materials safely using tools provided. M1.5 Measure and mark out with increasing accuracy. M1.6 Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). M2.1 Investigate temporary, fixed and moving joints using a range of joining techniques (such as gluing, hinges or combining materials to strengthen). M2.2 Assemble, join and combine materials and components. M2.3 Apply a range of finishing techniques, including those from art and design M2.4 Ensure finished product is appealing to the user. 	<p>Planning</p> <ul style="list-style-type: none"> M1.1 Order the main stages of making. M1.2 Select and explain their choice of tools and equipment. M2.1 Select the most appropriate materials and components for the task. <p>Practical skills and techniques</p> <ul style="list-style-type: none"> M1.3 Cut materials accurately and safely by selecting and using appropriate tools. M1.4 Measure, mark out and cut to the nearest cm/millimetre. M2.2 Join and combine the range of materials and ingredients using appropriate methods. M2.3 Select appropriate joining techniques e.g. temporary, fixed or moving joints M2.4 Ensure products have a good quality finish, 	<p>Planning</p> <ul style="list-style-type: none"> M1.1 Formulate step-by-step plans as a guide to making M1.2 Produce appropriate lists of tools, equipment and materials that they need M2.1 Explain their choice of materials and components according to functional properties and aesthetic qualities M1.3 Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper) <p>Practical skills and techniques</p> <ul style="list-style-type: none"> M1.4 Use a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding M1.5 Select from and use specialist tools and techniques safely and accurately. E.g. craft knife, cutting mat, safety ruler, bradawl to mark holes, hand drill, pin and tacks during textile work M1.6 Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). M2.2 Make products through stages of prototypes, making continual refinements. M2.3 Ensure products have a high quality finish, using art skills where appropriate
Key vocabulary (See glossary for more details)		<ul style="list-style-type: none"> Construction kits, template, mock up, assemble, disassemble 	<ul style="list-style-type: none"> Prototype, components, step-by-step guide 	<ul style="list-style-type: none"> Prototype, components, assemble, disassemble, step-by-step guide
Evaluate		<p>E1.To explore and evaluate a range of existing products</p> <p>E2.Evaluate their ideas and products against design criteria.</p>	<p>E1.To investigate and analyse a range of existing products</p> <p>E2.To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>E3.To understand how key events and individuals in design and technology have helped shape the world</p>	
		<p>Investigate, evaluate and disassemble existing products</p> <ul style="list-style-type: none"> E1.1 Who or what are the products made for? E1.2 How do they work? E1.3 What are they made from? E1.4 How are they joined? E1.5 What do they like / dislike? 	<p>Investigate, analyse and disassemble existing products</p> <ul style="list-style-type: none"> E1.1 How well have products been designed and made? E1.2 Why have materials been chosen? E1.3 What methods of construction have been used? 	<p>Investigate and analyse existing products</p> <ul style="list-style-type: none"> E1.1 How well products have been designed and made? E1.2 Why have materials have been chosen? E1.3 What methods of construction have been used? E1.4 How well do products work to achieve their purpose?

