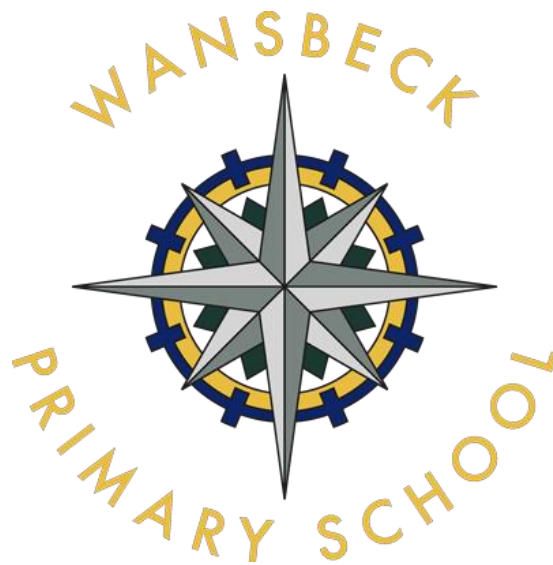


Wansbeck Primary School

Long Term Plan

Design and Technology



EYFS

Cycle 1

My Life and our World	Farmyard Adventure	Travel
Potential opportunities/ideas:	Potential opportunities/ideas:	Potential opportunities/ideas:

Cycle 2

We are Superstars	Woodland Journey	Deep in the Ocean
Potential opportunities/ideas:	Potential opportunities/ideas:	Potential opportunities/ideas:

Key Stage 1 Cycle 1 Fossil Hunters

3Ps: Create a card (Y1) or book (Y2) with a dinosaur design to entertain a friend

Substantive Knowledge - Sequence of Learning							
Year 1 and 2 Sticky Knowledge	Look at understand a variety of cards and picture books and their purposes	Know about which products work well and who they are created for.	Develop measuring, cutting and joining skills to help with design and lever.	Know how to create a moving part for a scene using levers.	Plan and design their own card or story book	Create original work using mechanism (Y2 more than one mechanisms)	Evaluate their own work showing understanding of what they do and do not like.
Disciplinary Knowledge to be linked Substantive Knowledge							
Research, Design and Evaluate Y1	Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design	Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves of others			.Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making		Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points
Research, Design and Evaluate Y2	<u>Evaluate Existing Products:</u> what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products	Use pictures and words to convey what they want to make Use knowledge of existing products to help come up with ideas. Design products with an intended user			Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.		
KS1 Specific Skill: Mechansims				Create a mechanism using a lever Use the lever to move an object/picture	Create a mechanism using a lever Use the lever to move an object/picture		
KS1 Specific Skill: construction			Measure and mark out card to be cut using a template. Cut materials safely using tools. Measure and mark out to nearest centimetre,		Measure and mark out card to be cut using a template. Cut materials safely using tools. Measure and mark out to nearest centimetre,		

Substantive Knowledge - Sequence of Learning

Year 1 and 2 Sticky Knowledge	Look at understand a variety of smoothies and the ingredient they contain	Know about which products work well, who they are created for and where they come from.	Understand which foods are healthy and where they come from.	Understand how to prepare fruit for eating	Plan and design their own healthy smoothie	Create smoothie	Evaluate their own work showing understanding of what they do and do not like.
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y1	Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design <u>Evaluate Existing Products:</u>	Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves or others Use pictures and words to convey what they want to make			.Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making	Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points
Research, Design and Evaluate Y2	what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products	Use knowledge of existing products to help come up with ideas. Design products with an intended user			Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.	

KS1 Specific Skill: Make food			Understanding the basic principles of a healthy diet Know that all food comes from plants or animals how to name and sort foods into the five groups in The eatwell plate that everyone should eat at least five portions of fruit and vegetables every day	Cut, peel or grate ingredients safely Measure and weigh food items using non-statutory measures such as cups Demonstrate how to work safely and hygienically Develop a food vocabulary using taste, touch smell, and texture	<ul style="list-style-type: none"> • Cut, peel or grate ingredients safely • Measure and weigh food items using non-statutory measures such as cups • Developing a food vocabulary using taste, smell, touch and texture Demonstrate how to work safely and hygienically
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Substantive Knowledge - Sequence of Learning

Year 1 and 2 Sticky Knowledge	Look at a variety of badges and their purposes. Understand what logos are	Know about which products (logos) work well, who they are created for and their purposes.	Understand how to join fabric.	Understand how to add decoration to fabric	Plan and design their own badge including a logo to save the rainforest	Create original work using textiles	Evaluate their own work showing understanding of what they do and do not like.
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y1	Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design <u>Evaluate Existing Products:</u>	Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves or others Use pictures and words to convey what they want to make			Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making	Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points
Research, Design and Evaluate Y2	what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products	Use knowledge of existing products to help come up with ideas. Design products with an intended user			Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.	

