



Knowledge and Skills Progression Map : Design and Technology

EYFS ELG's

Expressive Arts and Design: Creating with Materials ELG

Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function;
- Share their creations, explaining the process they have used;

EYFS

Developing, planning and communicating ideas		Working with tools, equipment, materials and components to make quality products		Evaluating processes and products			
<ul style="list-style-type: none"> • Can they make observations about the features of objects? • Can they use their senses to explore and describe objects? • Can they think of some ideas of their own? • Can they plan how best to approach a task 		<ul style="list-style-type: none"> • Can they explain what they are making? • Can they select appropriate resources and tools? • Can they explain which tools are they using and why? • Can they use tools safely? • Can they use tools to manipulate materials? 		<ul style="list-style-type: none"> • Can they identify success and next steps? • Can they change their strategy as needed? 			
Growing		Cooking		Nutrition		Enjoying Food	
<ul style="list-style-type: none"> • Do they understand the life cycle of plants and animals? • Do they understand that all food comes from plants or animals? • Can they describe how food makes the journey from farm to fork? • Do they understand what plants need to grow 		<ul style="list-style-type: none"> • Are they aware that ingredients are available from a range of sources (shops, markets, grown at home)? • Can they select and use appropriate tools needed for a recipe? • Can they use tools effectively and safely? • Can they identify and use the appropriate ingredients for a recipe? 		<ul style="list-style-type: none"> • Do they understand that food is a basic requirement of life? • Do they understand that we need food to grow, be active and maintain health? • Can they sort a selection of foods into healthy and unhealthy groups? • Can they identify and talk about a range of fruits and vegetables? 		<ul style="list-style-type: none"> • Can they talk about foods they like and dislike with reasons? • Can they discuss the food that they eat during special occasions or cultural celebrations? (e.g. birthday, Eid, etc.) • Are they willing to try new foods? 	

	<ul style="list-style-type: none">• Can they complete basic hygiene tasks? (e.g. wash hands)		
See EYFS Medium Term Plans for detail on teaching and learning activities provided			

Key Stage 1 National Curriculum

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Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

Design

- 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

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products

Cooking and Nutrition

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from

Year 1

Designing		Making	
<u>Understanding contexts, users and purposes</u>	<u>Generating, developing, modelling and communicating ideas</u>	<u>Planning</u>	<u>Practical skills and techniques</u>
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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

<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> and by making templates and mock ups use information and communication technology, where appropriate, to develop and communicate their ideas 		<ul style="list-style-type: none"> assemble, join and combine materials and components use finishing techniques, including those from art and design 				
Evaluating		Technical Knowledge		Cooking and Nutrition			
<u>Own ideas and products</u>		<u>Existing products</u>		<u>Making products work</u>		<u>Where food comes from</u> <u>Food preparation, cooking and nutrition</u>	
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 combined according to their sensory characteristics the correct technical vocabulary for the projects they are undertaking 	<ul style="list-style-type: none"> that all food comes from plants or animals that food has to be farmed, grown elsewhere (e.g. home) or caught how to name and sort foods into the five groups in The Eat well 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 				
Unit Overview							
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2		
Mechanisms Making a Moving Story Book	Mechanisms London Eye/ Ferris Wheel	Structures Georgian Dolls House	Structures Woodwork – bird houses/bug hotels	Textiles Puppets	Food Fruit and Vegetables - smoothies		



Kapow unit



Kapow unit



Stand alone unit



Wildlife Home Designs









Kapow unit



Kapow unit

Year 2			
Designing		Making	
<u>Understanding contexts, users and purposes</u>	<u>Generating, developing, modelling and communicating ideas</u>	<u>Planning</u>	<u>Practical skills and techniques</u>
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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
Evaluating		Technical Knowledge	Cooking and Nutrition
<u>Own ideas and products</u>	<u>Existing products</u>	<u>Making products work</u>	<u>Where food comes from</u> <u>Food preparation, cooking and nutrition</u>
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> that all food comes from plants or animals that food has to be farmed, grown elsewhere (e.g. home) or caught how to name and sort foods into the five groups in The Eat well plate that everyone should eat at least five portions of fruit and vegetables every day

		<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> how to prepare simple dishes safely and hygienically, without using a heat source how to use techniques such as cutting, peeling and grating 		
Unit Overview					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Textiles Making a pouch</p>  <p>Kapow unit</p>	<p>Mechanisms Sliders and Levers Great Fire of London Animation</p>  <p>Adapted kapow unit for GFOL animation</p>	<p>3D Structures Castles</p>  <p>Kapow unit</p>	<p>3D Structures Packaging</p>  <p>Access Art unit</p> <p>Food Great British Bake Off</p>	<p>Mechanisms Wheels and Axels Vehicles</p>  <p>Kapow unit</p>	<p>Food A Balanced Diet – Wrap</p>  <p>Kapow unit</p>

National Curriculum Key Stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to:

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]
- 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

- understand and apply the principles of a healthy and varied diet
- 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







Year 3

Designing		Making	
<u>Understanding contexts, users and purposes</u>	<u>Generating, developing, modelling and communicating ideas</u>	<u>Planning</u>	<u>Practical skills and techniques</u>
<ul style="list-style-type: none"> • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment 	<ul style="list-style-type: none"> • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces 	<ul style="list-style-type: none"> • select tools and equipment suitable for the task 	<ul style="list-style-type: none"> • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including

<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 make design decisions that take account of the availability of resources 	<ul style="list-style-type: none"> 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 	<p>construction materials and kits, textiles, food ingredients, mechanical components and electrical components</p> <ul style="list-style-type: none"> 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
Evaluating		Technical Knowledge	Cooking and Nutrition
<u>Own ideas and products</u>	<u>Existing products</u>	<u>Making products work</u>	<u>Where food comes from</u> <u>Food preparation, cooking and nutrition</u>
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 made 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eat well plate

