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|  | **Autumn** | **Spring** | **Summer** |
| **EYFS** | **Structures:** houses and homes- where we live  **Design and make:**  Divas (Diwali) to hold a candle  Pop up cards for celebrations | **Structures:** Junk modelling- creating homes for woodland creatures to live in  **Moving mechanisms:** Following a design to create our own book- Our World  Creating moving models that use simple levers and sliders | **Structures:** Junk modelling  **Design and make:** Baby Bear’s chair  **Healthy eating**:  Making a fruit salad  Good food choices for breakfast |

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|  | **Autumn** | **Spring** | **Summer** |
| **Year 1** | Design and make: divas; cards with sliders  Cooking – baking, pumpkin soup  Model cars linked to materials topic | Design and make: coleslaw  using seasonal vegetables –  chopping, slicing, mixing,  taste-testing. | Design and make a moving toy car |
| **Year 2** | Create a T-shirt design that celebrates themselves {digital design and print] | Batik – research, design and create a piece of Batik artwork | Model Houses |
| **Year 3** | Cooking - Visit to local supermarket to buy products, Parent and community tasting session. | Design and make a reusable shopping bag | Design and build Viking Long Ship |
| **Year 4** | Design and make suffragette banners and rosettes to use on the Suffragette protest march | Rainforest explorer pouch | Papier Mache Greek theatre  Masks |
| **Year 5** | Link to forces/pulleys/levers – design and make… | Cooking leading to bake sale to raise money for an appropriate charity (possible link to French) | Design and make Anderson  Shelter |
| **Year 6** | Create a pencil case/pillow case for yourself with decoration that reflects who you are and what you care about | Cooking | TBC |

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| **EYFS** | | |
| **Objectives:**  Design  Make | | Evaluate  Technical knowledge  Cooking and Nutrition |
| **Key Factual Learning:** | **Suggested Activities:**  Design –  Making –  Evaluating –  Technical knowledge –  Cooking and Nutrition – | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble | | |
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| **Year 1 – Autumn** | | |
| **Objectives:**  Design   * design purposeful, functional, appealing products for themselves and other users based on design criteria * generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology   Make   * select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] * select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics | | Evaluate   * explore and evaluate a range of existing products * evaluate their ideas and products against design criteria   Technical knowledge   * build structures, exploring how they can be made stronger, stiffer and more stable * explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.   Cooking and Nutrition   * use the basic principles of a healthy and varied diet to prepare dishes * understand where food comes from. |
| **Key Factual Learning:**  Design and make: divas; cards with sliders   * Use drawings to record ideas as they are developed. * Mark out materials to be cut using a template. * Join appropriately for different materials and situations e.g. glue, tape. * Insert paper fasteners for card. * Experiment with levers and sliders to find different ways of making things move in a 2D plane.   Cooking – baking, pumpkin soup   * Cut, peel, grate, chop a range of ingredients * Measure and weigh food items, non-statutory measures e.g. spoons, cups   Model cars linked to materials topic   * Select materials from a limited range that will meet the design criteria. * Use drawings to record ideas as they are developed. * Explore ideas by rearranging materials. * Select and name the tools needed to work the materials / Name the tools they are using. * Try out different axle fixings and their strengths and weaknesses. * Cut dowel using hacksaw and bench hook. * Attach wheels to a chassis using an axle. * Discuss their work as it progresses. * Describe what they need to do next. * Explain what they are making. * Explain which materials they are using and why. * Note changes made during the making process as annotation to plans/drawings. | **Suggested Activities:**  Design – Use own ideas to design something and describe how their own idea works, design a product which moves, explain to someone else how they want to make their product and making a simple plan before making  Making – Use own ideas to make something, make a product which move, choose appropriate resources and tools for their product  Evaluating – Describe how something works, explain what works well and not so well in the model they have made  Technical knowledge – Make their own model stronger  Cooking and Nutrition – Cut food safely | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble | | |

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| **Year 1 – Spring** | | |
| **Objectives:**  Design   * design purposeful, functional, appealing products for themselves and other users based on design criteria * generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology   Make   * select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] * select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics | | Evaluate   * explore and evaluate a range of existing products * evaluate their ideas and products against design criteria   Technical knowledge   * build structures, exploring how they can be made stronger, stiffer and more stable * explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.   Cooking and Nutrition   * use the basic principles of a healthy and varied diet to prepare dishes * understand where food comes from. |