KS1 Specific Skill: Textiles			Join their fabrics with glue or by using running stitch, staples or over-sewing	Decorate their design with buttons, beads, sequins, braids and ribbons	Join their fabrics with glue or by using running stitch, staples or over-sewing Decorate their design with buttons, beads, sequins, braids and ribbons
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Year 1 and 2 Cycle 2 Fiery Dragons 3Ps: Design a scene of the fire of London to educate others about its spread

Substantive Knowledge - Sequence of Learning

Year 1 and 2 Sticky Knowledge	Know about the fire of London and what a moving picture scene is.	Know about which products work well and who they are created for.	Know about measuring and cutting materials following a template design and measuring using rulers.	Know how to create a moving part for a scene using levers.	Plan and design their own moving picture scene.	Create original work using construction and mechanism (Y2 more than one mechanism)	Evaluate their own work showing understanding of what they do and do not like.
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y1	Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design	Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves or others			.Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making		Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points
Research, Design and Evaluate Y2	<u>Evaluate Existing Products:</u> what products are for what products are for how products work what materials products are made from what they like and dislike about products	Use pictures and words to convey what they want to make Use knowledge of existing products to help come up with ideas. Design products with an intended user			Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.		
KS1 Specific Skill Mechanisms				Create a mechanism using a lever Use the lever to move an object/picture	Create a mechanism using a lever Use the lever to move an object/picture		
KS1 Specific Skill Construction			Measure and mark out card to be cut using a template Cut materials safely using the tools provided. Measure and mark out		Measure and mark out card to be cut using a template Cut materials safely using the tools provided. Measure and mark out to the nearest centimetre Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)		
			to the nearest centimetre				

Year 1 and 2 – Colours in the Rainbow **3Ps: Make a modern 3D room for a dolls house to update it and make it more appealing for children today.**

Substantive Knowledge - Sequence of Learning

Year 1 and 2 Sticky Knowledge	Know about toys from the Victorian era	Know about which products work well and who they are created for.	Know about measuring and cutting materials following a template design and measuring using rulers.	Know how to join materials to create a structure	Plan and design their own 3D room that could be placed into a dolls house.	Create original work using construction	Evaluate their own work showing understanding of what they do and do not like.
Disciplinary Knowledge to be linked Substantive Knowledge							
Research, Design and Evaluate Y1	Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design <u>Evaluate Existing Products:</u>	Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves or others Use pictures and words to convey what they want to make Use knowledge of existing products to help come up with ideas. Design products with an intended user			.Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making		Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points
Research, Design and Evaluate Y2	what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products				Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.		
KS1 Specific Skill: Construction			Measure and mark out card to be cut using a template Cut materials safely using tools provided Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) Cut materials safely using tools provided Measure and mark out to the nearest cm.	Join the card to make a 3D container using a template Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)	Measure and mark out card to be cut using a template Cut materials safely using tools provided Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) Cut materials safely using tools provided Measure and mark out to the nearest cm. Join the card to make a 3D container using a template Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)		

