



St Newlyn East Learning Academy

DT Disciplinary knowledge progression EYFS/KS1/KS2



EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Concept 1: Design						
Understanding contexts, users, and purposes						
Generating, developing, modelling, and communicating ideas						
<p>Expressive arts and design – Being imaginative</p> <p>To use what they have learnt about media and materials in original ways, thinking about uses and purposes.</p> <p>Represent their own ideas, thoughts and feelings through design and technology.</p>	<p>Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment.</p> <p>State what products they are designing and making.</p> <p>Say whether their products are for themselves or other users.</p> <p>Describe what their products are for.</p> <p>Say how their products will work.</p> <p>Say how they will make their products suitable for their intended users.</p> <p>Follow a simple design criteria</p>	<p>Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment.</p> <p>State what products they are designing and making.</p> <p>Say whether their products are for themselves or other users.</p> <p>Describe what their products are for.</p> <p>Say how their products will work.</p> <p>Say how they will make their products suitable for their intended users.</p> <p>Use simple design criteria to help</p>	<p>Work confidently within an increasing range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment.</p> <p>Describe the purpose of their products.</p> <p>Indicate the design features of their products that will appeal to intended users.</p> <p>Explain how particular parts of their products work.</p> <p>Gather information about the needs and wants of particular individuals and groups.</p>	<p>Work confidently within an increasing range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment.</p> <p>Describe the purpose of their products.</p> <p>Indicate the design features of their products that will appeal to intended users.</p> <p>Explain how particular parts of their products work.</p> <p>Gather information about the needs and wants of particular individuals and groups.</p>	<p>Work confidently within an increasing range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment.</p> <p>Describe the purpose of their products.</p> <p>Indicate the design features of their products that will appeal to intended users.</p> <p>Explain how particular parts of their products work.</p> <p>Identify the needs, wants, preferences and values of particular individuals and groups.</p>	<p>Work confidently within an increasing range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment.</p> <p>Describe the purpose of their products.</p> <p>Indicate the design features of their products that will appeal to intended users.</p> <p>Explain how particular parts of their products work.</p> <p>Identify the needs, wants, preferences and values of particular individuals and groups.</p>

	<p>To generate ideas by drawing on their own experiences.</p>	<p>develop their ideas. To think of their own ideas and explain what they want to do.</p> <p>Describe their design using pictures, model mock-ups and words.</p> <p>Develop and communicate ideas verbally and through labelled drawings.</p>	<p>Use pre-given prototypes to discuss design ideas.</p> <p>Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas.</p> <p>Generate realistic ideas, focusing on the needs of the user.</p> <p>Make design decisions that take account of the availability of resources.</p>	<p>Use pre-given prototypes to discuss design ideas.</p> <p>Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas.</p> <p>Generate realistic ideas, focusing on the needs of the user.</p> <p>Make design decisions that take account of the availability of resources.</p>	<p>Take user's views into account when designing.</p> <p>Considering safety and reliability.</p> <p>Describe the purpose of their products explain how particular parts of their products work.</p> <p>Test their ideas using prototypes and pattern pieces in order to develop and improve their ideas.</p> <p>Communicate design ideas in a variety of ways including verbally, written, using annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas.</p> <p>Use computer-aided design to develop and communicate their ideas.</p> <p>Make design decisions, taking</p>	<p>Take user's views into account when designing.</p> <p>Indicate the design features of their products that will appeal to intended users. Considering safety and reliability.</p> <p>Describe the purpose of their products explain how particular parts of their products work.</p> <p>Test their ideas using prototypes and pattern pieces in order to develop and improve their ideas.</p> <p>Communicate design ideas in a variety of ways including verbally, written, using annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas.</p> <p>Use computer-aided design</p>
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					account of constraints such as time, resources and cost. Justify their decisions about materials and methods of constructions.	to develop and communicate their ideas. Make design decisions, taking account of constraints such as time, resources and cost. Justify their decisions about materials and methods of constructions.
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Concept 2: Make
KS1: Mechanisms, structures, food and textiles
KS2: Mechanical systems, electrical systems, structures, food and textiles
Planning
Practical skills and techniques

