

Knowledge Organisers for the priority subject for each concept to be issued 2-3 weeks before the learning block is taught.

Metacognition: Metacognition can take many forms; it includes knowledge about when and how to use particular strategies for learning or problem-solving. *These will vary depending on the needs of each class.*

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. This knowledge and skills organiser for design and technology demonstrates the progression through the year groups. It includes regular opportunities to revisit prior learning and build upon this.

Design and Technology	Term		Term		Term	
EYFS	30 – 50 Months		40 – 60 Months		Early Learning Goal (ELG)	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	<u>Physical Development</u> <u>Health and Self-care</u> <ul style="list-style-type: none"> ▪ Understand that equipment and tools have to be used safely. <u>Understanding the World</u>		<u>Physical Development</u> <u>Health and Self-Care</u> <ul style="list-style-type: none"> ▪ Show understanding of the need for safety when tackling new challenges and consider and manage some risks. 		<u>Expressive Arts and Design</u> <u>Being Imaginative</u> <ul style="list-style-type: none"> ▪ Use what they have learnt about media and materials. 	

	<p><u>Technology</u></p> <ul style="list-style-type: none"> Show an interest in technological toys with knobs or pulleys, or real objects. <p><u>Expressive Arts and Design</u></p> <p><u>Being Imaginative</u></p> <ul style="list-style-type: none"> Develop preferences for forms of expression. 	<ul style="list-style-type: none"> Show understanding of how to transport and store equipment safely. <p><u>Expressive Arts and Design</u></p> <p><u>Exploring and Using Media and Materials</u></p> <ul style="list-style-type: none"> Understand that different media can be combined to create new effects. Select tools and techniques needed to shape, assemble and join materials they are using. 	
Skill Progression	<p><u>Physical Development</u></p> <p><u>Moving and Handling</u></p> <ul style="list-style-type: none"> Use one-handed tools and equipment, e.g. makes snips in paper with child scissors. <p><u>Understanding the World</u></p> <p><u>Technology</u></p> <ul style="list-style-type: none"> Show skill in making toys work by pressing parts or lifting flaps to achieve effects, such as sound, movements or new images. <p><u>Expressive Arts and Design</u></p> <p><u>Exploring and Using Media and Materials</u></p> <ul style="list-style-type: none"> Enjoy joining in with dancing and ring games. Begin to move rhythmically. Imitate movement in response to music. Tap out simple repeated rhythms. <p><u>Expressive Arts and Design</u></p> <p><u>Being Imaginative</u></p> <ul style="list-style-type: none"> Use movement to express feelings. Create movement in response to music. Capture experiences and responses with a range of media, such as music, dance and paint and other materials or words. 	<p><u>Physical Development</u></p> <p><u>Moving and Handling</u></p> <ul style="list-style-type: none"> Use simple tools to effect changes to materials. Handle tools, objects, construction and malleable materials safely and with increasing control. <p><u>Physical Development</u></p> <p><u>Health and Self-Care</u></p> <ul style="list-style-type: none"> Practise some appropriate safety measures without direct supervision. <p><u>Expressive Arts and Design</u></p> <p><u>Exploring and Using Media and Materials</u></p> <ul style="list-style-type: none"> Explore what happens when they mix colours. Experiment to create different textures. Manipulate materials to achieve a planned effect. Construct with a purpose in mind, using a variety of resources. Use simple tools and techniques competently and appropriately. Select appropriate resources and adapt work where necessary. <p><u>Expressive Arts and Design</u></p> <p><u>Being Imaginative</u></p>	<p><u>Physical Development</u></p> <p><u>Moving and Handling</u></p> <ul style="list-style-type: none"> To handle equipment and tools effectively, including pencils for writing. <p><u>Expressive Arts and Design</u></p> <p><u>Exploring and Using Media and Materials</u></p> <ul style="list-style-type: none"> To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. <p><u>Expressive Arts and Design</u></p> <p><u>Being Imaginative</u></p> <ul style="list-style-type: none"> Use what they have learnt about media and materials in original ways, thinking about uses and purposes. Represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.