Substantive Knowledge - Sequence of Learning

<p>Year 1 and 2 Sticky Knowledge</p>	<p>Look at understand a variety of picnic lunches (literacy link)</p>	<p>Know about which products work well, who they are created for and where they come from.</p>	<p>Understand which foods are healthy and where they come from.</p>	<p>Understand how to prepare food for eating</p>	<p>Plan and design their own healthy picnic lunch</p>	<p>Create picnic lunch</p>	<p>Evaluate their own work showing understanding of what they do and do not like.</p>
<p>Disciplinary Knowledge to be linked Substantive Knowledge</p>							
<p>Research, Design and Evaluate Y1</p>	<p>Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design</p> <p><u>Evaluate Existing Products:</u></p>	<p>Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves or others Use pictures and words to convey what they want to make</p>			<p>.Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making</p>		<p>Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points</p>
<p>Research, Design and Evaluate Y2</p>	<p>what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products</p>	<p>Use knowledge of existing products to help come up with ideas. Design products with an intended user</p>			<p>Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.</p>		
<p>KS1 Specific Skill: Construction</p>			<p>Understanding the basic principles of a healthy diet Know that all food comes from plants or animals how to name and sort foods into the five groups in The eatwell plate that everyone should eat at least five portions of fruit and vegetables every day</p>	<p>Cut, peel or grate ingredients safely Measure and weigh food items using non-statutory measures such as cups Demonstrate how to work safely and hygienically Develop a food vocabulary using taste, touch, smell, and texture</p>	<ul style="list-style-type: none"> • Cut, peel or grate ingredients safely • Measure and weigh food items using non-statutory measures such as cups • Developing a food vocabulary using taste, smell, touch and texture <p>Demonstrate how to work safely and hygienically</p>		

Substantive Knowledge - Sequence of Learning

Year 3 and 4 Sticky Knowledge	Know what a Stone age shelter looked like and why they were suitable for that time era.	Know about which products work well and research the criteria of the person the product is aimed at.	Know how to measure and cut materials safely	Know how to join materials together to create a structure	Plan and design their own shelter suitable for the stone age	Create original work using construction	Evaluate their own work showing understanding of how they have met the design criteria
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of existing products, discussing their features, construction, purpose and intended users.	Identify a target audience for the product and ask some questions Use research to develop design criteria			Design with purpose by identifying users to base the design round Develop ideas and plans through discussion and annotated drawings Think ahead about the order of their work • describe the purpose of their products	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved.
Research, Design and Evaluate Y4	<u>Evaluate Existing Products:</u> where products were designed and made when products were designed and made Whether products can be recycled or reused				investigate and analyse a range of existing functional survival products and draw/sketch products to help understand how and why they are made develop more than one design or adaptation of an initial design indicate the design features of their products that will appeal to intended users explain how particular parts of their products work	Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Construction			Cut materials accurately and safely by selecting appropriate tools (including within the perimeter of the material) Measure and mark out to the nearest millimetre	Select appropriate joining techniques Understand how a wide base of a 3D object makes it more stable. Choose suitable techniques to construct products or to repair items.	Cut materials accurately and safely by selecting appropriate tools (including within the perimeter of the material) Measure and mark out to the nearest millimetre Select appropriate joining techniques Understand how a wide base of a 3D object makes it more stable. Choose suitable techniques to construct products or to repair items.	

Substantive Knowledge - Sequence of Learning

Year 3 and 4 Sticky Knowledge	Understand existing toys and who they are suitable for	Know about which products work well and why	Know how to create a moving part	Know how to create an electrical circuit	Plan and design their own dragon toy	Create original work using construction	Evaluate their own work showing understanding of how they have met the design criteria
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of existing products, discussing their features, construction, purpose and intended users.	Identify a target audience for the product and ask some questions Use research to develop design criteria				Design with purpose by identifying users to base the design round Develop ideas and plans through discussion and annotated drawings Think ahead about the order of their work · describe the purpose of their products	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved.
Research, Design and Evaluate Y4	<u>Evaluate Existing Products:</u> where products were designed and made when products were designed and made Whether products can be recycled or reused					investigate and analyse a range of existing functional survival products and draw/sketch products to help understand how and why they are made develop more than one design or adaptation of an initial design indicate the design features of their products that will appeal to intended users explain how particular parts of their products work	Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Electronics				Understand and create an electrical circuit Create series and parallel circuits Know how simple electric circuits and components can be used to create functional products	Understand and create an electrical circuit Create series and parallel circuits Know how simple electric circuits and components can be used to create functional products Build on scientific knowledge of the transference of forces to choose appropriate mechanisms (such as levers, winding mechanisms, pulleys, pumps and gears) Knowledge of pulley systems to solve a problem Attach and construct mechanism systems.		