Exploring media and materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function; Share their creations, explaining the process they have used.	Select appropriate tools and materials to use and why. Use tools safely. Plan by suggesting what to do next and how to progress as their ideas develop. Select from a range of tools and equipment, explaining their choices.	Select appropriate tools and materials to use and why. Use tools safely. Plan by suggesting what to do next and how to progress as their ideas develop. Select from a range of tools and equipment, explaining their choices.	Select tools and equipment suitable for the task. Select materials and components suitable for the task. Order the main stages of making. Apply knowledge in order to follow procedures for safety and hygiene. Apply measuring, marking and cutting skills	Select tools and equipment suitable for the task. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Select materials and components suitable for the task. Order the main stages of making.	Select tools and equipment suitable for the task. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Select materials and components suitable for the task. Explain their choice of materials and components according to functional properties and aesthetic qualities.	Select tools and equipment suitable for the task. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Explain their choice of materials and components according to functional properties and aesthetic qualities.
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	<p>Select from a range of materials and components according to their characteristics.</p> <p>Select from a range of tools and materials with help, e.g. hole punches, hand drills, sandpaper.</p> <p>Follow procedures for safety and hygiene.</p> <p>Choose materials and techniques to suit purpose and be able to explain reasons for their choices.</p> <p>Make an object with simple moving parts.</p> <p>Choose appropriately from simple finishing techniques, including those from art and design in order to enhance their products.</p>	<p>Select from a range of materials and components according to their characteristics.</p> <p>Select from a range of tools and materials with help, e.g. hole punches, hand drills, sandpaper.</p> <p>Follow procedures for safety and hygiene.</p> <p>Choose materials and techniques to suit purpose and be able to explain reasons for their choices.</p> <p>Make an object with simple moving parts.</p> <p>Choose appropriately from simple finishing techniques, including those from art and design in order to enhance their products.</p>	<p>with some accuracy.</p> <p>Assemble, join and combine materials and components with some accuracy.</p> <p>Select the correct tools to use with different materials.</p> <p>Apply a range of finishing techniques, including those from art and design, with some accuracy.</p>	<p>Apply knowledge in order to follow procedures for safety and hygiene.</p> <p>Apply measuring, marking and cutting skills with some accuracy.</p> <p>Assemble, join and combine materials and components with some accuracy.</p> <p>Select the correct tools to use with different materials.</p> <p>Apply a range of finishing techniques, including those from art and design, with some accuracy.</p>	<p>Produce appropriate lists of tools, equipment and materials that they need.</p> <p>Formulate step-by-step plans as a guide to making.</p> <p>Work from a detailed plan.</p> <p>Apply knowledge in order to follow procedures for safety and hygiene.</p> <p>Accurately apply skills to measure, mark out, cut and shape materials and components.</p> <p>Accurately assemble, join and combine materials and components.</p> <p>Demonstrate resourcefulness when tackling practical problems.</p> <p>Applying knowledge of materials and tools to solve problems they encounter.</p> <p>Accurately apply a range of finishing techniques, including those from art and design</p>	<p>Produce appropriate lists of tools, equipment and materials that they need.</p> <p>Formulate step-by-step plans as a guide to making.</p> <p>Work from a detailed plan.</p> <p>Apply knowledge in order to follow procedures for safety and hygiene.</p> <p>Accurately apply skills to measure, mark out, cut and shape materials and components.</p> <p>Accurately assemble, join and combine materials and components.</p> <p>Demonstrate resourcefulness when tackling practical problems.</p> <p>Applying knowledge of materials and tools to solve problems they encounter.</p> <p>Accurately apply a range of finishing techniques, including those from art and design</p>
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					<p>e.g. collage, paint to enhance the appearance of their product.</p> <p>Use techniques that involve a number of steps.</p>	<p>e.g. collage, paint to enhance the appearance of their product.</p> <p>Use techniques that involve a number of steps.</p>
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Concept 3: Analyse and Evaluate

Own ideas and products

Existing products

Own ideas and products	Own ideas and products	Own ideas and products	Own ideas and products	Own ideas and products	Own ideas and products	Own ideas and products
<p>Talk about their design and what they are making.</p> <p>With support, identify what they like and dislike of their design.</p>	<p>Talk about their design ideas and what they are making.</p> <p>Make simple judgements about their products and ideas against design criteria.</p> <p>Suggest how their designs and products could be improved.</p> <p>Talk about their own work identifying likes and dislikes of their design.</p> <p>Identify what they could have done differently to improve their work in the future.</p>	<p>Talk about their own work identifying likes and dislikes of the design.</p> <p>Make simple judgements about their products and ideas against design criteria.</p> <p>Suggest how their designs and products could be improved.</p> <p>Talk about how closely their finished product meets their design criteria.</p> <p>Identify ways to improve their design by reflecting on the design brief.</p>	<p>Identify the strengths and areas for development in their ideas and products and explain why.</p> <p>Consider the views of others, including intended users, to improve their work</p> <p>With support, suggest alternative ways to make their products or how their products could be improved.</p> <p>Talk about how closely their finished product meets their design criteria.</p> <p>Use what the work of famous inventors and engineers to influence and inspire their own design process.</p>	<p>Identify the strengths and areas for development in their ideas and products and explain why.</p> <p>Consider the views of others, including intended users, to improve their work</p> <p>With support, suggest alternative ways to make their products or how their products could be improved.</p> <p>Use what the work of famous inventors and engineers to influence and inspire their own design process.</p>	<p>Identify the strengths and areas for development in their ideas and products and explain why.</p> <p>Consider the views of others, including intended users, to improve their work</p> <p>Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.</p> <p>Evaluate their ideas and products against their original design specification suggesting things they would do differently next time.</p> <p>Use what the work of famous inventors and engineers to influence and inspire their own design process.</p>	<p>Identify the strengths and areas for development in their ideas and products and explain why.</p> <p>Consider the views of others, including intended users, to improve their work</p> <p>Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.</p> <p>Evaluate their ideas and products against their original design specification suggesting things they would do differently next time.</p> <p>Use what the work of famous inventors and engineers to influence and inspire their own design process.</p>
<p>Existing products</p> <p>When prompted, suggest improvements to existing designs.</p>	<p>Existing products</p> <p>Talk about their ideas, saying what they like and dislike.</p> <p>Pupils use their investigative skills to describe and analyse existing products relating their findings to their own ideas for products.</p>	<p>Existing products</p> <p>Talk about their ideas, saying what they like and dislike and explain why.</p> <p>Identify what they could have done differently to improve their work in the future.</p>	<p>Existing products</p> <p>Investigate and</p>	<p>Existing products</p> <p>Investigate and</p>	<p>Existing products</p> <p>Investigate and</p>	<p>Existing products</p> <p>Investigate and</p>

