



Design and Technology: Knowledge and Skills Progression Map

Early Years

By the end of EYFS, children will:

Expressive Arts and Design; Creating with Materials

ELG: Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function

ELG: Share their creations, explaining the process they used

ELG: Make use of props and materials when role playing characters in narratives and stories.

Physical Development: Fine Motor Skills

ELG: Use a range of small tools, including scissors, paint brushes and cutlery

ELG: Begin to show accuracy and care when drawing

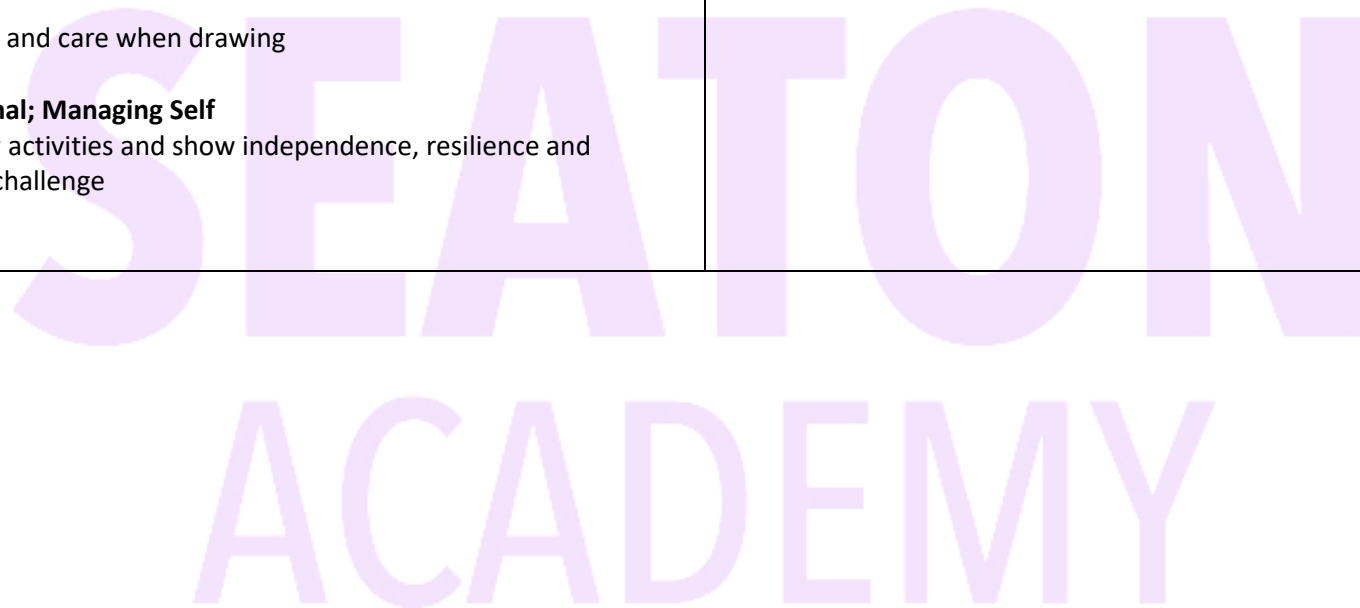
Personal Social and Emotional; Managing Self

ELG: Be confident to try new activities and show independence, resilience and perseverance in the face of challenge

EYFS Vocabulary:

fruit vegetables safety knife blade tool edge handle chop slice cut saucepan blender chopping board hob boil blend mix packaging recyclable metal plastic reusable join stick cut bend slot scissors measure materials fix thread weave pattern sew sewing needle embroider design evaluate waterproof absorb prediction variable experiment investigation float sink junk