Anston Hillcrest Primary
Design and Technology Curriculum Progression

		<p>Own ideas and product</p> <ul style="list-style-type: none"> E2.1 Evaluate their product against a set criteria (appearance and function). E2.2 Make simple modifications to improve their product. E2.3 Explain what worked well and what they would change next time. 	<ul style="list-style-type: none"> E1.4 Use investigations of existing products to inform planning of their own product. E1.5 Evaluate existing product against a set criteria. <p>Own ideas and product</p> <ul style="list-style-type: none"> E2.1 Check their work as it develops; modifying their approach to improve their finished product (appearance and function) E2.2 Make changes in response to the views of others. E2.3 Evaluate how well their product meets the design criteria and the needs of the user. E2.4 Explain how their original design has been improved and suggest further improvements. <p>Key events and individuals</p> <ul style="list-style-type: none"> E3.1 Identify inventors, designers, engineers, chefs and manufacturers. 	<ul style="list-style-type: none"> E1.5 How well do products meet user needs and wants? E1.6 How much do products cost to make? E1.7 How innovative are the products? E1.8 How sustainable are the materials used to make the products? <p>Own ideas and product</p> <ul style="list-style-type: none"> E2.1 Show a clear understanding of the specification and use this to inform decisions E2.2 Test, evaluate and refine ideas and products against their design specification. E2.3 Justify decisions made during the design process about materials and methods of construction. E2.4 Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make E2.5 Evaluate and modify their work considering the views of their user <p>Key events and individuals</p> <ul style="list-style-type: none"> E3.1 Combine elements of design from a range of designers throughout history, giving reasons for choices.
Key vocabulary (See glossary for more details)			<ul style="list-style-type: none"> Aesthetic purpose, Design criteria, Functional purpose, Intended user, 	<ul style="list-style-type: none"> Aesthetic purpose, Design criteria, Functional purpose, Intended user, sustainable
Technical Knowledge	•	<ul style="list-style-type: none"> TK1 To build structures, exploring how they can be made stronger, stiffer and more stable TK2 To explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products. 	<ul style="list-style-type: none"> TK1 To apply their understanding of how to strengthen, stiffen and reinforce more complex structures TK2 To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] TK3 To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] TK4 To apply their understanding of computing to program, monitor and control their products. 	
Key vocabulary (See glossary for more details)	•	<ul style="list-style-type: none"> Wheel, axle, lever, freestanding structure, stable, joint, 	<ul style="list-style-type: none"> Aesthetic purpose, Design criteria, Functional purpose, Intended user, linkages, pneumatic mechanism, lever, stable, complex electrical circuit, simple electrical circuit, joint, electrical component, 	<ul style="list-style-type: none"> Aesthetic purpose, Design criteria, Functional purpose, Intended user, sustainable, pulley, complex electrical circuit, simple electrical circuit, joint, electrical component,
Structures	•	<ul style="list-style-type: none"> TK1.1 Build structures and investigate how they can be made stronger, stiffer and more stable 	<ul style="list-style-type: none"> TK1.1 Create a strengthened shell or frame structure. 	<ul style="list-style-type: none"> TK1.1 Build complex frameworks using a range of materials to support mechanisms Tk1.2 Create a wooden frame using square wood and card triangles to support mechanisms
Textiles	•	<ul style="list-style-type: none"> T1.1 Use appropriate techniques to measure, mark and join fabric T1.2 Shape textiles using templates. 	<ul style="list-style-type: none"> T1.1 Understand the need for a seam allowance. 	<ul style="list-style-type: none"> T1.1 Create items that employ a seam allowance. T1.2 Join textiles with a combination of stitching techniques (such as back stitch for