		Pupils use their investigative skills to describe and analyse existing products relating their findings to their own ideas for products.	analyse asking questions such as: - who designed and made the products - where products were designed and made - when were these products designed and made - whether products can be recycled or reused - what is the intended purpose of the product	analyse asking questions such as: - who designed and made the products - where products were designed and made - when were these products designed and made - whether products can be recycled or reused - what is the intended purpose of the product	analyse products by asking questions such as: - how much products cost to make - how innovative products are - how sustainable the materials in products are - what impact products have beyond their intended purpose	analyse products by asking questions such as: - how much products cost to make - how innovative products are - how sustainable the materials in products are - what impact products have beyond their intended purpose
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Concept 4: Textiles

Look at different stitches on sewing cards.	Understand the difference between running stitch and basting stitch and apply. Understand that a 3D textiles product can be assembled from two identical fabric shapes.	Understand the difference between running stitch and basting stitch and apply. Understand that a 3D textiles product can be assembled from two identical fabric shapes.	Make informed choices from the sewing stiches they have learned in order to join fabrics and/or add embellishment and decoration (applique). Apply decoration to their work using buttons, beads, sequins. Choose from a small range of fabrics according to properties, purpose, ease of working, aesthetics.	Make informed choices from the sewing stiches they have learned in order to join fabrics and/or add embellishment and decoration (applique). Apply decoration to their work using buttons, beads, sequins. Choose from a small range of fabrics according to properties, purpose, ease of working, aesthetics.	Use patterns and prototypes to try out ideas. Make informed choices from the sewing stiches they have learned in order to join fabrics and/or add embellishment and decoration (applique)	Use patterns and prototypes to try out ideas. They make informed choices from the sewing stiches they have learned in order to join fabrics and/or add embellishment and decoration (applique)
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Concept 4: Cooking and Nutrition

<p>Apply knowledge of healthy eating to identify healthy food for themselves.</p>	<p>Apply knowledge of healthy eating to plan a balanced meal for themselves.</p> <p>Follow procedures for safety and hygiene for the skills learned.</p> <p>Follow a simple recipe applying skills learned.</p> <p>Know that food ingredients should be combined according to their sensory characteristics.</p>	<p>Apply knowledge of healthy eating to plan a balanced meal for themselves.</p> <p>Follow procedures for safety and hygiene for the skills learned.</p> <p>Follow a simple recipe applying skills learned.</p> <p>Know that food ingredients should be combined according to their sensory characteristics.</p>	<p>Apply knowledge of healthy eating to plan a balanced diet.</p> <p>Use their knowledge of seasonality and food miles to influence their choice of ingredients when designing.</p> <p>Follow procedures for safety and hygiene.</p> <p>Know when to use a bridge or a claw technique when cutting soft and hard food.</p> <p>Follow a recipe applying skills learned.</p>	<p>Apply knowledge of healthy eating to plan a balanced diet.</p> <p>Use their knowledge of seasonality and food miles to influence their choice of ingredients when designing.</p> <p>Follow procedures for safety and hygiene.</p> <p>Know when to use a bridge or a claw technique when cutting soft and hard food.</p> <p>Prepare ingredients hygienically and using the appropriate utensils by following a recipe.</p>	<p>Use their understanding of dietary needs and how they differ to design a meal for an individual (athlete, older person, child etc).</p> <p>Choose ingredients with a growing awareness of conservation, seasonality, sustainability and animal welfare.</p> <p>Independently select equipment appropriate to the task.</p> <p>Be able to explain their choices.</p> <p>Begin to use their time efficiently e.g: wash up or cut toppings whilst waiting for a pie to cook.</p> <p>Create and refine recipes, including ingredients, methods, cooking times and temperatures.</p>	<p>Use their understanding of dietary needs to design a meal for an individual (athlete, older person, child, soldier etc).</p> <p>Choose ingredients with a growing awareness of conservation, seasonality, sustainability and animal welfare.</p> <p>Independently select equipment appropriate to the task.</p> <p>Be able to explain their choices.</p> <p>Begin to use their time efficiently e.g: wash up or cut toppings whilst waiting for a pie to cook.</p> <p>Create and refine recipes, including ingredients, methods, cooking times and temperatures.</p> <p>Understand that a recipe can be adapted by adding or substituting one or more ingredients.</p>
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					<p>Understand that a recipe can be adapted by adding or substituting one or more ingredients.</p> <p>Understand that recipes can be adapted to change the appearance, taste, texture and aroma.</p> <p>Understand importance of correct storage and handling of ingredients.</p>	<p>Understand that recipes can be adapted to change the appearance, taste, texture and aroma.</p> <p>Understand importance of correct storage and handling of ingredients.</p>
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St Newlyn East Learning Academy