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Nursery	Autumn 1 Me and my Community	Autumn 2 Once Upon a Time	Spring 1 Starry Night	Spring 2 Dangerous Dinosaurs	Summer 1 Sunshine and Sunflowers	Summer 2 Big Wide World
Development Matters links:		<p>Expressive Arts and Design; Creating with Materials Share their creations, explaining the process they have used.</p> <p>Explore and create using a wide range of materials and components, including upcycled materials, construction kits, textiles and ingredients.</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>	<p>Expressive Arts and Design; Creating with Materials Share their creations, explaining the process they have used.</p> <p>Explore and create using a wide range of materials and components, including upcycled materials, construction kits, textiles and ingredients.</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>		<p>Expressive Arts and Design; Creating with Materials Share their creations, explaining the process they have used.</p> <p>Explore and create using a wide range of materials and components, including upcycled materials, construction kits, textiles and ingredients.</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>	
Substantive Knowledge:		-How to build a small-scale house that is safe from the Big Bad	-How to build a rocket using suitable materials.		-How to build a boat that will float on the water.	

		<p>Wolf.</p> <ul style="list-style-type: none"> -A bridge is a structure that crosses a space. -Use one-handed tools and equipment, for example, to make snips in paper. 	<ul style="list-style-type: none"> -How to express my ideas by making simple models. -How to join different materials. -Use one-handed tools and equipment, for example, to make snips in paper. 		<ul style="list-style-type: none"> - How to express my ideas by making simple models. -How to join different materials. -Use one-handed tools and equipment, for example, to make snips in paper. 	
Disciplinary Knowledge:		<ul style="list-style-type: none"> -Share their creations with others and respond to questions and suggestions about how it was made. -Explore and choose freely from a variety of materials. -Make simple structures using a range of materials. 	<ul style="list-style-type: none"> -Explore and choose freely from a variety of materials. -Make simple structures using a range of materials. -Develop their own ideas and then decide which materials are suitable for the desired outcome. 		<ul style="list-style-type: none"> -Develop their own ideas and then decide which materials are suitable for the desired outcome. -Explore and choose freely from a variety of materials. 	
Experience:		Build a house for the Three Little Pigs.	Build a rocket.		Build a boat.	

Reception	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Let's Explore	Marvelous Machines	Long Ago	Ready, Steady, Grow	Animal Safari	On the Beach
Development Matters links:	<p>Expressive Arts and Design; Creating with Materials Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function</p> <p>Share their creations, explaining the process they used</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>	<p>Expressive Arts and Design; Creating with Materials Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function</p> <p>Share their creations, explaining the process they used</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>	<p>Expressive Arts and Design; Creating with Materials Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function</p> <p>Share their creations, explaining the process they used</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>	<p>Expressive Arts and Design; Creating with Materials Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function</p> <p>Share their creations, explaining the process they used</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>	<p>Expressive Arts and Design; Creating with Materials Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function</p> <p>Share their creations, explaining the process they used</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>	<p>Expressive Arts and Design; Creating with Materials Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function</p> <p>Share their creations, explaining the process they used</p> <p>Physical Development; Fine Motor Skills Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>PSED: Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p>

<p>Substantive Knowledge:</p>	<ul style="list-style-type: none"> -How to share resources. -How to communicate my ideas with others. -How to work safely and hygienically. -How to plan what they are going to make. -Materials can be joined in different ways (glue, tape, PVA, masking tape). 	<ul style="list-style-type: none"> -Materials can be joined in different ways (glue, tape, PVA, masking tape). -How to plan what they are going to make. 	<ul style="list-style-type: none"> -Items can be changed by adding different things (buttons, ribbon, beads etc.) -Which tools to select for a task. -How to plan what they are going to make. 	<ul style="list-style-type: none"> -Which materials and tools to select to design and make a musical instrument. -How to plan what they are going to make. 	<ul style="list-style-type: none"> -Which materials and tools to select to design and make an animal home. -How to weave a pattern with support. -How to plan what they are going to make. 	<ul style="list-style-type: none"> -How to make beach art using a variety of natural materials. -How to work safely and hygienically. -Which materials and tools to select to design and make the 'sound of the sea' (pebbles, foil, sand, rice, lentils, pasta). -How to plan what they are going to make.
<p>Disciplinary Knowledge:</p>	<ul style="list-style-type: none"> -Create collaboratively, share ideas and use a variety of resources to make products inspired by existing projects, stories or their own ideas, interests or experiences. 	<ul style="list-style-type: none"> -Create collaboratively, share ideas and use a variety of resources to make products inspired by existing projects, stories or their own ideas, interests or experiences. -Describe what, why and how something was made and compare with others. 	<ul style="list-style-type: none"> -Choose and explore appropriate tools for simple practical tasks. -Create collaboratively, share ideas and use a variety of resources to make products inspired by existing projects, stories or their own ideas, interests or experiences. 	<ul style="list-style-type: none"> -Adapt and refine their work as they are constructing and making. 	<ul style="list-style-type: none"> -Create collaboratively, share ideas and use a variety of resources to make products inspired by existing projects, stories or their own ideas, interests or experiences. -Discuss similarities and differences in their own and others' work, linked to visual elements, such as colour, scale, subject matter, composition and type. -Continue, copy and create a repeating pattern using a variety of products. 	<ul style="list-style-type: none"> -Use natural materials and loose parts to make 2D and 3D art. -Talk about and represent ideas, sounds, movement and emotions through their creations.
<p>Experiences:</p>			<p>Design a t-shirt</p>	<p>Make a musical instrument</p>	<p>Weaving</p>	<p>Beach Art</p>