LKS2 Specific Skill: Mechanisms			Build on scientific knowledge of the transference of forces to choose appropriate mechanisms (such as levers, winding mechanisms, pulleys, pumps and gears) Knowledge of pully systems to solve a problem Attach and construct mechanism systems.		
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Year 3 and 4 – The Frozen Planet 3Ps: **Design a bag to take on an Arctic expeditions strong enough to hold an ipad.**

Substantive Knowledge - Sequence of Learning								
Year 3 and 4 Sticky Knowledge	Investigate and analyse a range of existing products (bags) and equipment Antarctic explorers would need.	Understand how bags are constructed and which materials are most suitable	Understand basic stitching techniques	Create designs using stitching	Understand fastenings in textiles	Design a bag for an Antarctic Expedition	Make a bag for an Antarctic expedition using a range of stitching techniques	Evaluate their own work showing understanding of how they have met the design criteria
Disciplinary Knowledge to be linked Substantive Knowledge								
Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of existing products, discussing their features, construction, purpose and intended users.	Identify a target audience for the product and ask some questions Use research to develop design criteria				Design with purpose by identifying users to base the design round Develop ideas and plans through discussion and annotated drawings Think ahead about the order of their work • describe the purpose of their products		Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved.
Research, Design and Evaluate Y4	<u>Evaluate Existing Products:</u> where products were designed and made when products were designed and made Whether products can be recycled or reused					investigate and analyse a range of existing functional survival products and draw/sketch products to help understand how and why they are made develop more than one design or adaptation of an initial design indicate the design features of their products that will appeal to intended users explain how particular parts of their products work		Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Textiles			Join textiles neatly using basic stitch techniques (running, back and oversewing)	Decorate using cross stitch	Explore fastenings and recreate some (for example sewing on buttons and creating loops)	Join textiles neatly using basic stitch techniques (running, back and oversewing) Decorate using cross stitch Explore fastenings and recreate some (for example sewing on buttons and creating loops)		

Year 3 and 4 Cycle 2 Where the Tudors really terrible? **3Ps: Design a house suitable for a Tudor person in modern day Britain**

Substantive Knowledge - Sequence of Learning

Year 3 and 4 Sticky Knowledge	Know what a Tudor house looked like and why they were suitable for that time era.	Know about which products work well and resrach the criteria of the person the product is aimed at.	Know how to measure and cut materials safely	Know how to join materials together to create a structure	Plan and design their own house suitable for a Tudor	Create original work using construction	Evaluate their own work showing understanding of how they have met the design criteria
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisitng products, discussiing their features, construction, purpose and intended users.	Identify a target audience for the product and ask some questions Use research to develop design criteria			Design with purpose by identifying users to base the design round Develop ideas and plans through discussion and annotated drawings Think ahead about the order of their work · describe the purpose of their products	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved.
Research, Design and Evaluate Y4	<u>Evaluate Existing Products:</u> where products were designed and made when products were designed and made				investigate and analyse a range of existing functional survival products and draw/sketch products to help understand how and why they are made develop more than one design or adaptation of an initial design indicate the design features of their products that will appeal to intended users explain how particular parts of their products work	Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Construction			Cut materials accurately and safely by selecting appropriate tools (including within the perimeter of the material) Measure and mark out to the nearest millimetre	Select appropriate joining techniques Understand how a wide base of a 3D object makes it more stable. Choose suitable techniques to construct products or to repair items.	Cut materials accurately and safely by selecting appropriate tools (including within the perimeter of the material) Measure and mark out to the nearest millimetre Select appropriate joining techniques Understand how a wide base of a 3D object makes it more stable. Choose suitable techniques to construct products or to repair items.	