DT Substantive knowledge progression EYFS/KS1/KS2



composites	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	Components (e.g. specific learning intention)						
	Understanding contexts, users, and purposes Generating, developing, modelling, and communicating ideas						
Key vocab:	<p>Explore the sensory qualities of materials</p> <p>Begin to use the language of designing and making, e.g. join, build and shape.</p> <p>Use pictures and words to convey what they want to make.</p>	<p>State what products they are designing and making which have a clear purpose and an intended user.</p> <p>Begin to understand the needs of users other than themselves.</p> <p>Generate and talk about ideas by handling materials and components – handling, investigating and disassembling.</p> <p>Learn to use and respond to simple design criteria to help develop their ideas</p> <p>Generate ideas by drawing on their own experiences.</p> <p>Use knowledge of existing products to</p>	<p>State what products they are designing and making which have a clear purpose and an intended user.</p> <p>Begin to understand the needs of users other than themselves.</p> <p>Generate and talk about ideas by handling materials and components – handling, investigating and disassembling.</p> <p>Learn to use and respond to simple design criteria to help develop their ideas.</p> <p>Generate ideas by drawing on their own experiences.</p> <p>Use knowledge of existing products to</p>	<p>Explain clearly what products they are designing and making which have a clear purpose and an intended user.</p> <p>Undertake research to gather information about the needs and wants of individuals and groups using surveys, questionnaires, etc</p> <p>Generate ideas by collecting and using information from a number of sources, including ICT based sources to generate design ideas.</p> <p>Disassemble and investigate existing everyday products to see how they fit their user and purpose.</p>	<p>Explain clearly what products they are designing and making which have a clear purpose and an intended user.</p> <p>Undertake research to gather information about the needs and wants of individuals and groups using surveys, questionnaires, etc</p> <p>Generate ideas by collecting and using information from a number of sources, including ICT based sources to generate design ideas.</p> <p>Disassemble and investigate existing everyday products to see how they fit their user and purpose.</p>	<p>Explain clearly and justify what products they are designing and making which have a clear purpose and an intended user.</p> <p>Undertake research to inform the design process, using surveys, interviews, questionnaires and web-based resources.</p> <p>Use knowledge of inventors, designers, engineers, chefs and manufacturer who have developed groundbreaking products to design their own innovative designs.</p> <p>Generate ideas by collecting and using information, from a</p>	<p>Explain clearly and justify what products they are designing and making which have a clear purpose and an intended user.</p> <p>Undertake research to inform the design process, using surveys, interviews, questionnaires and web-based resources.</p> <p>Use knowledge of inventors, designers, engineers, chefs and manufacturer who have developed groundbreaking products to design their own innovative designs.</p> <p>Generate ideas by collecting and using information, from a</p>

		<p>help come up with ideas.</p> <p>Model ideas by exploring materials, components and construction kits and by making templates and mock-ups.</p> <p>Use information and communication technology, where appropriate, to develop and communicate their ideas.</p> <p>To begin to use software to represent 2D designs.</p> <p>To use pictures and words to convey what they want to make.</p> <p>To think of interesting ways to decorate food that I have made.</p>	<p>help come up with ideas.</p> <p>Model ideas by exploring materials, components and construction kits and by making templates and mock-ups.</p> <p>Use information and communication technology, where appropriate, to develop and communicate their ideas.</p> <p>To begin to use software to represent 2D designs.</p> <p>To use pictures and words to convey what they want to make.</p> <p>Think of interesting ways to decorate food that I have made thinking of what would be best for the person eating it.</p>	<p>Work from a given design specification to guide their thinking.</p> <p>Learn what a prototype is and use pre-made examples of prototypes and patterns.</p> <p>Generate labelled and annotated sketches of their ideas, using computer-aided design where appropriate.</p> <p>Learn an increasing range of correct technical vocabulary to use to enable them to explain.</p>	<p>Work from a given design specification to guide their thinking.</p> <p>Learn what a prototype is and use pre-made examples of prototypes and patterns.</p> <p>Generate labelled and annotated sketches of their ideas, using computer-aided design where appropriate.</p> <p>Learn an increasing range of correct technical vocabulary to use to enable them to explain.</p>	<p>number of sources, including ICT based sources.</p> <p>Review mechanical products to see how they function and meet user's needs.</p> <p>Develop their own simple design specification to guide their thinking.</p> <p>Create and use a prototype/pattern to scale.</p> <p>Create cross-sectional drawings, exploded diagrams and CAD software to represent designs.</p> <p>Identify the properties and qualities of materials they might use such as cardboard, wood, plastic.</p>	<p>number of sources, including ICT based sources.</p> <p>Review mechanical products to see how they function and meet user's needs.</p> <p>Develop their own simple design specification to guide their thinking.</p> <p>Create and use a prototype/pattern to scale.</p> <p>Create cross-sectional drawings, exploded diagrams and CAD software to represent designs.</p> <p>Identify the properties and qualities of materials they might use such as cardboard, wood, plastic.</p>
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Components (eg specific learning intention)