			<ul style="list-style-type: none"> Create simple representations of events, people and objects. Choose particular colours to use for a purpose. 			
Meta Cognition						
Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge	<p>Technical knowledge: Structures (linked to the Great Fire of London – Tudor Houses)</p> <p><i>Revisit learning from EYFS Summer term</i></p> <ul style="list-style-type: none"> Talk about the simple working characteristics of materials. Explain how freestanding structures can be made stronger, stiffer and more stable. 		<p>Technical knowledge: Structures/Mechanisms (linked to Kings, Queens and Castles – Castles and making a working drawbridge)</p> <p><i>Revisit learning from Year 1 Autumn 1</i></p> <ul style="list-style-type: none"> Explain how freestanding structures can be made stronger, stiffer and more stable. Know that a 3D textiles product can be assembled from two identical fabric shapes. Talk about the movement of simple mechanisms: lever and pulley) 		<p>Technical knowledge: Mechanisms (linked to Trains/Transport through time – wheels and axles)</p> <p><i>Revisit learning from Year 1 Spring 1</i></p> <ul style="list-style-type: none"> State what products they are designing and making. Talk about their design ideas and what they are making. Talk about the movement of simple mechanisms: wheels and axles. 	<p>Make: Cooking and Nutrition (linked to Seaside: a healthy picnic)</p> <p><i>Revisit learning from EYFS Summer term</i></p> <ul style="list-style-type: none"> Say whether the products are for themselves or other users. Explain what products are, who products are for and what products are for. Begin to recognise that all food comes from plants or animals. Begin to recognise that food has to be farmed, grown elsewhere or caught.

			<ul style="list-style-type: none"> State what products they are designing and making. 			<ul style="list-style-type: none"> Know that everyone should eat at least five portions of fruit and vegetables every day. Begin to know how to use techniques such as cutting, peeling and grating.
Skill Progression	Technical knowledge: Structures (linked to the Great Fire of London – Tudor Houses) Revisit learning from EYFS Summer term <ul style="list-style-type: none"> Select from a range of tools and equipment. Use materials and components to make a product. Begin to assemble, joining and combine materials and components. 		Technical knowledge: Structures/Mechanisms (linked to Kings, Queens and Castles – Castles and making a working drawbridge) Revisit learning from Year 1 Autumn 1 <ul style="list-style-type: none"> Incorporate the movement of simple mechanisms: lever and pulley) into their product. Generate ideas by drawing on their own experiences. Plan by suggesting what to do next. Begin to use procedures for safety. 		Technical knowledge: Mechanisms (linked to Trains/Transport through time – wheels and axles) Revisit learning from Year 1 Spring 1 <ul style="list-style-type: none"> Plan by suggesting what to do next. Follow procedures for safety. Use materials and components to make a product. Assemble, join and combine materials and components. Incorporate the movement of simple 	Make: Cooking and Nutrition (linked to Seaside: a healthy picnic) Revisit learning from EYFS Summer term <ul style="list-style-type: none"> Generate ideas by drawing on their own experiences. Follow procedures for health and safety. Begin to name and sort food into the five groups in the eat-well plate. Begin to use techniques such as cutting, peeling and grating.

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					<i>mechanisms into their product: wheels and axles.</i>	
Meta Cognition						
Year 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge		<p>Make: Cooking and Nutrition (linked to Science – Nutrition for humans/Geography – The Galapagos Islands) <i>Revisit learning from Year 1 Summer 2</i></p> <ul style="list-style-type: none"> Know that all food comes from plants or animals. Know that food has to be farmed, grown elsewhere or caught. Know that everyone should eat at least five portions of fruit and vegetables every day, suggesting different fruits and vegetables. 	<p>Make: Textiles (linked to Queen Victoria - crowns) <i>Revisit learning from EYFS Summer term</i></p> <ul style="list-style-type: none"> Describe what their products are for. Use knowledge of existing products to help come up with ideas. Know that a 3D textiles product can be assembled from two identical fabric shapes. Explain who products are for. Suggest what materials products are made from. 		<p>Technical knowledge: Mechanisms (linked to the Wright Brothers inventions) <i>Revisit learning from Year 1 Summer 1</i></p> <ul style="list-style-type: none"> Say how their products will work. Explain safety procedures to others. Explain how products work. Suggest what materials products are made from and suggest why materials have been chosen. Talk about the movement of simple mechanisms. 	