Key Stage 1

By the end of KS1, children will:

Through a variety of creative and practical activities, pupils will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.

Design

-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.

Make

-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately

-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

Evaluate

-investigate and analyse a range of existing products

-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

-understand how key events and individuals in design and technology have helped shape the world

Technical knowledge:

-apply their understanding of how to strengthen, stiffen and reinforce more complex structures

-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

KS1 Vocabulary:

Design, make, evaluate

Design criteria

See half termly overviews.

-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]

-apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

-use the basic principles of a varied and healthy diet to prepare dishes.

-understand where food comes from.

Prior learning links:

Expressive Arts and Design; Creating with Materials

ELG: Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function

ELG: Share their creations, explaining the process they used

ELG: Make use of props and materials when role playing characters in narratives and stories.

Physical Development: Fine Motor Skills

ELG: Use a range of small tools, including scissors, paint brushes and cutlery

ELG: Begin to show accuracy and care when drawing

Personal Social and Emotional; Managing Self

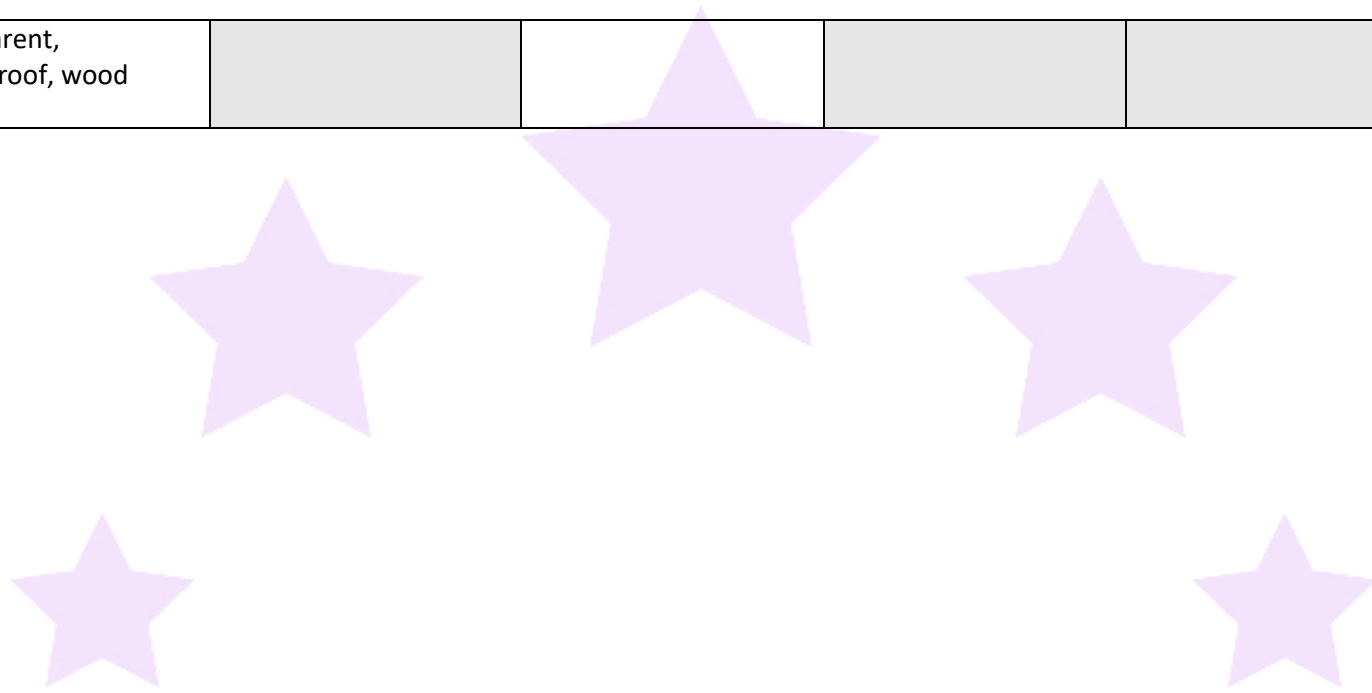
ELG: Be confident to try new activities and show independence, resilience and perseverance in the face of challenge

Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Shade and Shelter		Taxi!			Chop, Slice, Mash
National Curriculum links:	<p>Technical Knowledge: Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Design: Design purposeful, functional and appealing products for themselves and others based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups, and where appropriate, information and communication technology.</p> <p>Make: Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Evaluate: Evaluate their ideas and products against</p>		<p>Technical Knowledge: Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Explore and use mechanisms (for example, leavers, sliders, wheels and axels) in their products.</p> <p>Design: Design purposeful, functional and appealing products for themselves and others based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups, and where appropriate, information and communication technology.</p> <p>Make: Select from and use a range of tools and equipment to perform</p>			<p>Design: Design purposeful, functional and appealing products for themselves and others based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups, and where appropriate, information and communication technology.</p> <p>Make: Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing)</p> <p>Evaluate: Evaluate their ideas and products against design criteria.</p> <p>Cooking and Nutrition: Use the basic principles of a healthy</p>

	<p>design criteria.</p> <p>Explore and evaluate a range of existing products.</p>		<p>practical tasks (for example, cutting, shaping, joining and finishing)</p> <p>Evaluate: Evaluate their ideas and products against design criteria.</p> <p>Explore and evaluate a range of existing products.</p>			<p>and varied diet to prepare dishes.</p> <p>Understand where food comes from.</p>
<p>Substantive Knowledge:</p>	<ul style="list-style-type: none"> -A shelter is a structure designed to give protection from danger or weather. -A product is guided by design criteria and must meet the design criteria to be successful. -Safety rules are made to keep people safe from danger, including: listening carefully, following instructions and using equipment only when told. 		<ul style="list-style-type: none"> -Axels are used in structures and mechanisms to make parts turn in a circle. -A chassis is the frame of a vehicle. -Most vehicles that move on land have axels and wheels attached to a chassis. - A product is guided by design criteria and must meet the design criteria to be successful. 			<ul style="list-style-type: none"> -Meat, fish and dairy products come from animals. -Fruit and vegetables come from plants. -Some foods need to be prepared before eating. -Peeling, slicing, chopping, grating, tearing or mashing are all different methods of preparing food. -Handwashing and good hygiene prevent the spread of germs. -Fruit and vegetables are an important part of a healthy diet. -Safety rules are made to keep people safe from danger, including: listening carefully, following instructions and using equipment only when