KS1: Mechanisms, structures, food and textiles

KS2: Mechanical systems, electrical systems, structures, food and textiles

Planning

Practical skills and techniques

<p>To learn to construct with a purpose in mind.</p> <p>To learn how to use a range of small tools, e.g. scissors, hole punch, stapler, woodworkin g tools, rolling pins, pastry cutters.</p> <p>To have basic hygiene awareness.</p> <p>To safely use and explore a variety of materials, tools and techniques.</p>	<p>Learn how to keep themselves and other safe when using tools and materials such as holding scissors away from self and clothes, etc.</p> <p>Learn simple characteristics and properties of materials they will use in order to make informed choices.</p> <p>Demonstrate a range of cutting and shaping techniques; tearing/cutting/folding, rolling and curling.</p> <p>Measure, mark out, cut and shape materials and components.</p> <p>Shape paper and card by cutting with scissors.</p> <p>Mark out materials to be cut using a template.</p> <p>Assemble, join and combine materials and</p>	<p>Learn how to keep themselves and other safe when using tools and materials such as holding scissors away from self and clothes, etc.</p> <p>Learn simple characteristics and properties of materials they will use in order to make informed choices.</p> <p>Demonstrate a range of cutting and shaping techniques; tearing/cutting/folding, rolling and curling.</p> <p>Measure, mark out, cut and shape materials and components.</p> <p>Shape paper and card by cutting with scissors.</p> <p>Mark out materials to be cut using a template.</p> <p>Assemble, join and combine materials and</p>	<p>To use learning from maths and science to help design and make products that work.</p> <p>To know that materials have both functional properties and aesthetic qualities.</p> <p>To know the correct technical vocabulary for the projects they are undertaking.</p> <p>Learn essential procedures for safety and hygiene when handling materials and tools safely.</p> <p>Measure, mark out, cut and shape a range of materials and components with some accuracy. e.g. using saws and sand paper using cms to measure.</p> <p>Use a wider range of materials and</p>	<p>To use learning from maths and science to help design and make products that work.</p> <p>To know that materials have both functional properties and aesthetic qualities.</p> <p>To know the correct technical vocabulary for the projects they are undertaking.</p> <p>Learn essential procedures for safety and hygiene when handling materials and tools safely.</p> <p>Measure, mark out, cut and shape a range of materials and components with some accuracy. e.g. using saws and sand paper using cms to measure.</p> <p>Use a wider range of materials and</p>	<p>To use learning from maths and science to help design and make products that work.</p> <p>To know that materials have both functional properties and aesthetic qualities.</p> <p>To know the correct technical vocabulary for the projects they are undertaking.</p> <p>Learn essential procedures for safety and hygiene when handling materials and tools safely.</p> <p>Measure, mark, cut out and shape a range of materials and components. e.g. using saws and sand paper using cm & mm to measure.</p> <p>To understand that materials can be combined and mixed to</p>	<p>To use learning from maths and science to help design and make products that work.</p> <p>To know that materials have both functional properties and aesthetic qualities.</p> <p>To know the correct technical vocabulary for the projects they are undertaking.</p> <p>Learn essential procedures for safety and hygiene when handling materials and tools safely.</p> <p>Measure, mark, cut out and shape a range of materials and components. e.g. using saws and sand paper using cm & mm to measure.</p> <p>To understand that materials can be combined and mixed to</p>	<p>To use learning from maths and science to help design and make products that work.</p> <p>To know that materials have both functional properties and aesthetic qualities.</p> <p>To know the correct technical vocabulary for the projects they are undertaking.</p> <p>Learn essential procedures for safety and hygiene when handling materials and tools safely.</p> <p>Measure, mark, cut out and shape a range of materials and components. e.g. using saws and sand paper using cm & mm to measure.</p> <p>To understand that materials can be combined and mixed to</p>
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		<p>components with adhesives and tapes.</p> <p>Saw wood with a gents saw/backsaw.</p> <p>Use wood glue.</p> <p>Use a drill or hole punch.</p> <p>Learn simple finishing techniques.</p> <p>Mechanisms Use and explore different levers and slides in my work.</p> <p>Use a range of materials and components, including construction materials and kits and mechanical components.</p> <p>Use wheels and axles (pushed through)</p> <p>Use construction kits.</p> <p>Make moving joints using paper fasteners, wood, axels etc</p>	<p>components with adhesives and tapes, or creating hinges.</p> <p>Saw wood with a gents saw/backsaw.</p> <p>Use wood glue.</p> <p>Use a drill or hole punch.</p> <p>Learn simple finishing techniques, including those from art and design.</p> <p>Mechanisms Use and explore different mechanisms; levers and slides in my work.</p> <p>Use a range of materials and components, including construction materials and kits and mechanical components.</p> <p>Use wheels and axles (pushed through)</p> <p>Use construction kits.</p> <p>Make moving joints using paper fasteners,</p>	<p>components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components.</p> <p>Use tools independently with increasing accuracy, control and awareness of conservation e.g. bench hooks and mitre blocks, electric components (such as bulbs and buzzers), wire strippers, staplers, cardboard triangles etc.</p> <p>Learn to use a range of tools with accuracy including scissors, ... what tools should we include for lks2 and uks2?</p> <p>Learn how finishing techniques can improve the</p>	<p>components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components.</p> <p>Use tools independently with increasing accuracy, control and awareness of conservation e.g. bench hooks and mitre blocks, electric components (such as bulbs and buzzers), wire strippers, staplers, cardboard triangles etc.</p> <p>Learn to use a range of tools with accuracy including scissors, ... what tools should we include for lks2 and uks2?</p> <p>Learn how finishing techniques can improve the</p>	<p>create more useful characteristic.</p> <p>To use a range of tools in order to be able to choose appropriately from them.</p> <p>Use modelling wire, pliers, wire cutters etc.</p> <p>Use techniques that involve a number of steps.</p> <p>Use a glue gun with close supervision.</p> <p>Use a hand drill to drill tight and loose fit holes.</p> <p>Use finishing techniques to strengthen and improve the appearance of their product.</p> <p>Ensure products have a high-quality finish using appropriate resources (such as sanding wood).</p> <p>Mechanical systems Use simple mechanisms, e.g. pulleys, cams, cogs.</p>	<p>create more useful characteristic.</p> <p>To use a range of tools in order to be able to choose appropriately from them.</p> <p>Use modelling wire, pliers, wire cutters etc.</p> <p>Use techniques that involve a number of steps.</p> <p>Use a glue gun with close supervision.</p> <p>Use a hand drill to drill tight and loose fit holes.</p> <p>Use finishing techniques to strengthen and improve the appearance of their product.</p> <p>Ensure products have a high-quality finish using appropriate resources (such as sanding wood).</p> <p>Mechanical systems Use simple mechanisms, e.g. pulleys, cams, cogs.</p>