Substantive Knowledge - Sequence of Learning								
Year 3 and 4 Sticky Knowledge	Know about recipes that exist and where the ingredients come from	Understand which menus work well and who enjoys them	Understand healthy ingredients and how/when they are grown	Understand how to prepare ingredients for a recipe	Understand how to cook food	Plan and design their own recipe using sustainable ingredients	Create picnic lunch	Evaluate their own work showing understanding of what they do and do not like.
Disciplinary Knowledge to be linked Substantive Knowledge								
Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world.	Identify a target audience for the product and ask some questions Use research to develop design criteria				Design with purpose by identifying users to base the design round Develop ideas and plans through discussion and annotated drawings Think ahead about the order of their work - describe the purpose of their products		Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved.
Research, Design and Evaluate Y4	Investigate and analyse a range of existing products, discussing their features, construction, purpose and intended users. <u>Evaluate Existing Products:</u> where products were designed and made when products were designed and made Whether products can be recycled or reused					investigate and analyse a range of existing functional survival products and draw/sketch products to help understand how and why they are made develop more than one design or adaptation of an initial design indicate the design features of their products that will appeal to intended users explain how particular parts of their products work		Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Construction			<ul style="list-style-type: none"> Make healthy eating choices from an understanding of a balanced diet when designing their product. 	<ul style="list-style-type: none"> Prepare ingredients hygienically using appropriate utensils. Measure ingredients to 	<ul style="list-style-type: none"> Assemble or cook ingredients sweet or savoury (controlling the temperature of the oven or 	<ul style="list-style-type: none"> Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest gram accurately. Follow a recipe. Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking Assemble or cook ingredients sweet or savoury (controlling the temperature of the oven or hob, if cooking). 		

- Know that to be active and healthy, food and drink are needed to provide energy for the body
- Understand seasonality and which products can be grown locally and which can't.

- the nearest gram accurately.
- Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking

hob, if cooking).

- Build on their food vocabulary acquired in key stage 1 by increasing their sensory vocabulary and knowledge around how foods feel, smell and taste
- Make healthy eating choices from an understanding of a balanced diet when designing their product.
- Know that to be active and healthy, food and drink are needed to provide energy for the body
- Understand seasonality and which products can be grown locally and which can't.

Substantive Knowledge - Sequence of Learning

Year 3 and 4 Sticky Knowledge	Know what Roman transport looked like and why they were suitable for that time era.	Know about which products work well and resrach the criteria of the person the product is aimed at.	Know how to measure and cut materials safely Know how to join materials together to create a structure	Know how to create a mechanism to allow an object to move	Plan and design their own Roman chariot	Create original work using construction	Evaluate their own work showing understanding of how they have met the design criteria
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of existitng products, discussiing their features, construction, purpose and intended users.	Identify a target audience for the product and ask some questions Use research to develop design criteria			Design with purpose by identifying users to base the design round Develop ideas and plans through discussion and annotated drawings Think ahead about the order of their work · describe the purpose of their products	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved. Y4 -evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
Research, Design and Evaluate Y4	<u>Evaluate Existing Products:</u> where products were designed and made when products were designed and made Whether products can be recycled or reused				investigate and analyse a range of existing functional survival products and draw/sketch products to help understand how and why they are made develop more than one design or adaptation of an initial design indicate the design features of their products that will appeal to intended users explain how particular parts of their products work	

LKS2 Specific Skill: Construction			Understand how a wide base of a 3D object makes it more stable Cut materials accurately and safely by selecting appropriate tools (include within the perimeter of the material) Measure and mark out to the nearest mm Select appropriate joining techniques		Understand how a wide base of a 3D object makes it more stable Cut materials accurately and safely by selecting appropriate tools (include within the perimeter of the material) Measure and mark out to the nearest mm Select appropriate joining techniques Choose suitable techniques to construct products or to repair items. Build on scientific knowledge of the transference of forces to choose appropriate mechanisms (such as levers, winding mechanisms, pulleys, pumps and gears) Knowledge of pully systems to solve a problem Attach and construct mechanism systems.
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			Choose suitable techniques to construct products or to repair items.		
LKS2 Specific Skill: Mechanism				Build on scientific knowledge of the transference of forces to choose appropriate mechanisms (such as levers, winding mechanisms, pulleys, pumps and gears) Knowledge of pulley systems to solve a problem Attach and construct mechanism systems.	