| **Key Factual Learning:**  Design and make: coleslaw using seasonal vegetables – chopping, slicing, mixing, taste-testing.   * Explain what they are making. * Explain which ingredients they are using and why. * Cut, peel, grate, chop a range of ingredients * Measure and weigh food items, non-statutory measures e.g. spoons, cups. * Describe what they need to do next. | **Suggested Activities:**  Design – Use own ideas to design something and describe how their own idea works, design a product which moves, explain to someone else how they want to make their product and making a simple plan before making  Making – Use own ideas to make something, make a product which move, choose appropriate resources and tools for their product  Evaluating – Describe how something works, explain what works well and not so well in the model they have made  Technical knowledge – Make their own model stronger  Cooking and Nutrition – Cut food safely | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble | | |

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| **Year 1 – Summer** | | |
| **Objectives:**  Design   * design purposeful, functional, appealing products for themselves and other users based on design criteria * generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology   Make   * select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] * select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics | | Evaluate   * explore and evaluate a range of existing products * evaluate their ideas and products against design criteria   Technical knowledge   * build structures, exploring how they can be made stronger, stiffer and more stable * explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.   Cooking and Nutrition   * use the basic principles of a healthy and varied diet to prepare dishes * understand where food comes from. |
| **Key Factual Learning:**  Design and make a moving toy car   * Select materials from a limited range that will meet the design criteria. * Use drawings to record ideas as they are developed. * Explain what they are making. * Explain which materials they are using and why. * Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels. * Mark out materials to be cut using a template. * Fold, tear and cut paper and card. * Cut along lines, straight and curved. * Explore ideas by rearranging materials. * Describe what they need to do next. * Join appropriately for different materials and situations e.g. glue, tape. * Name the tools they are using. * Cut dowel using hacksaw and bench hook. * Attach wheels to a chassis using an axle. * Try out different axle fixings and their strengths and weaknesses. * Note changes made during the making process as annotation to plans/drawings. | **Suggested Activities:**  Design – Use own ideas to design something and describe how their own idea works, design a product which moves, explain to someone else how they want to make their product and making a simple plan before making  Making – Use own ideas to make something, make a product which move, choose appropriate resources and tools for their product  Evaluating – Describe how something works, explain what works well and not so well in the model they have made  Technical knowledge – Make their own model stronger  Cooking and Nutrition – Cut food safely | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble | | |

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| **Year 2 – Autumn** | | |
| **Objectives:**  Design   * design purposeful, functional, appealing products for themselves and other users based on design criteria * generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology   Make   * select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] * select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics | | Evaluate   * explore and evaluate a range of existing products * evaluate their ideas and products against design criteria   Technical knowledge   * build structures, exploring how they can be made stronger, stiffer and more stable * explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.   Cooking and Nutrition   * use the basic principles of a healthy and varied diet to prepare dishes   understand where food comes from. |
| **Key Factual Learning:**  Create a T-shirt design that celebrates themselves {digital design and print]   * Select materials from a limited range that will meet the design criteria. * Use drawings to record ideas as they are developed. * Cut out shapes which have been created by drawing round a template onto the fabric. * Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape. * Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons. * Colour fabrics using a range of techniques e.g. fabric paints, printing, painting. * Discuss their work as it progresses. * Explain what they are making. * Describe what they need to do next. * Note changes made during the making process as annotation to plans/drawings. | **Suggested Activities:**  Design – Use own ideas to design something and describe how their own idea works, design a product which moves, explain to someone else how they want to make their product and making a simple plan before making, explain why they have chosen specific materials.  Making – Use own ideas to make something, make a product which move, choose appropriate resources and tools for their product  Evaluating – Describe how something works, explain what works well and not so well in the model they have made  Technical knowledge – make their own model stronger  Cooking and Nutrition – Weigh ingredients to use in a recipe, describe the ingredients used when making a dish or cake | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble | | |

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| **Year 2 – Spring** | | |
| **Objectives:**  Design   * design purposeful, functional, appealing products for themselves and other users based on design criteria * generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology   Make   * select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] * select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics | | Evaluate   * explore and evaluate a range of existing products * evaluate their ideas and products against design criteria   Technical knowledge   * build structures, exploring how they can be made stronger, stiffer and more stable * explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.   Cooking and Nutrition   * use the basic principles of a healthy and varied diet to prepare dishes * understand where food comes from. |
| **Key Factual Learning:**  Batik – research, design and create a piece of Batik artwork   * Use drawings to record ideas as they are developed. * Cut out shapes which have been created by drawing round a template * Mark out materials to be cut using a template. * Colour fabrics using a range of techniques e.g. fabric paints, printing, painting. * Discuss their work as it progresses. * Explain what they are making. * Describe what they need to do next. * Note changes made during the making process as annotation to plans/drawings. | **Suggested Activities:**  Design – Use own ideas to design something and describe how their own idea works, design a product which moves, explain to someone else how they want to make their product and making a simple plan before making, explain why they have chosen specific materials  Making – Use own ideas to make something, make a product which move, choose appropriate resources and tools for their product  Evaluating – Describe how something works, explain what works well and not so well in the model they have made  Technical knowledge – make their own model stronger  Cooking and Nutrition – Weigh ingredients to use in a recipe, describe the ingredients used when making a dish or cake | |
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| **Year 2 – Summer** | | |
| **Objectives:**  Design   * design purposeful, functional, appealing products for themselves and other users based on design criteria * generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology   Make   * select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] * select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics | | Evaluate   * explore and evaluate a range of existing products * evaluate their ideas and products against design criteria   Technical knowledge   * build structures, exploring how they can be made stronger, stiffer and more stable * explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.   Cooking and Nutrition   * use the basic principles of a healthy and varied diet to prepare dishes * understand where food comes from. |
| **Key Factual Learning:**  Model Houses   * Use drawings to record ideas as they are developed. * Select materials from a limited range that will meet the design criteria. * Explore ideas by rearranging materials. * Explain which materials they are using and why. * Mark out materials to be cut using a template. * Select and name the tools needed to work the materials. * Explore how to make structures stronger. * Investigate different techniques for stiffening a variety of materials. * Test different methods of enabling structures to remain stable. * Join appropriately for different materials and situations e.g. glue, tape. * Use a glue gun with close supervision. * Discuss their work as it progresses. * Explain what they are making. * Name the tools they are using. * Describe what they need to do next. * Note changes made during the making process as annotation to plans/drawings | **Suggested Activities:**  Design – Use own ideas to design something and describe how their own idea works, design a product which moves, explain to someone else how they want to make their product and making a simple plan before making, explain why they have chosen specific materials  Making – Use own ideas to make something, make a product which move, choose appropriate resources and tools for their product  Evaluating – Describe how something works, explain what works well and not so well in the model they have made  Technical knowledge – make their own model stronger  Cooking and Nutrition – Weigh ingredients to use in a recipe, describe the ingredients used when making a dish or cake | |