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	<p>Identify how toys can be made to move (push, pull)</p> <p>Use programmable toys (e.g. Roamer)</p> <p>Create pop-ups and sliders</p> <p>Structures Investigate strengthening sheet materials.</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Make box models, card and wood constructions.</p>	<p>wood, axels etc</p> <p>Identify how toys can be made to move (push, pull)</p> <p>Use programmable toys (e.g. Roamer)</p> <p>Create pop-ups and sliders</p> <p>Use a range of materials to create models with wheels and axels e.g. tubes, dowel and cotton reels.</p> <p>Use simple pop-ups.</p> <p>Structures Build freestanding structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Make box models, card and wood constructions.</p> <p>Use materials to practise drilling, screwing, nailing and gluing to strengthen products.</p>	<p>appearance of their product.</p> <p>Mechanical Systems Cut slots.</p> <p>Use cutting and shaping techniques that include cuts within the perimeter of the material (slots or cut outs).</p> <p>To know how mechanical systems such as levers and linkages or pneumatic systems create movement.</p> <p>Use mechanisms in their products, e.g. syringes for pneumatics, levers, gears, pulleys.</p> <p>Use levers and pulleys to create moving parts using split pins, card and string.</p> <p>Structures To know how to make strong, stiff shell structures.</p>	<p>appearance of their product.</p> <p>Mechanical systems Cut slots and internal shapes.</p> <p>Use cutting and shaping techniques that include cuts within the perimeter of the material (slots or cut outs).</p> <p>To know how mechanical systems such as levers and linkages or pneumatic systems create movement.</p> <p>Use mechanisms in their products, e.g. syringes for pneumatics, levers, gears, pulleys.</p> <p>Use levers and pulleys to create moving parts using split pins, card and string.</p> <p>To use and explore complex pop-ups.</p> <p>Structures To know how to make strong, stiff</p>	<p>Begin to use hydraulics. Design ICT controlled mechanisms- use computer to control programs and equipment. FLOWOL.</p> <p>Know that mechanical systems have an input, process and output.</p> <p>Know how mechanical systems such as cams or pulleys or gears create movement.</p> <p>Structures Construct regular free standing 3D frames – bridges. Use techniques for reinforcing and strengthening structures.</p> <p>Use construction kits and building instructions to identify how structures are stabilised and strengthened.</p> <p>Know how to reinforce and strengthen a</p>	<p>Begin to use hydraulics. Design ICT controlled mechanisms- use computer to control programs and equipment. FLOWOL.</p> <p>Know that mechanical systems have an input, process and output.</p> <p>Know how mechanical systems such as cams or pulleys or gears create movement.</p> <p>Use a cam to make an up and down mechanism.</p> <p>Structures Construct regular free standing 3D frames – bridges. Use techniques for reinforcing and strengthening structures.</p> <p>Use construction kits and building instructions to identify how structures are stabilised and strengthened.</p>
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				<p>Use construction kits to test for strength.</p> <p>Investigate how structures can fail when loaded, and stabilise structures to withstand greater loads.</p> <p>Understand different structures types, shell/frame.</p> <p>Strengthen frames using diagonal struts.</p> <p>Electrical Systems Explore batteries and bulbs.</p> <p>Use simple switches to achieve a functional result.</p> <p>To know how simple electrical circuits and components can be used to create functional products.</p> <p>To know how to program a computer to control products.</p>	<p>shell structures.</p> <p>Use construction kits to test for strength.</p> <p>Investigate how structures can fail when loaded, and stabilise structures to withstand greater loads.</p> <p>Understand different structures types, shell/frame.</p> <p>Investigate how to make structures more stable e.g. by widening the base.</p> <p>Electrical Systems Explore batteries and bulbs.</p> <p>Use simple switches to achieve a functional result.</p> <p>To know how simple electrical circuits and components can be used to create functional products.</p>	<p>3D framework.</p> <p>Electrical Systems Attach motors for electrical control.</p> <p>Switch motors on/off</p> <p>Control electrical circuits with ICT (e.g. use computer to operate switch)</p> <p>Know how to program a computer to monitor changes in the environment and control their products.</p> <p>Know how more complex electrical circuits and components can be used to create functional products.</p> <p>Know that electrical systems have an input, process and output.</p> <p>Control a model using an ICT control model.</p>	<p>Know how to reinforce and strengthen a 3D framework.</p> <p>Electrical Systems Attach motors for electrical control.</p> <p>Switch motors on/off</p> <p>Control electrical circuits with ICT (e.g. use computer to operate switch)</p> <p>Know how to program a computer to monitor changes in the environment and control their products.</p> <p>Know how more complex electrical circuits and components can be used to create functional products.</p> <p>Know that electrical systems have an input, process and output.</p> <p>Create circuits that employ a number of components (such as LEDs, resistors and transistors).</p>
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				Give a series of commands (Roamer).	To know how to program a computer to control products. Give a series of commands (Roamer). Create series and parallel circuits.		
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Components (eg specific learning intention)							
Analysing and Evaluating Key vocab:	Own ideas and products	Own ideas and products	Own ideas and products	Own ideas and products	Own ideas and products	Own ideas and products	Own ideas and products
	Learn about planning and adapting initial ideas to make them better. Begin to talk about changes made during the making process, e.g. making a decision to use a different joining method.	Use design criteria to guide production process. Develop vocabulary related to the products they are making. Existing Products Explore and ask questions of products such as: - what products are - who products are for - what products are for - how products work - how products are used -where products might be used -what materials	Use design criteria to guide production process. Develop technical vocabulary related to the products they are making. Existing Products Explore and ask questions of products such as: - what products are - who products are for - what products are for - how products work - how products are used - where products might be used	Refer to their design criteria as they design and make. Modify plans as they work and use their design criteria to evaluate their completed products. Existing products 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	Refer to their design criteria as they design and make. Modify plans as they work and use their design criteria to evaluate their completed products. Existing products 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	Refer to their design criteria as they design and make. Modify plans as they work and use their design criteria to evaluate their completed products. Existing products 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	Refer to their design criteria as they design and make. Modify plans as they work and use their design criteria to evaluate their completed products. Existing products 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