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		<ul style="list-style-type: none"> Know how to prepare simple dishes safely and hygienically without using a heat source. Know how to use techniques such as cutting, peeling and grating. 			<ul style="list-style-type: none"> Know the correct technical vocabulary for the products they are undertaking. 	
Skill Progression		<p>Make: Cooking and Nutrition (linked to Science – Nutrition for humans/Geography – The Galapagos Islands) <i>Revisit learning from Year 1 Summer 2</i></p> <ul style="list-style-type: none"> Able to name and sort foods into the five groups in the eat-well plate. Prepare simple dishes safely and hygienically without using a heat source. Use techniques such as cutting, peeling and grating. Use a simple design criteria 	<p>Make: Textiles (linked to Queen Victoria - crowns) <i>Revisit learning from EYFS Summer term</i></p> <ul style="list-style-type: none"> Working confidently with a range of contexts. Use simple design criteria to help develop their ideas. Use knowledge of existing products to help come up with ideas. Develop and communicate ideas by talking and drawing. Select from a range of tools and equipment, explaining their choices. 		<p>Technical knowledge: Mechanisms (linked to the Wright Brothers inventions) <i>Revisit learning from Year 1 Summer 1</i></p> <ul style="list-style-type: none"> Work confidently within a range of contexts. Use simple design criteria to help develop their ideas. Model ideas by exploring materials, components and construction kits and by making templates and mock-ups. Develop and communicate 	

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		<p><i>to help develop their ideas.</i></p> <ul style="list-style-type: none"> ▪ <i>Develop and communicate ideas by talking and drawing.</i> ▪ <i>Follow procedures for safety and hygiene.</i> ▪ <i>Use materials and components including food ingredients.</i> ▪ <i>Make simple judgements about their products and ideas against design criteria.</i> 	<ul style="list-style-type: none"> ▪ <i>Follow procedures for safety.</i> ▪ <i>Measure, mark out, cut and shape materials.</i> ▪ <i>Assemble, join and combine materials.</i> ▪ <i>Use finishing techniques, including those from art and design.</i> ▪ <i>Make simple judgements about their products and ideas against design criteria.</i> ▪ <i>Explain what they like and dislike about products.</i> 		<p><i>ideas by talking and drawing.</i></p> <ul style="list-style-type: none"> ▪ <i>Select from a range of tools and equipment, explaining their choices.</i> ▪ <i>Confidently follow procedures for safety.</i> ▪ <i>With increasing accuracy, measure, mark out, cut and shape materials and components.</i> ▪ <i>With confidence, assemble, join and combine materials and components.</i> ▪ <i>Suggest how their products could be improved based on the success criteria.</i> ▪ <i>Use the correct technical vocabulary for the products they are undertaking.</i> 	
Meta Cognition						
Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

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Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge		Technical knowledge: Mechanical systems (linked to Science – forces and magnets) <i>Revisit learning from Year 2 Summer 1</i> <ul style="list-style-type: none"> Begin to describe the purpose of their products. Explain how particular parts of their products work. Investigate and analyse: why materials have been chosen, how well products achieve their purposes, whether products can be recycled or reused. How to use learning from science to help design and make products that work. 	Structures (linked to Ancient Egypt) <i>Revisit learning from Year 1 Spring 1</i> <ul style="list-style-type: none"> Begin to explain their choice of tools and equipment in relation to the skills and techniques they will be using. Begin to explain their choice of materials and components according to functional properties and aesthetic qualities. Order the main stages of making. Investigate and analyse: how well products have been designed, how well products have been made, why materials have been chosen, how well products achieve their purposes, when products were 			Cooking and Nutrition (linked to Science - plants) <i>Revisit learning from Year 2 Autumn 2</i> <ul style="list-style-type: none"> Begin to know of chefs who have developed ground-breaking products. That food ingredients can be fresh, pre-cooked and processed. Is aware that a recipe can be adapted by adding or substituting one or more ingredients. That food is grown, reared and caught in the UK, Europe and the wider world. Begin to know how to prepare and cook a savoury dish