						told.
Disciplinary Knowledge:	<ul style="list-style-type: none"> -Describe the similarities and differences between two products. -Name and explore a range of everyday products and describe their uses. -Create a play den to meet simple design criteria. -Select and use a range of materials, beginning to explain choices. -Construct a play den using a range of materials. -Evaluate their own and others work, discussing: strengths, weaknesses and offering support. 		<ul style="list-style-type: none"> -Name and explore a range of everyday products and describe how they are used. -Use wheels and axels to make simple moving models. -Describe the similarities and differences between two products. - Create a London taxi to meet simple design criteria. -Evaluate their own and others work, discussing: strengths, weaknesses and offering support. 			<ul style="list-style-type: none"> -Sort food into groups based on their sources. -Select the appropriate tool for a simple practical task. -Explain why handwashing and cleanliness are important. -Select healthy ingredients for a fruit or vegetable salad. -Measure and weigh food items using non-standard measure, such as spoons or cups. -Create a healthy sandwich based on design criteria. -Follow the rules to keep safe when using equipment. -Evaluate their own and others work, discussing: strengths, weaknesses and offering support.
Experiences:	Forest School					Phunky Foods
Key Vocabulary:	Absorbant, clay, den, design criteria, durable, fabric, flexible, glass, material, metal, opaque, plastic, shade, shelter, strong, temporary,		Axel, chassis, design criteria, dowel, fixed axel, moving axel, taxi, vehicle, washer, wheel.			Chop, dairy, fruit, grate, leaf, mash, peel, root, salad, dressing, seed, slice, stem, tear, texture, tool.

	transparent, waterproof, wood					
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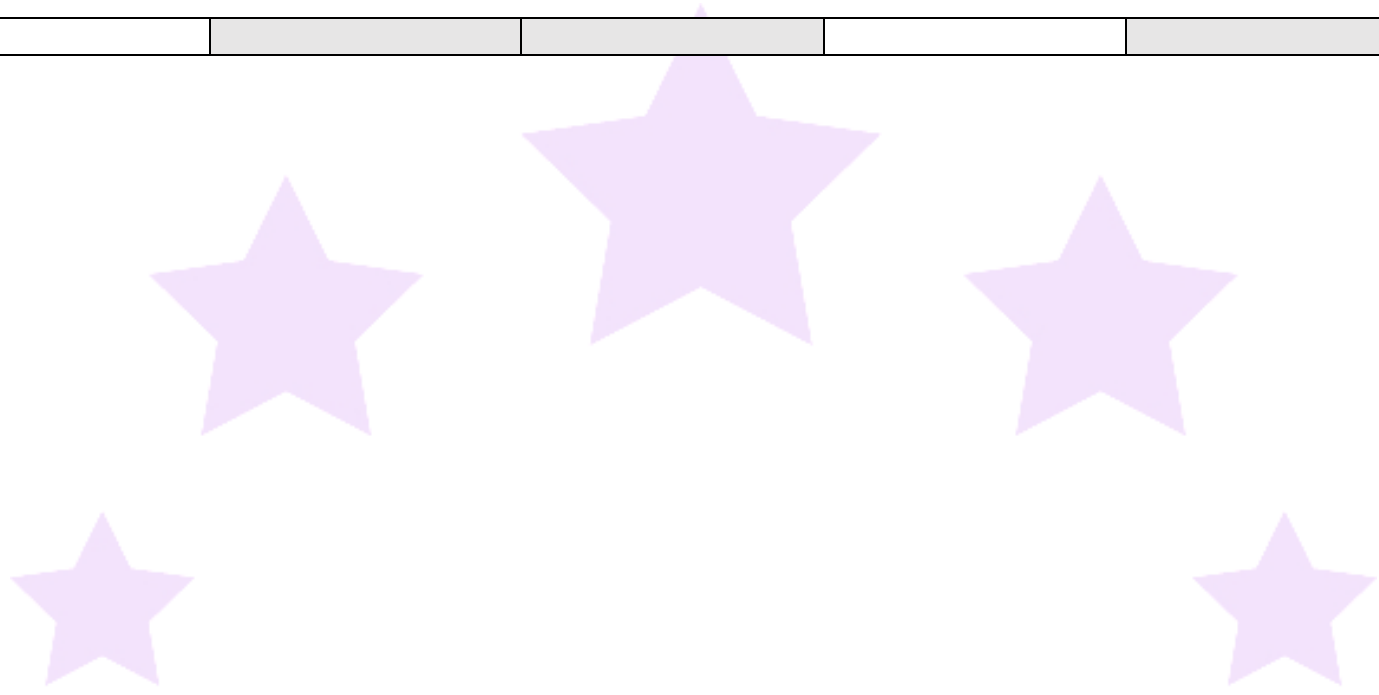
SEATON ACADEMY