Substantive Knowledge - Sequence of Learning

Year 5 and 6 Sticky Knowledge	Understand existing toys/scenes and who they are suitable for	Know about which products work well and why	Know how to create a moving part	Understand how to create an electrical circuit and how computer programs work	Plan and design their own wartime toy/scene	Create original work using mechanisms and electronics	Evaluate their own work showing understanding of how they have met the design criteria
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y5	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of existing products, discussing their features, construction purpose and intended users.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, preferences and values of particular individuals and groups.			<ul style="list-style-type: none"> Come up with a range of ideas after collecting information from different sources to develop design criteria Produce a step by step plan sketch and model alternative ideas and record ideas using annotated diagrams with increasing detail generate innovative ideas, drawing on research 	<p>Consider the viewpoints of other when evaluating their work</p> <p>Evaluate the process of design and making the product</p> <p>Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction</p>
Research, Design and Evaluate Y6					<ul style="list-style-type: none"> Develop and present a range of ideas after collecting information from different sources to develop design criteria Produce a detailed step by step plan make design decisions, taking account of constraints such as time, resources and cost <p>identify the needs, wants, preferences and values of particular individuals and groups</p>	

UKS2 Specific Skill: mechanisms			Build frameworks using a range of material to support mechanisms . Know how mechanical systems such as cams or pulleys or gears create movement. Convert rotary motion to linear using cams		Build frameworks using a range of material to support mechanisms . Know how mechanical systems such as cams or pulleys or gears create movement. Convert rotary motion to linear using cams		
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**UKS2 Specific
Skill: electronics**

Draw on their knowledge of year 6 computing and science work on electrical circuits to design and create circuits using electronic kits that employ a number of components (such as resistor, LED's, transistors and chips)

Know how more complex electric circuits and components can be used to create functional products

Know how to program a computer to monitor changes in the environment and control their product

Draw on their knowledge of year 6 computing and science work on electrical circuits to design and create circuits using electronic kits that employ a number of components (such as resistor, LED's, transistors and chips)

Know how more complex electric circuits and components can be used to create functional products

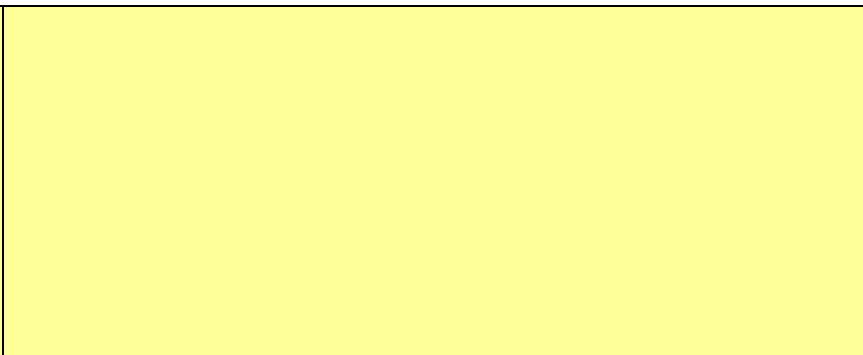
Know how to program a computer to monitor changes in the environment and control their product

Substantive Knowledge - Sequence of Learning								
Year 5 and 6 Sticky Knowledge	Investigate and analyse a range of existing products (face masks) and their uses,	Understand how face masks are constructed and which materials are most suitable	Understand and use a range of stitching techniques for sewing and joining materials	Understand what a seam allowance is and how to include them	Understand how to create visual and tactile effects in decorations	Design a face mask for protection	Make a face mask using a range of stitching techniques	Evaluate their own work showing understanding of how they have met the design criteria
Disciplinary Knowledge to be linked Substantive Knowledge								
Research, Design and Evaluate Y5	Learn about how key events and individuals in design and technology have helped shape the world.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources					<ul style="list-style-type: none"> Come up with a range of ideas after collecting information from different sources to develop design criteria Produce a step by step plan sketch and model alternative ideas and record ideas using annotated diagrams with increasing detail generate innovative ideas, drawing on research 	Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product
Research, Design and Evaluate Y6	Investigate and analyse a range of existing products, discussing their features, construction purpose and intended users.	Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, preferences and values of particular individuals and groups.					<ul style="list-style-type: none"> Develop and present a range of ideas after collecting information from different sources to develop design criteria Produce a detailed step by step plan make design decisions, taking account of constraints such as time, resources and cost identify the needs, wants, preferences and values of particular individuals and groups 	Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction
UKS2 Specific Skill: Textiles			Stitch using a range of stitches including a blanket stitch Join fabrics by pinning and tacking pieces together Join textiles with a	Create objects that employ a seam allowance Join textiles with a combination of stitching techniques (such as back	Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as soft decoration for		<ul style="list-style-type: none"> Join fabrics by pinning and tacking pieces together Stitch using a range of stitches including blanket stitch Create objects that employ a seam allowance. Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion). 	