		<p>products are made from</p> <p>-what they like and dislike about products</p> <p>Make a prototype.</p>	<p>-what materials products are made from</p> <p>-what they like and dislike about products</p> <p>Make more than one prototype and learn which works best.</p>	<p>achieve their purposes</p> <p>- how well products meet user needs and wants</p> <p>Key events and individuals</p> <p>Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p>	<p>achieve their purposes</p> <p>- how well products meet user needs and wants</p> <p>Key events and individuals</p> <p>Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p>	<p>achieve their purposes</p> <p>- how well products meet user needs and wants</p> <p>Key events and individuals</p> <p>Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p>	<p>- how well products achieve their purposes</p> <p>- how well products meet user needs and wants</p> <p>Key events and individuals</p> <p>Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p>
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	Components (eg specific learning intention)						
Textiles Key vocab:	Learn to thread using pre-punctured fabric and card	Introduce learning to thread a needle (large binca type).	Introduce learning to thread a needle (large binca type).	Weave with a variety of materials.	Weave with a variety of materials.	Use different ways to join materials, e.g. glue, pins, press studs, Velcro, various stitches, buttons.	Use different ways to join materials, e.g. glue, pins, press studs, Velcro, various stitches, buttons.
		Learn to tie simple reef knots.	Learn to tie simple reef knots.	Sew using a range of basic stitches e.g: running stitch, back stitch and over stitch.	Sew using a range of basic stitches e.g: running stitch, back stitch and over stitch.	Learn to make own simple pattern pieces.	Learn to make own simple pattern pieces.
	Learn to use running stitch to join two pieces of fabric.	Learn to use running stitch to join two pieces of fabric.	Learn to use running stitch to join two pieces of fabric.	Learn to thread a needle (large binca type).	Learn to thread a needle (large binca type).	Able to join fabrics using a range of stitches with increasing independence including blanket stitch.	Able to join fabrics using a range of stitches with increasing independence including blanket stitch.
				Learn to tie simple knots.	Learn to tie simple knots.		
				Use patterns and templates.	Use patterns and templates.		
				Pinning and cutting with	Pinning and cutting with		