Year 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Remarkable Recipes			Beach Huts		Cut, Stitch, Join
National Curriculum links:	<p>Design: Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Make: Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).</p> <p>Evaluate: Evaluate their ideas and products against design criteria.</p> <p>Explore and evaluate a range of existing products.</p>			<p>Design: Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Make: Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>		<p>Design: Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Make: Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>

	<p>Food: Understand where food comes from.</p> <p>Use the basic principles of a healthy and varied diet to prepare dishes.</p>			<p>Evaluate: Evaluate their ideas and products against design criteria.</p> <p>Technical: Build structures, exploring how they can be made stronger, stiffer and more stable.</p>		<p>Evaluate: Evaluate their ideas and products against design criteria.</p> <p>Explore and evaluate a range of existing products.</p>
Substantive Knowledge:	<ul style="list-style-type: none"> -Food comes from two main sources: animals and plants. -Milk comes mainly from cows. -Eggs are laid by female animals. -Most edible oils are made from plant parts. -Honey is made by bees. -Plants give us nuts. -Tools have characteristics that make them suitable for specific purpose: e.g. a knife has a sharp edge for cutting. -Hygiene rules include: washing hands, cleaning surfaces, storing food appropriately and wiping up spills. 			<ul style="list-style-type: none"> -Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares. -Properties of components and materials determine how they can and cannot be used. 		<ul style="list-style-type: none"> -Many home products are made from fabric. -Fabric based products in the home include: cushions, curtains, blinds and carpets. -Cath Kidston is a British brand which began in the 1990's. -A running stitch is a basic running stitch used to join two pieces of fabric. -Embellishment is decorative detail or feature added to something to make it more attractive. -Properties of components and materials determine how they can and cannot be used.
Disciplinary Knowledge:	<ul style="list-style-type: none"> -Identify the origin of some common foods (milk, eggs, some 			<ul style="list-style-type: none"> -Generate and communicate their ideas through a range 		<ul style="list-style-type: none"> -Explain how an everyday product could be improved.

	<p>meats, common fruit and vegetables).</p> <ul style="list-style-type: none"> -Prepare ingredients by chopping, peeling, grating and slicing. -Select an appropriate tool for a task and explain their choice. -Work safely and hygienically in cooking activities. -Generate and communicate ideas through a range of different methods. -Explain how closely their finished meal meets the design criteria and say what they could do better in the future. 			<p>of methods.</p> <ul style="list-style-type: none"> -Explore how structures can be made stronger, stiffer and more stable. -Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect. -Select the appropriate tool for a task and explain their choice. -Explain how closely their finished meal meets the design criteria and say what they could do better in the future. 		<ul style="list-style-type: none"> -Explain why a designer or inventor is important. -Compare the same and different products from the same brands. -Select the appropriate tool for a task and explain their choice. -Use different methods of joining fabrics, including glue and running stitch. -Add simple decorative embellishments, such as: buttons, prints, sequins and applique. - Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect.
Experiences:	Phunky Foods			Create a beach hut		Create a bag tag
Key Vocabulary:	<p>Beef, chop, design criteria, edible, equipment, grate, ingredients, lamb, mash, mixed diet, peel, pork, preserves, pulses, recipes, slice, vegan diet, vegetarian diet.</p>			<p>Apex roof, beach hut, joint, cladding, design criteria, frame, structure, sand, hacksaw, score, stilts, strengthen, triangular corner.</p>		<p>Applique, binca, designer, embellishment, fabric, motif, needle, running stitch, sequin, sewing patterns, textile, thread.</p>
Designers:						Cath Kidston

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SEATON ACADEMY