combination of
sitching
techniques
(back stitch for
seams and
running stitch to
attach
decoration)

stitch for
seams and
running stitch
to attach
decoration)

comfort on a
cushion)



Substantive Knowledge - Sequence of Learning

<p>Year 5 and 6 Sticky Knowledge</p>	<p>Know about different types of chocolate bar packaging and what they look like</p>	<p>Know about which products work well and resrach the criteria of the person the product is aimed at.</p>	<p>Know about the qualities of materials and appropriate tools to work with</p>	<p>Know how to measure and cut safely and join materials together to create a stable structure</p>	<p>Plan and design their own chocolate bar packaging</p>	<p>Create original work using construction</p>	<p>Evaluate and test their own work showing understanding of how they have met the design criteria</p>
<p>Disciplinary Knowledge to be linked Substantive Knowledge</p>							
<p>Research, Design and Evaluate Y5</p>	<p>Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisiting products, discussing their features, consutruction purpose and intended users.</p>	<p>Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, prefernces and values of particular individuals and groups.</p>			<ul style="list-style-type: none"> • Come up with a range of ideas after collecting information from different sources to develop design criteria • Produce a step by step plan • sketch and model alternative ideas and record ideas using annotated diagrams with increasing detail • generate innovative ideas, drawing on research 	<p>Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product</p>	
<p>Research, Design and Evaluate Y6</p>					<ul style="list-style-type: none"> • Develop and present a range of ideas after collecting information from different sources to develop design criteria • Produce a detailed step by step plan • make design decisions, taking account of constraints such as time, resources and cost <p>identify the needs, wants, preferences and values of particular individuals and groups</p>	<p>Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction</p>	
<p>UKS2 Specific Skill: Construction</p>			<p>Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper)</p>	<p>Measure and mark out to the nearest cm Cut materials with precision and refine the finish with appropriate tools Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)</p>	<p>Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper)</p> <p>Measure and mark out to the nearest cm Cut materials with precision and refine the finish with appropriate tools Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)</p>		

Year 5 and 6 Cycle 2 World of Water **3Ps: Design a bridge suitable for a toy car to cross water**

Substantive Knowledge - Sequence of Learning

Year 5 and 6 Sticky Knowledge	Know about different types of bridges and why they are effective	Know about which products work well and research the criteria of the person the product is aimed at.	Know how to measure and cut materials safely	Know how to join materials together to create a stable structure	Plan and design their own bridge	Create original work using construction	Evaluate and test their own work showing understanding of how they have met the design criteria
Disciplinary Knowledge to be linked Substantive Knowledge							
Research, Design and Evaluate Y5	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria				<ul style="list-style-type: none"> Come up with a range of ideas after collecting information from different sources to develop design criteria Produce a step by step plan sketch and model alternative ideas and record ideas using annotated diagrams with increasing detail generate innovative ideas, drawing on research 	Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product
Research, Design and Evaluate Y6	existing products, discussing their features, construction purpose and intended users.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, preferences and values of particular individuals and groups.				<ul style="list-style-type: none"> Develop and present a range of ideas after collecting information from different sources to develop design criteria Produce a detailed step by step plan make design decisions, taking account of constraints such as time, resources and cost identify the needs, wants, preferences and values of particular individuals and groups 	Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction
UKS2 Specific Skill: Construction			Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape) Show an understanding of material qualities to choose appropriate tools. Measure and mark out to the nearest centimeter	Glue wood to strengthening corners Demonstrate a range of joining techniques (such as gluing, hinges or combining materials) Use wood to practice drilling, screwing, gluing and nailing	<ul style="list-style-type: none"> Cut wood using a hacksaw Glue wood to strengthening corners Measure and mark out to the nearest centimetre. Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). Use wood to practise drilling, screwing, gluing and nailing materials to make products Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). 		