	<ul style="list-style-type: none"> • when products were designed and made • whether products can be recycled or reused 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • that to be active and healthy, food and drink are needed to provide energy for the body
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Unit Overview






Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Textiles Fastenings Phone Case</p>  <p>Kapow Unit</p>	<p>Electrical Systems Fan Boats</p>  <p>(TTS project kit/ Projects on a page)</p>	<p>Structures Design an earthquake proof building</p> 	<p>Mechanical Systems Pneumatic Toys</p>  <p>Kapow Unit</p>	<p>Digital World Electronic Charm</p>  <p>Kapow Unit</p>	<p>Food Seasonal Foods</p>  <p>Kapow Unit</p>

Country Trust Food discovery project runs all year in Y3

Year 4			
Designing		Making	
<u>Understanding contexts, users and purposes</u>	<u>Generating, developing, modelling and communicating ideas</u>	<u>Planning</u>	<u>Practical skills and techniques</u>
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> share and clarify ideas through discussion model their ideas using prototypes and pattern pieces 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 make design decisions that take account of the availability of resources 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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
Evaluating		Technical Knowledge	Cooking and Nutrition
<u>Own ideas and products</u>	<u>Existing products</u>	<u>Making products work</u>	<u>Where food comes from</u> <u>Food preparation, cooking and nutrition</u>
<ul style="list-style-type: none"> identify the strengths and areas for development in their ideas and products consider the views of others, including intended users, to improve their work 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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,

<ul style="list-style-type: none"> • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products 	<ul style="list-style-type: none"> • 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 made • when products were designed and made • whether products can be recycled or reused 	<ul style="list-style-type: none"> • 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 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 	<p>grating, mixing, spreading, kneading and baking</p> <ul style="list-style-type: none"> • that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eat well plate • that to be active and healthy, food and drink are needed to provide energy for the body
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Unit Overview

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Electrical Systems Make a Light</p> <p>Kapow Unit</p>	<p>Digital World Mindful Moments</p>  <p>Kapow Unit</p>	<p>Mechanical Systems Make a Shaduf</p> 	<p>Textiles Egyptian Collar with a fastening</p> 	<p>Structures Pavillons</p>  <p>Kapow Unit</p>	<p>Food Adapting a Recipe</p>  <p>Kapow Unit</p>

			Kapow Unit		
Royal Academy of Culinary Arts – Adopt a School Programme					

Year 5			
Designing		Making	
<u>Understanding contexts, users and purposes</u>	<u>Generating, developing, modelling and communicating ideas</u>	<u>Planning</u>	<u>Practical skills and techniques</u>
<ul style="list-style-type: none"> 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 develop a simple design specification to guide their thinking 	<ul style="list-style-type: none"> 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 make design decisions, taking account of constraints such as time, resources and cost 	<ul style="list-style-type: none"> 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 produce appropriate lists of tools, equipment and materials that they need formulate step-by-step plans as a guide to making 	<ul style="list-style-type: none"> 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		Technical Knowledge	Cooking and Nutrition
<u>Own ideas and products</u>	<u>Existing products</u>	<u>Making products work</u>	<u>Where food comes from</u> <u>Food preparation, cooking and</u> <u>nutrition</u>
<ul style="list-style-type: none"> identify the strengths and areas for development in their ideas and products consider the views of others, including intended users, to improve their work 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 that seasons may affect the food available

<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> how well products achieve their purposes how well products meet user needs and wants 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 	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> how food is processed into ingredients that can be eaten or used in cooking
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Unit Overview

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Mechanical Systems Pop Up Book	Textiles Stuffed Toy	Mechanical Systems Making a Moving Toy	Structures Bridges or Architectural models	Digital World Monitoring Devices	Food What could be healthier?



Kapow Uni



Kapow Unit



Kapow Unit



Kapow Unit or Access Art Unit



Kapow Unit




Kapow Unit

Year 6			
Designing		Making	
<u>Understanding contexts, users and purposes</u>	<u>Generating, developing, modelling and communicating ideas</u>	<u>Planning</u>	<u>Practical skills and techniques</u>
<ul style="list-style-type: none"> 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 develop a simple design specification to guide their thinking 	<ul style="list-style-type: none"> 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 make design decisions, taking account of constraints such as time, resources and cost 	<ul style="list-style-type: none"> 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 produce appropriate lists of tools, equipment and materials that they need formulate step-by-step plans as a guide to making 	<ul style="list-style-type: none"> 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		Technical Knowledge	Cooking and Nutrition
<u>Own ideas and products</u>	<u>Existing products</u>	<u>Making products work</u>	<u>Where food comes from</u> <u>Food preparation, cooking and</u> <u>nutrition</u>
<ul style="list-style-type: none"> identify the strengths and areas for development in their ideas and products consider the views of others, including intended users, to improve their work 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 that seasons may affect the food available

<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> how well products achieve their purposes how well products meet user needs and wants 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 	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> how food is processed into ingredients that can be eaten or used in cooking 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 that seasons may affect the food available how food is processed into ingredients that can be eaten or used in cooking
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Unit Overview

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Electrical Systems Steady Hand Game	Structures Playground	Textiles Upcycled Bag	Digital World Navigating the World Kapow Unit	n/a	Food: Come Dine with Me 

 <p>How to make your own Buzz Wire Game ©staysathome</p> <p>Kapow Unit</p>	 <p>Kapow</p> <p>Kapow Unit</p>	 <p>Stand Alone unit based on Kapow</p>			<p>Kapow Unit</p>
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