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| **Year 3 – Autumn** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Cooking - Visit to local supermarket to buy products, Parent and community tasting session.   * Know about a range of fresh and processed ingredients appropriate for their products * Know whether ingredients are grown, caught or reared. * Cut, peel, grate, chop a range of ingredients * Measure and weigh food items, non-statutory measures e.g. spoons, cups. * Join and combine a range of ingredients. * Use appropriate equipment and utensils to prepare and combine food * Know and use technical and sensory vocabulary appropriately | **Suggested Activities:**  Design – Prove that a design meets a set criteria, design a product and make sure it looks aesthetically correct, choose a material for both it’s use (ergonomic) and appearance (aesthetic)  Making – Follow a step by step plan, choosing the right equipment and materials, select the most appropriate tools and techniques for a given task, make a product which uses electrical or mechanical components, work accurately to make cuts and make holes.  Evaluating – Explain how to improve a finished model, know why a model had, or has not, been successful  Technical Knowledge – Know how to strengthen a product, use a simple IT program within the design  Cooking and Nutrition – Describe how food ingredients come together, weigh out ingredients and follow a given recipe, talk about food which is healthy, know when food is harvested | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble, axel, lever, criteria, stable, strong, durable, audience, packaging, function, purpose | | |
| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 3 – Spring** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Design and make a reusable shopping bag   * Use drawings to record ideas as they are developed. * Explore ideas by rearranging materials. * Cut out shapes which have been created by drawing round a template onto the fabric. * Use a prototype to make a pattern. * Join fabrics using running stitch, over sewing, blanket stitch. * Colour fabrics using a range of techniques e.g. fabric paints, printing, painting. * Explore strengthening and stiffening of fabrics. * Explore fastenings. * Use appropriate decoration techniques. * Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons. * Sew on buttons and make loops. | **Suggested Activities:**  Design – Prove that a design meets a set criteria, design a product and make sure it looks aesthetically correct, choose a material for both it’s use (ergonomic) and appearance (aesthetic)  Making – Follow a step by step plan, choosing the right equipment and materials, select the most appropriate tools and techniques for a given task, make a product which uses electrical or mechanical components, work accurately to make cuts and make holes.  Evaluating – Explain how to improve a finished model, know why a model had, or has not, been successful  Technical Knowledge – Know how to strengthen a product, use a simple IT program within the design  Cooking and Nutrition – Describe how food ingredients come together, weigh out ingredients and follow a given recipe, talk about food which is healthy, know when food is harvested | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble, axel, lever, criteria, stable, strong, durable, audience, packaging, function, purpose | | |
| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |
| **Year 3 – Summer** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Design and build Viking Long Ship   * Use drawings to record ideas as they are developed. * Develop more than one design or adaptation of an initial design. * Record the plan by drawing using annotated sketches. * Begin to use cross-sectional and exploded diagrams. * Use prototypes to develop and share ideas. * Cut slots and internal shapes. * Use tools with accuracy. * Create shell or frame structures. * Strengthen frames with diagonal struts. * Measure and mark square section, strip and dowel accurately to 1cm. * Explore how to make structures stronger. * Investigate different techniques for stiffening a variety of materials. * Test different methods of enabling structures to remain stable. * Join appropriately for different materials and situations e.g. glue, tape. * Mark out materials to be cut using a template. * Use a glue gun with close supervision. * Note changes made during the making process as annotation to plans/drawings. * Draw/sketch products to help analyse and understand how products are made. | **Suggested Activities:**  Design – Prove that a design meets a set criteria, design a product and make sure it looks aesthetically correct, choose a material for both it’s use (ergonomic) and appearance (aesthetic)  Making – Follow a step by step plan, choosing the right equipment and materials, select the most appropriate tools and techniques for a given task, make a product which uses electrical or mechanical components, work accurately to make cuts and make holes.  Evaluating – Explain how to improve a finished model, know why a model had, or has not, been successful  Technical Knowledge – Know how to strengthen a product, use a simple IT program within the design  Cooking and Nutrition – Describe how food ingredients come together, weigh out ingredients and follow a given recipe, talk about food which is healthy, know when food is harvested | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble, axel, lever, criteria, stable, strong, durable, audience, packaging, function, purpose. | | |
| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 4 – Autumn** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Design and make suffragette banners and rosettes to use on the Suffragette protest march   * Use drawings to record ideas as they are developed. * Develop more than one design or adaptation of an initial design. * Record the plan by drawing using annotated sketches. * Select materials from a limited range that will meet the design criteria. * Prepare pattern pieces as templates for their design. * Mark out materials to be cut using a template. * Fold, tear and cut paper and card. * Cut along lines, straight and curved. * Cut slots. * Cut internal shapes. * Discuss their work as it progresses. * Explain what they are making. * Describe what they need to do next. * Use appropriate finishing techniques | **Suggested Activities:**  