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		<ul style="list-style-type: none"> How mechanical systems such as levers and linkages create movement. Begin to know of inventors who have developed ground-breaking products. 	<p>designed and made.</p> <ul style="list-style-type: none"> Begin to know of engineers who have developed ground-breaking products. How to use learning from mathematics to help design and make products that work. How to make strong, stiff shell structures. 			<p>safely and hygienically including, where appropriate, the use of a heat source.</p> <ul style="list-style-type: none"> Start to know techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Is aware that a healthy diet is made up from a variety and balance of different food and drinks, as depicted in the eat well plate. That to be active and healthy, food and drink are needed to provide energy for the body.
Skill Progression		Technical knowledge: Mechanical systems (linked to Science – forces and magnets) Revisit learning from Year 2 Summer 1	Structures (linked to Ancient Egypt) Revisit learning from Year 1 Spring 1 <ul style="list-style-type: none"> Work within a range of contexts. 			Cooking and Nutrition (linked to Science - plants) Revisit learning from Year 2 Autumn 2

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		<ul style="list-style-type: none"> ▪ <i>Work within a range of contexts.</i> ▪ <i>Share and clarify ideas through discussion.</i> ▪ <i>Use annotated sketches to develop and communicate their ideas.</i> ▪ <i>Select tools and equipment suitable for the task.</i> ▪ <i>Select materials and components suitable for the task.</i> ▪ <i>Follow procedures for safety.</i> ▪ <i>Use a wider range of materials and components than KS1, including mechanical components.</i> ▪ <i>Measure, mark out, cut and share materials and components.</i> 	<ul style="list-style-type: none"> ▪ <i>Share and clarify ideas through discussion.</i> ▪ <i>Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas.</i> ▪ <i>Select tools and equipment suitable for the task.</i> ▪ <i>Follow procedures for safety.</i> ▪ <i>Use a wider range of materials and components from KS1 including construction materials and textiles.</i> ▪ <i>Measure, mark out, cut and shape materials and components with some accuracy.</i> ▪ <i>Assemble, join and combine materials and components with some accuracy.</i> 			<ul style="list-style-type: none"> ▪ <i>Work within a range of contexts.</i> ▪ <i>Share and clarify ideas through discussion.</i> ▪ <i>Follow procedures for safety and hygiene.</i> ▪ <i>Use a wider range of materials and components from KS1, including food ingredients.</i> ▪ <i>Consider the views of others to improve their work.</i> ▪ <i>Use their design criteria to evaluate their completed products.</i> ▪ <i>Prepare and cook a savoury dish safely and hygienically including, where appropriate, the use of a heat source.</i>
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		<ul style="list-style-type: none"> Identify the strengths and areas for development in their products. Investigate and as levers and linkages create movement. 	<ul style="list-style-type: none"> Apply a range of finishing techniques. Refer to their design criteria as they design and make. Make strong, stiff shell structures. 			<ul style="list-style-type: none"> Strat to use techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
Meta Cognition						
Year 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge	<p>Technical knowledge: electrical systems (linked to science – electricity) Revisit learning from Year 3 Autumn 2</p> <ul style="list-style-type: none"> Describe the purpose of their products. Explain how particular parts of their products work. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. 		<p>Cooking and Nutrition (linked to the Roman Empire) Revisit learning from Year 3 Summer 2</p> <ul style="list-style-type: none"> Investigate and analyse: who designed and made the products, where products were designed and made and when products were designed and made. Know chefs who have developed ground-breaking products. 		<p>Design and technical knowledge: computer aided design and programming (linked to Computing) Revisit learning from Year 4 Autumn 1</p> <ul style="list-style-type: none"> Investigate and analyse: how well products have been designed, how well products achieve their purposes. Confidently talk about designers who have developed ground-breaking products. 	