				increasing accuracy. Learn about the properties of a small range of fabrics.	increasing accuracy. Learn about the properties of a small range of fabrics.		
Cooking and Nutrition; Key vocab:	Components (eg specific learning intention)						
	<p>Know that all food comes from plants or animals.</p> <p>Know the importance of a healthy diet.</p> <p>Know that everyone should eat at least five portions of a variety of fruit and vegetables every day.</p> <p>To manage own basic hygiene.</p> <p>To use cutlery safely.</p>	<p>Know that all food comes from plants or animals.</p> <p>Know that food has to be farmed, grown elsewhere (e.g. home) or caught.</p> <p>Know that everyone should eat at least five portions of a variety of fruit and vegetables every day.</p> <p>To name and sort foods into the five groups in The Eatwell Guide.</p> <p>Understand the importance of food safety and hygiene; washing hands.</p> <p>To prepare simple dishes safely and hygienically, without using a heat source.</p> <p>To use cutlery safely.</p>	<p>Know that all food comes from plants or animals.</p> <p>Know that food has to be farmed, grown elsewhere (e.g. home) or caught.</p> <p>Know that everyone should eat at least five portions of a variety of fruit and vegetables every day.</p> <p>To name and sort foods into the five groups in The Eatwell Guide.</p> <p>Understand the importance of food safety and hygiene; washing hands.</p> <p>To prepare simple dishes safely and hygienically, without using a heat source.</p> <p>To use cutlery safely and accurately.</p>	<p>Understand seasonality and know how a variety of ingredients are grown, reared, caught and processed.</p> <p>Understand that food ingredients can be fresh, pre-cooked and processed.</p> <p>To understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in the Eatwell Guide.</p> <p>To know the 5 areas of the Eatwell Guide.</p> <p>To know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>Understand seasonality and know how a variety of ingredients are grown, reared, caught and processed.</p> <p>Understand that food ingredients can be fresh, pre-cooked and processed.</p> <p>To understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in the Eatwell Guide.</p> <p>To know the 5 areas of the Eatwell Guide.</p> <p>To know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>Understand seasonality and know how a variety of ingredients are grown, reared, caught and processed.</p> <p>Understand how food is processed into ingredients that can be eaten and used in cooking.</p> <p>To understand the importance of a healthy and varied diet and know the 5 areas of the Eatwell Guide.</p> <p>To know that food and drink contain different substances – nutrients, water and fibre – that are needed for health.</p>	<p>Understand seasonality and know how a variety of ingredients are grown, reared, caught and processed.</p> <p>Understand how food is processed into ingredients that can be eaten and used in cooking.</p> <p>To understand the importance of a healthy and varied diet and know the 5 areas of the Eatwell Guide.</p> <p>To know that food and drink contain different substances – nutrients, water and fibre – that are needed for health.</p>

		<p>To use a bridge technique to cut food safely.</p> <p>To cut, peel and grate safely and accurately.</p> <p>Spread soft butter with a knife.</p> <p>Think of interesting ways to decorate food that I have made thinking of what would be best for the person eating it.</p>	<p>To use a bridge technique to cut food safely.</p> <p>To cut, peel and grate ingredients safely.</p> <p>Spread soft butter with a knife.</p> <p>To use measuring cups, spoons, and scales to measure out ingredients in grams.</p> <p>To use a jug to measure liquids in ml.</p> <p>Think of interesting ways to decorate food that I have made thinking of what would be best for the person eating it.</p>	<p>To understand basic hygiene and know how bacteria develops.</p> <p>To peel and grate soft foods e.g. courgette, cheese</p> <p>To use measuring cups, spoons, and scales to measure out ingredients in grams.</p> <p>Use a jug to measure liquids in ml.</p> <p>To mix ingredients to form a bread dough</p> <p>To knead and shape dough.</p>	<p>To develop a deeper understanding of basic hygiene and how bacteria develops.</p> <p>To peel and grate soft foods e.g. courgette, cheese</p> <p>To use measuring cups, spoons, and scales to measure out ingredients in grams.</p> <p>Use a jug to measure liquids in ml.</p> <p>To crack an egg & beat an egg.</p> <p>To cut fat (butter) into flour and rub fat into flour.</p>	<p>To develop a deeper understanding of basic hygiene and how bacteria develops.</p> <p>To peel and grate soft and harder foods e.g. apple, carrot, parmesan</p> <p>To measure ingredients accurately using different equipment.</p> <p>To use simple combination of 'Bridge' and 'Claw' e.g. onion</p> <p>Use a hand mixer or blender</p> <p>Assemble or cook ingredients, controlling the temperature of the oven or hob with adult supervision e.g. to sweat a soup</p>	<p>To develop a deeper understanding of basic hygiene and how bacteria develops.</p> <p>To measure ingredients to the nearest gram/ml and calculate ratios of ingredients to scale up or down a recipe.</p> <p>To use simple combination of 'Bridge' and 'Claw' e.g. onion</p> <p>To combine ingredients appropriately (beating, rubbing).</p> <p>To crack an egg & separating</p> <p>Assemble or cook ingredients, controlling the temperature of the oven or hob with adult supervision e.g. to sweat a soup</p> <p>To roll pastry.</p> <p>Use a hand mixer or blender</p>
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