Anston Hillcrest Primary
Design and Technology Curriculum Progression

		<ul style="list-style-type: none"> T1.3 Join textiles using running stitch. T1.4 Colour and decorate textiles using a number of techniques (such as cross stitch, dyeing, adding sequins or printing). 	<ul style="list-style-type: none"> T1.2 Join textiles with appropriate stitching (running, back, oversew) T1.3 Use a pattern to create a product. T1.4 Select the most appropriate techniques to decorate textiles. (buttons, sequins, cross stitch, embroider. knots) 	<p>seams, running stitch to attach decoration, introduce blanket stitch).</p> <ul style="list-style-type: none"> T1.3 Use pattern pieces T1.4 Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles
Electrics			<ul style="list-style-type: none"> TK3.1 Incorporate a circuit with bulbs or buzzers into a model TK3.2 Create series and parallel circuits 	<ul style="list-style-type: none"> TK3.1 Create circuits using electronic kits that employ a number of components (such as LEDs, resistors, motors, switches, transistors and chips).
Mechanics	•	<ul style="list-style-type: none"> TK2.1 Create products using levers and sliders TK2.1 Create products using wheels and axles or winding mechanisms incorporating a wooden frame 	<ul style="list-style-type: none"> TK2.1 Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (pneumatics, pulleys and gears). TK2.2 Investigate and use levers and linkages to make movement larger or more varied 	<ul style="list-style-type: none"> TK2.1 Convert rotary motion to linear using cams. TK2.2 Use innovative combinations of electronics (or computing) and mechanics in product designs (e.g. controllable vehicles)
Computing			<ul style="list-style-type: none"> TK4.1 Control and monitor models using software designed for this purpose 	<ul style="list-style-type: none"> TK4.1 Write code to control and monitor models or products.
Cooking and Nutrition		<p>CN1 To use the basic principles of a healthy and varied diet to prepare dishes</p> <p>CN2 To understand where food comes from.</p>	<ul style="list-style-type: none"> CN1 Understand and apply the principles of a healthy and varied diet CN2 Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques CN3 Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. 	<ul style="list-style-type: none"> CN1 Understand and apply the principles of a healthy and varied diet CN2 Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques CN3 Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
		<p>Food preparation, cooking and nutrition</p> <ul style="list-style-type: none"> CN1.1 Know how to prepare simple dishes safely and hygienically, without using a heat source. CN1.2 Cut, peel or grate ingredients safely and hygienically. CN1.3 Measure or weigh using measuring cups or electronic scales. CN1.4 Follow a recipe to assemble or cook ingredients. CN1.5 Name the ingredients used. CN1.6 Sort foods into the five groups in The Eatwell Plate. CN1.7 Know that everyone should eat at least five portions of fruit and vegetables every day <p>Where food comes from</p>	<p>Food preparation, cooking and nutrition</p> <ul style="list-style-type: none"> CN1.1 Follow a given recipe. Weigh ingredients to the nearest gram accurately. CN1.2 Create a recipe. CN1.3 Demonstrate an understanding that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate. CN1.4 Demonstrate an understanding that to be active and healthy, food and drink are needed to provide energy for the body. CN2.1 Prepare ingredients hygienically and safely using appropriate utensils. Where appropriate use a heat source safely. CN2.2 Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking CN2.3 Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). CN2.4 Understand the difference between a sweet and savoury dish. 	<p>Food preparation, cooking and nutrition</p> <ul style="list-style-type: none"> CN1.1 Understand the importance of the correct storage and handling of ingredients (using knowledge of micro-organisms). CN1.2 Work within a budget to create a recipe. CN1.3 Know that different food and drink contain nutrients, water and fibre - that are needed for health. CN2.1 Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. CN2.2 Demonstrate a range of baking and cooking techniques. CN2.3 Create and refine recipes, including ingredients, methods, cooking times and temperatures. <p>Where food comes from</p> <ul style="list-style-type: none"> CN3.1 Demonstrate an understanding of where and how a variety of ingredients are grown, reared, caught

Anston Hillcrest Primary
Design and Technology Curriculum Progression

		<ul style="list-style-type: none"> • CN2.1 Understand that food is farmed and comes from plants, fish or animals in the UK, Europe and the wider world. 	<p>Where food comes from</p> <ul style="list-style-type: none"> • CN3.1 Recognise that food is grown, reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world • CN3.2 Recognise seasonal foods and know where and how a variety of foods are grown. • CN3.3 Know when food is ready for harvesting 	<ul style="list-style-type: none"> • CN3.2 Understand how food is processed into ingredients that can be eaten or used in cooking • CN3.3 Demonstrate an understanding of seasonality.
<p>Key vocabulary (See glossary for more details)</p>	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Balanced diet, portion 	<ul style="list-style-type: none"> • Balanced diet, portion, the eatwell plate 	<ul style="list-style-type: none"> • Balanced diet, portion, the eatwell plate, aroma, savoury,