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	<ul style="list-style-type: none"> ▪ Explain their choice of materials and components according to functional properties and aesthetic qualities. ▪ 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 meet user needs and wants, who designed and made the products, whether products can be recycled or reused. 		<ul style="list-style-type: none"> ▪ Know that a recipe can be adapted by adding or substituting one or more ingredients. ▪ Know that food is grown, reared and caught in the UK, Europe and the wider world. ▪ Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. ▪ Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. ▪ Know that a healthy diet is made up from a variety and balance of different food and drink, as 		<ul style="list-style-type: none"> ▪ How to program a computer to control their products. 	
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	<ul style="list-style-type: none"> Know inventors, engineers and manufacturers who have developed ground-breaking products. Know how to use learning from science to help and design and make products that work. Know that mechanical and electrical systems have an input, process and output. Know how simple electrical circuits and components can be used to create functional products. 		<p>depicted in the eat well plate.</p> <ul style="list-style-type: none"> Can explain that to be active and healthy, food and drink are needed to provide energy for the body. 			
Skill Progression	<p>Technical knowledge: electrical systems (linked to science – electricity) Revisit learning from Year 3 Autumn 2</p> <ul style="list-style-type: none"> Work confidently 		<p>Cooking and Nutrition (linked to the Roman Empire) Revisit learning from Year 3 Summer 2</p> <ul style="list-style-type: none"> Work confidently with a range of contexts. 		<p>Design and technical knowledge: computer aided design and programming (linked to Computing) Revisit learning from Year 4 Autumn 1</p>	

	<p><i>within a range of contexts.</i></p> <ul style="list-style-type: none"> ▪ <i>Describe the purpose of their products.</i> ▪ <i>Indicate the design features of their products that will appeal to intended users.</i> ▪ <i>Gather information about the needs and wants of particular individuals and groups.</i> ▪ <i>Share and clarify ideas through discussion.</i> ▪ <i>Model their ideas using prototypes.</i> ▪ <i>Use annotated sketches, cross-sectional drawings to develop and communicate their ideas.</i> ▪ <i>Select tools and equipment suitable for the task.</i> 		<ul style="list-style-type: none"> ▪ <i>Make design decisions that take account of the availability of resources.</i> ▪ <i>Confidently order the main stages of making.</i> ▪ <i>Correctly follow procedures for safety and hygiene.</i> ▪ <i>Confidently use a wider range of materials and components than KS1, including food ingredients.</i> ▪ <i>Refer to their design criteria as they design and make to inform the marking process.</i> ▪ <i>Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</i> ▪ <i>Use a range of techniques such as peeling, chopping,</i> 		<ul style="list-style-type: none"> ▪ <i>Develop their own design criteria and use these to inform their ideas.</i> ▪ <i>Use computer aided design to develop and communicate ideas.</i> ▪ <i>Generate realistic ideas, focusing on the needs of the user.</i> ▪ <i>Consider the views of others, including intended users, to improve their work.</i> ▪ <i>Use their design criteria to evaluate their completed products considering the intended user.</i> 	
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	<ul style="list-style-type: none"> ▪ <i>Select materials and components suitable for the task.</i> ▪ <i>Follow procedures for safety.</i> ▪ <i>Use a wider range of materials and components from KS1, including electrical components.</i> ▪ <i>With accuracy, measure, mark out, cut and shape materials and components.</i> ▪ <i>With accuracy, assemble, join and combine materials and components.</i> ▪ <i>Apply a range of finishing techniques.</i> ▪ <i>Identify the strengths and areas for development in their ideas and products.</i> 		<p><i>slicing, grating, mixing, spreading, kneading and baking.</i></p>			
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	<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. Use the correct technical vocabulary for the projects they are undertaking. 					
Meta Cognition						
Year 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge	Make: Structures (linked to Vikings) Revisit learning from Year 3 Spring 1 <ul style="list-style-type: none"> Investigate and analyse: why materials have been chosen, what methods of construction have been used. Investigate different designers and engineers who 	Mechanical Systems (linked to Carbon Footprint) Revisit learning from Year 3 Autumn 2 <ul style="list-style-type: none"> Think about how particular parts of their products work. Investigate and analyse: how well products have been designed, how well products 		Cooking and Nutrition (linked to Geography/Science) Revisit learning from Year 4 Spring 1 <ul style="list-style-type: none"> Investigate and analyse: how well products meet user needs and wants. Investigate different chefs who have developed ground-breaking products. 		