Substantive Knowledge - Sequence of Learning

Year 5 and 6 Sticky Knowledge	Understand existing products and how they work	Know about which products work well and why	Know how to create a moving part	Understand how to create an electrical circuit and how computer programs work	Plan and design their own jail	Create original work using mechanisms and electronics	Evaluate their own work showing understanding of how they have met the design criteria
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Disciplinary Knowledge to be linked Substantive Knowledge

Research, Design and Evaluate Y5	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of existing products, discussing their features, construction purpose and intended users.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, preferences and values of particular individuals and groups.			<ul style="list-style-type: none"> Come up with a range of ideas after collecting information from different sources to develop design criteria Produce a step by step plan sketch and model alternative ideas and record ideas using annotated diagrams with increasing detail generate innovative ideas, drawing on research 	<p>Consider the viewpoints of other when evaluating their work</p> <p>Evaluate the process of design and making the product</p> <p>Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction</p>
Research, Design and Evaluate Y6					<ul style="list-style-type: none"> Develop and present a range of ideas after collecting information from different sources to develop design criteria Produce a detailed step by step plan make design decisions, taking account of constraints such as time, resources and cost <p>identify the needs, wants, preferences and values of particular individuals and groups</p>	
UKS2 Specific Skill: mechanisms			Build frameworks using a range of material to support mechanisms . Know how mechanical systems such as cams or pulleys or gears create movement. Convert rotary motion to linear using cams		Build frameworks using a range of material to support mechanisms . Know how mechanical systems such as cams or pulleys or gears create movement. Convert rotary motion to linear using cams	

<p>UKS2 Specific Skill: electronics</p>				<p>Draw on their knowledge of year 6 computing and science work on electrical circuits to design and create circuits using electronic kits that employ a number of components (such as resistor, LED's, transistors and chips)</p> <p>Know how more complex electric circuits and components can be used to create functional products</p> <p>Know how to program a computer to monitor changes in the environment and control their product</p>	<p>Draw on their knowledge of year 6 computing and science work on electrical circuits to design and create circuits using electronic kits that employ a number of components (such as resistor, LED's, transistors and chips)</p> <p>Know how more complex electric circuits and components can be used to create functional products</p> <p>Know how to program a computer to monitor changes in the environment and control their product</p>
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Year 5 and 6 – Ancient Greece **3Ps: Make Greek salad and flat breads as an affordable and healthy meal**

Substantive Knowledge – Sequence of Learning								
Year 3 and 4 Sticky Knowledge	Know about budget friendly recipes that look appealing to people	Understand which foods work and who enjoys to eat them and why	Understand how to adapt a recipe to allow for rations within budgets	Understand how to prepare ingredients for a recipe, cutting and shaping them	Understand how to cook and bake food using different techniques	Plan and design their own recipe using affordable ingredients	Create greek salad and flatbreads	Evaluate their own work showing understanding of what they do and do not like.
Disciplinary Knowledge to be linked Substantive Knowledge								
Research, Design and Evaluate Y5	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisiting products, discussing their features, consutruction purpose and intended users.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, prefernces and values of particular individuals and groups.				<ul style="list-style-type: none"> Come up with a range of ideas after collecting information from different sources to develop design criteria Produce a step by step plan sketch and model alternative ideas and record ideas using annotated diagrams with increasing detail generate innovative ideas, drawing on research 	<p>Consider the viewpoints of other when evaluating their work</p> <p>Evaluate the process of design and making the product</p>	
Research, Design and Evaluate Y6						<ul style="list-style-type: none"> Develop and present a range of ideas after collecting information from different sources to develop design criteria Produce a detailed step by step plan make design decisions, taking account of constraints such as time, resources and cost <p>identify the needs, wants, preferences and values of particular individuals and groups</p>	<p>Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make</p> <p>Justify decisions about materials and methods of construction</p>	
LKS2 Specific Skill: Construction			Measure accurately and calculate ratios of ingredients to scale up or down from a recipe Create and refine recipes, including ingredients, methods, cooking	Cut and shape ingredients using appropriate tools and equipments Understand the importance of correct storage and handling of ingredients (using knowledge	Demonstrate a range of baking and cooking techniques How to use a range of techniques such as baking Flatbreads - can be made in pan or in oven			

times and
temperatures.
Work within a
budget to create
a meal

of micro-
organisms)
How to use a
range of
techniques such
as peeling,
chopping, slicing,
grating, mixing,
spreading,
kneading