Design – Use ideas from other people when designing, produce a plan and explain it, adapt design ideas when original ideas do not work, design in a range of formats – sketches, annotated drawing and design booklets  Making – Know which tools to use for a particular task and show knowledge of handling the tools chosen safely, choose between a range of materials based on their properties, measure and cut accurately  Evaluating – evaluate and suggest improvements for a design, evaluate products based on their purpose and appearance, explain how the original design has been improved, present the product to others  Technical knowledge – link Scientific knowledge by using electrical components (e.g. switches, lights, buzzers etc) use IT where appropriate to enhance quality  Cooking and Nutrition – Know how to be both hygienic and safe | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble, axel, lever, criteria, stable, strong, durable, audience, packaging, function, purpose, linkages, cams, pulleys, product | | |
| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 4 – Spring** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Rainforest explorer pouch   * Use drawings to record ideas as they are developed. * Develop more than one design or adaptation of an initial design. * Record the plan by drawing using annotated sketches. * Select materials from a limited range that will meet the design criteria. * Cut out shapes which have been created by drawing round a template onto the fabric. * Join fabrics by using running stitch, glue, staples, over sewing, tape. * Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons. * Colour fabrics using a range of techniques e.g. fabric paints, printing, painting. * Explore strengthening and stiffening of fabrics. * Explore fastenings * Sew on buttons and make loops. * Use appropriate decoration techniques. | **Suggested Activities:**  Design – Use ideas from other people when designing, produce a plan and explain it, adapt design ideas when original ideas do not work, design in a range of formats – sketches, annotated drawing and design booklets  Making – Know which tools to use for a particular task and show knowledge of handling the tools chosen safely, choose between a range of materials based on their properties, measure and cut accurately  Evaluating – evaluate and suggest improvements for a design, evaluate products based on their purpose and appearance, explain how the original design has been improved, present the product to others  Technical knowledge – link Scientific knowledge by using electrical components (e.g. switches, lights, buzzers etc) use IT where appropriate to enhance quality  Cooking and Nutrition – Know how to be both hygienic and safe | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble, axel, lever, criteria, stable, strong, durable, audience, packaging, function, purpose, linkages, cams, pulleys, product | | |
| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 4 – Summer** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Papier Mache Greek theatre Masks   * Use drawings to record ideas as they are developed. * Develop more than one design or adaptation of an initial design. * Record the plan by drawing using annotated sketches. * Select materials from a limited range that will meet the design criteria. * Create shell or frame structures. * Prepare pattern pieces as templates for their design. * Cut slots. * Cut internal shapes. * Use appropriate finishing techniques * Explain what they are making. * Explain which materials they are using and why. * Name the tools they are using. * Describe what they need to do next. * Note changes made during the making process as annotation to plans/drawings. | **Suggested Activities:**  Design – Use ideas from other people when designing, produce a plan and explain it, adapt design ideas when original ideas do not work, design in a range of formats – sketches, annotated drawing and design booklets  Making – Know which tools to use for a particular task and show knowledge of handling the tools chosen safely, choose between a range of materials based on their properties, measure and cut accurately  Evaluating – evaluate and suggest improvements for a design, evaluate products based on their purpose and appearance, explain how the original design has been improved, present the product to others  Technical knowledge – link Scientific knowledge by using electrical components (e.g. switches, lights, buzzers etc) use IT where appropriate to enhance quality  Cooking and Nutrition – Know how to be both hygienic and safe | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble, axel, lever, criteria, stable, strong, durable, audience, packaging, function, purpose, linkages, cams, pulleys, product | | |
| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 5 – Autumn** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Link to forces/pulleys/levers – design and make…   * Use drawings to record ideas as they are developed. * Develop more than one design or adaptation of an initial design. * Record the plan by drawing using annotated sketches. * Select materials from a limited range that will meet the design criteria. * Use mechanical systems such as cams, pulleys and gears. * Use mechanical systems such as gears, pulleys, levers and linkages. * Use lolly sticks/card to make levers and linkages. * Use linkages to make movement larger or more varied. * Prepare pattern pieces as templates for their design. * Cut slots. * Cut internal shapes. * Use tools with accuracy. * Use appropriate finishing techniques * Select from and use a wide range of tools. * Cut accurately and safely to a marked line. * Select from and use a wide range of materials. * Use appropriate finishing techniques for the project. | **Suggested Activities:**  Design – Come up with a range of ideas after collecting information from different sources, produce a detailed step-by-step plan, explain how a product will appeal to a specific audience, design a product which requires pulleys or gears  Making – Use a range of tools and equipment competently, make a prototype before making a final version, make a product that relies on pulleys or gears  Evaluating – Suggest alternative plans; outlining the positive features and drawbacks, evaluate appearance and function against original criteria  Technical knowledge – Link Scientific knowledge by using pulleys or gears, use more complex IT programs to enhance quality or sequence a set of pre-set instructions for the specific task set  Cooking and Nutrition – Be both hygienic and safe in the kitchen, know how to prepare a meal by collecting ingredients, know which season various foods are harvested | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble, axel, lever, criteria, stable, strong, durable, audience, packaging, function, purpose, linkages, cams, pulleys, product, components, innovate, reinforce, strengthen, adapt, input, output | | |
| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 5 – Spring** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Cooking leading to bake sale to raise money for an appropriate charity (possible link to French)   * Know about a range of fresh and processed ingredients appropriate for their products * Know whether ingredients are grown, caught or reared. * Cut, peel, grate, chop a range of ingredients * Measure and weigh food items, non-statutory measures e.g. spoons, cups. * Join and combine a range of ingredients. * Use appropriate equipment and utensils to prepare and combine food * Know and use technical and sensory vocabulary appropriately * Prepare food products taking into account the properties of ingredients and sensory characteristics. * Weigh and measure using scales. * Use a range of cooking techniques. | **Suggested Activities:**  Design – Come up with a range of ideas after collecting information from different sources, produce a detailed step-by-step plan, explain how a product will appeal to a specific audience, design a product which requires pulleys or gears  Making – Use a range of tools and equipment competently, make a prototype before making a final version, make a product that relies on pulleys or gears  Evaluating – Suggest alternative plans; outlining the positive features and drawbacks, evaluate appearance and function against original criteria  Technical knowledge – Link Scientific knowledge by using pulleys or gears, use more complex IT programs to enhance quality or sequence a set of pre-set instructions for the specific task set  Cooking and Nutrition – Be both hygienic and safe in the kitchen, know how to prepare a meal by collecting ingredients, know which season various foods are harvested | |
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| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 5 – Summer** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Design and make Anderson Shelter   * Use drawings to record ideas as they are developed. * Develop more than one design or adaptation of an initial design. * Record the plan by drawing using annotated sketches. * Begin to use cross-sectional and exploded diagrams. * Select from and use a wide range of materials. * Mark out materials to be cut using a template. * Cut slots and internal shapes. * Create shell or frame structures. * Use prototypes to develop and share ideas. * Strengthen frames with diagonal struts. * Explore how to make structures stronger. * Investigate different techniques for stiffening a variety of materials. * Test different methods of enabling structures to remain stable. * Join appropriately for different materials and situations e.g. glue, tape. * Join materials using appropriate methods. * Build frameworks to support mechanisms. * Stiffen and reinforce complex structures. * Select from and use a wide range of tools. * Cut accurately and safely to a marked line. | **Suggested Activities:**  Design – Come up with a range of ideas after collecting information from different sources, produce a detailed step-by-step plan, explain how a product will appeal to a specific audience, design a product which requires pulleys or gears  Making – Use a range of tools and equipment competently, make a prototype before making a final version, make a product that relies on pulleys or gears  Evaluating – Suggest alternative plans; outlining the positive features and drawbacks, evaluate appearance and function against original criteria  Technical knowledge – Link Scientific knowledge by using pulleys or gears, use more complex IT programs to enhance quality or sequence a set of pre-set instructions for the specific task set  Cooking and Nutrition – Be both hygienic and safe in the kitchen, know how to prepare a meal by collecting ingredients, know which season various foods are harvested | |