	<p><i>have developed ground-breaking products.</i></p>	<p><i>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.</i></p> <ul style="list-style-type: none"> ▪ <i>Investigate different inventors and engineers who have developed ground-breaking products.</i> ▪ <i>Know that mechanical systems have an input, process and output.</i> ▪ <i>Know the correct technical vocabulary for the projects they are undertaking.</i> 		<ul style="list-style-type: none"> ▪ <i>Know that seasons may affect the food available.</i> ▪ <i>Know how food is processed into ingredients that can be eaten.</i> ▪ <i>Know that recipes can be adapted to change the appearance, taste, texture and aroma.</i> ▪ <i>Know that different food and drink contain different substances.</i> 		
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Skill Progression	<p>Make: Structures (linked to Vikings) <i>Revisit learning from Year 3 Spring 1</i></p> <ul style="list-style-type: none"> Develop a simple design specification to guide their thinking. Share ideas through discussion. Begin to use annotated sketches, cross-sectional drawing and exploded diagrams to develop and communicate their ideas. Select tools and equipment suitable for the task. Select materials and components suitable for the task. Explain their choice of 	<p>Mechanical Systems (linked to Carbon Footprint) <i>Revisit learning from Year 3 Autumn 2</i></p> <ul style="list-style-type: none"> Describe the purpose of their products. Carry out research, using surveys, interview, questionnaires and web-based resources. Develop a simple design specification to guide their thinking. Share and clarify ideas through discussion. Model their ideas using prototypes. Generate ideas for products. Select tools and equipment suitable for the task. Follow procedures for safety. 		<p>Cooking and Nutrition (linked to Geography/Science) <i>Revisit learning from Year 4 Spring 1</i></p> <ul style="list-style-type: none"> Indicate the design features of their products that will appeal to intended users. Develop a simple design specification to guide their thinking. Formulate step-by-step plans as a guide to making. Accurately use a wider range of materials and components than KS1, including food ingredients. Consider the views of others, including intended users to improve their work. Begin to critically evaluate the quality of the design, manufacture and fitness for purpose 		
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	<p><i>materials and components.</i></p> <ul style="list-style-type: none"> ▪ <i>Produce appropriate lists of tools, equipment and materials that they need.</i> ▪ <i>Follow procedures for safety.</i> ▪ <i>Accurately use a wider range of materials and components than KS1, including construction materials.</i> ▪ <i>Accurately measure, mark out, cut and shape materials and components.</i> ▪ <i>Accurately assemble, join and combine materials and components.</i> ▪ <i>Identify the strengths and areas for development in</i> 	<ul style="list-style-type: none"> ▪ <i>Accurately use a wider range of materials and components than KS1, including mechanical components.</i> ▪ <i>Demonstrate resourcefulness when tackling practical problems.</i> ▪ <i>Begin to critically evaluate the quality of their design, manufacture and fitness for the purpose of their product as they design and make.</i> ▪ <i>Use the correct technical vocabulary for the projects they are undertaking.</i> 		<p><i>of their products as they design and make.</i></p> <ul style="list-style-type: none"> ▪ <i>Adapt recipes to change the appearance, taste, texture or aroma.</i> 		
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	<p><i>their ideas and products.</i></p> <ul style="list-style-type: none"> ▪ <i>Evaluate their ideas and products against their original design specification.</i> 					
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Meta cognition						
Year 6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge		Technical knowledge: Electrical systems (linked to Science - Electricity) <i>Revisit learning from Year 4 Autumn 1</i> <ul style="list-style-type: none"> Explain how particular parts of their products work. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Explain their choice of materials and components according to their functional properties. Investigate and analyse: how well products have been 		Design and Technical knowledge: Computing to Program (linked to Computing) <i>Revisit learning from Year 4 Summer 1</i> <ul style="list-style-type: none"> Investigate and analyse: how well have products been designed, how well products achieve their purposes, how innovative products are, what impact products have beyond their intended purpose. 		Cooking and Nutrition (linked to Science – Animals including humans) <i>Revisit learning from Year 5 Spring 2</i> <ul style="list-style-type: none"> Understand that a recipe can be adapted by adding or substituting one or more ingredients. Recognise what foods are available in different seasons. Know how food is processed into ingredients that can be eaten or used in cooking. Know that recipes can be adapted to change the