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| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 6 – Autumn** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Create a pencil case/pillow case for yourself with decoration that reflects who you are and what you care about   * Develop more than one design or adaptation of an initial design. * Record the plan by drawing using annotated sketches. * Use exploded diagrams and cross-sectional diagrams to communicate ideas. * Create 3D products using pattern pieces and seam allowances. * Pin and tack fabric pieces together. * Decorate textiles appropriately (often before joining components). * Join fabrics using over sewing, back stitch, blanket stitch or machine stitching (closer supervision). * Combine fabrics to create more useful properties. * Explore fastenings * Sew on buttons and make loops. * Use appropriate decoration techniques. | **Suggested Activities:**  Design – Use market research to inform plans and ideas, follow and refine original plans, justify planning in a convincing way, show that culture and society is considered in plans and designs  Making – Know which tool to use for a specific practical task, know how to use any tool correctly and safely, know what each tool is used for, explain why a specific tool is best for a specific action  Evaluate – Know how to test and evaluate designed products, explain how products should be stored and give reasons, evaluate product against specific criteria  Technical knowledge – Use electrical systems correctly and accurately to enhance product quality, know which IT product would enhance a specific product, use knowledge to improve a made product by strengthening, stiffening or reinforcing  Cooking and Nutrition – Explain how food ingredients should be stored and give reasons, work with a budget to create a meal, understand difference between savoury and sweet dish | |
| **Key Vocabulary:** mechanical, electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment, stronger, stiffer, stable, diagram, components, joining, folding, rolling, template, assemble, axel, lever, criteria, stable, strong, durable, audience, packaging, function, purpose, linkages, cams, pulleys, product, components, innovate, reinforce, strengthen, adapt, input, output, hydraulics, pneumatics, prototype, specifications, modify | | |
| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |

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| **Year 6 – Spring** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  Cooking   * Know about a range of fresh and processed ingredients appropriate for their products * Know whether ingredients are grown, caught or reared. * Cut, peel, grate, chop a range of ingredients * Measure and weigh food items, non-statutory measures e.g. spoons, cups. * Join and combine a range of ingredients. * Use appropriate equipment and utensils to prepare and combine food * Know and use technical and sensory vocabulary appropriately * Prepare food products taking into account the properties of ingredients and sensory characteristics. * Weigh and measure using scales. * Use a range of cooking techniques. | **Suggested Activities:**  Design – Use market research to inform plans and ideas, follow and refine original plans, justify planning in a convincing way, show that culture and society is considered in plans and designs  Making – Know which tool to use for a specific practical task, know how to use any tool correctly and safely, know what each tool is used for, explain why a specific tool is best for a specific action  Evaluate – Know how to test and evaluate designed products, explain how products should be stored and give reasons, evaluate product against specific criteria  Technical knowledge – Use electrical systems correctly and accurately to enhance product quality, know which IT product would enhance a specific product, use knowledge to improve a made product by strengthening, stiffening or reinforcing  Cooking and Nutrition – Explain how food ingredients should be stored and give reasons, work with a budget to create a meal, understand difference between savoury and sweet dish | |
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| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |
| **Year 6 – Summer** | | |
| **Objectives:**  Design   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   Make   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities | | Evaluate   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   Cooking and Nutrition   * understand and apply the principles of a healthy and varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| **Key Factual Learning:**  TBC | **Suggested Activities:**  Design – Use market research to inform plans and ideas, follow and refine original plans, justify planning in a convincing way, show that culture and society is considered in plans and designs  Making – Know which tool to use for a specific practical task, know how to use any tool correctly and safely, know what each tool is used for, explain why a specific tool is best for a specific action  Evaluate – Know how to test and evaluate designed products, explain how products should be stored and give reasons, evaluate product against specific criteria  Technical knowledge – Use electrical systems correctly and accurately to enhance product quality, know which IT product would enhance a specific product, use knowledge to improve a made product by strengthening, stiffening or reinforcing  Cooking and Nutrition – Explain how food ingredients should be stored and give reasons, work with a budget to create a meal, understand difference between savoury and sweet dish | |
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| Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures, understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages], understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors], apply their understanding of computing to program, monitor and control their products. | | |