		<p><i>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 much products cost to make.</i></p> <ul style="list-style-type: none"> ▪ <i>Independently explore inventor, engineers and manufacturers who have developed ground-breaking products.</i> ▪ <i>Know how more complex electrical circuits and components can be used to create functional products.</i> 				<p><i>appearance, taste, texture and aroma.</i></p> <ul style="list-style-type: none"> ▪ <i>Understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</i>
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Skill Progression		<p>Technical knowledge: Electrical systems (linked to Science - Electricity) <i>Revisit learning from Year 4 Autumn 1</i></p> <ul style="list-style-type: none"> Work confidently within a different context. Consider the design features of their products that will appeal to intended users. Explain how particular parts of their products work. Develop a design specification to guide their thinking. Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas. 		<p>Design and Technical knowledge: Computing to Program (linked to Computing) <i>Revisit learning from Year 4 Summer 1</i></p> <ul style="list-style-type: none"> Work confidently within a different context. Indicate the design features of their products that will appeal to intended users. Consider the needs, wants, preferences and values of particular individuals and groups. Share and clarify ideas through discussion, taking on board the views of others. Use computer-aided design to develop and communicate their ideas. Generate innovative ideas. Consider the views of others, 		<p>Cooking and Nutrition (linked to Science – Animals including humans) <i>Revisit learning from Year 5 Spring 2</i></p> <ul style="list-style-type: none"> Working confidently within a range of contexts. Carry out in depth research, using surveys, interviews, questionnaires and web-based resources. Develop a design specification to guide their thinking. Formulate step-by-step plans as a guide to making for others to confidently follow. Follow procedures for safety and hygiene and supporting others to do so.
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		<ul style="list-style-type: none"> ▪ <i>Make design decisions, taking account of constraints, such as time and resources.</i> ▪ <i>Select tools and equipment suitable for the task.</i> ▪ <i>Select materials and components suitable for the task.</i> ▪ <i>Formulate step by step plans as a guide to making.</i> ▪ <i>Accurately use a wider range of materials and components than KS1, including electrical components.</i> ▪ <i>Accurately apply a range of finishing techniques, including those from art and design.</i> 		<p><i>including the intended users, to improve their work and use this to refine their products.</i></p>		<ul style="list-style-type: none"> ▪ <i>Accurately use a wider range of materials and components than KS1, including food ingredients.</i> ▪ <i>Evaluate their ideas and products against their original design specification, identifying successes and next steps.</i> ▪ <i>Explain that seasons may affect the food available.</i> ▪ <i>Recognise what foods are available in different seasons.</i> ▪ <i>Know that recipes can be adapted to change the appearance, taste, texture and aroma, putting this into practice in their own cooking.</i>
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		<ul style="list-style-type: none"> ▪ <i>Use techniques that involve a number of steps.</i> ▪ <i>Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.</i> ▪ <i>Evaluate their ideas and products against their original design specification, identifying successes and next steps.</i> 				
Meta Cognition						