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

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|  | FS2 |
| Design | * Construct with a purpose in mind using a variety of resources
* Discuss what they want to make
* Draw a simple design and write labels
 |
| Make | * Select from a variety of materials to make models
* Use a range of tools such as scissors and glue to make models
* Begin to try and use different techniques to shape, assemble and join materials
* Use their design to follow and make their model
 |
| Evaluate | * Talk about their model and what they think has worked
* Think about changes they could make to their model to improve it
* Complete written evaluation ‘2 stars and a wish’
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|  | Year 1 |
| Design | * Generate their own design using ideas and examples from other designers
* Communicate their ideas and design through discussions, sketches and labels/words to explain their design and materials needed
* Design purposeful, functioning appealing designs
* Explore materials to discover which materials work best for the purpose.
 |
| Make | * Select appropriate resources and tools to make their design
* Join materials using techniques that work best for their model (cut, shaping and joining)
* Use their design to follow and make their model
 |
| Evaluate | * Test their model and explain if their design works
* Make suggestions on ways they could improve their design.
* Complete a written evaluation commenting on aspects which worked well and what they would change next time
 |
| **Structure and Mechanism**To make a structure stronger by folding and joining creating a strong structure and a moving part using a lever, hinge or pulley.Explore ways to create a castle, joining pieces together and ensuring it can stand. Use a lever, hinge or pulley to make a moving part for the castle. |
| **Textiles**To test a variety of materials which will work outside as a windsock. Use appropriate materials to create a windsock and join.Explore different ways of joining materials before creating their own windsock. Children work to develop their technical skills of cutting, gluing, tying and stapling. |

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|  | Year 2 |
| Design | * Generate their own design using ideas and examples from other designers
* Design purposeful, functioning appealing designs based on knowledge of materials and components
* Communicate their ideas and design through discussions, sketches and labels to explain their design and materials/tools needed
* Explore and test which materials work well for the purpose
 |
| Make | * Choose materials based on their properties
* Select appropriate tools, materials and techniques and give reasoning why these have been chosen
* Measure materials to use for their product
* Use their design to create their product
* Use finishing techniques to make their product attractive
 |
| Evaluate | * Complete a written evaluation commenting on aspects which worked well and changes they would make next time
* Explain if their product met their design criteria and changes they made and give reasoning
 |
| TextilesDesign a stocking. Mark out and cut fabric to create a Christmas stocking. Cut fabric to create a design. Use stitching to sew the stocking and add the detailed pieces. |

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|  | Year 3 |
| Design | * Discuss designers, inventors, engineers who have developed products and use these as inspiration for their own designs
* Explore and evaluate products by other designers with similar designs
* Begin to understand how products can be adapted, reused or recycled taking into consideration waste
* Look at similar products to inspire their design and discuss the design, materials used and construction technique
* Begin to generate ideas for a product considering its purpose and user
* Begin to order the stages of making a product identifying a purpose and criteria for a successful product
* Create their own design with careful drawings, labelling, techniques which will be used and materials required.
* Test and explain their choice of materials for their design.
 |
| Make | * Begin to work through the stages of their design to create their product
* Explain their choice of tools and equipment and the skills and techniques they are using
* Understand how mechanical systems such as pulleys and levers work to make movement
* Understand how to strengthen and reinforce materials in order to make a secure structure
* Measure, mark out, cut and assemble components with some accuracy
* Work safely and accurately with a range of simple tools
* Begin to think about their design and be willing to make changes if it helps to improve their work
 |
| Evaluate | * Complete a written evaluation for their product against their original design commenting on aspects which work well and do not work, changes they made during the making process giving reasoning and any future changes they would make.
* Consider the views of others in order to improve their work
* Begin to understand how events and individuals in design have helped shape the world.
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|  | Year 4 |
| Design | * Discuss designers, inventors, engineers who have developed products and use these as inspiration for their own designs
* Explore and evaluate products by other designers with similar designs
* Discuss how products and materials can be reused, recycled or redesigned in order to consider the environment
* Generate ideas considering the purpose and the audience
* Look at similar products to inspire their design and discuss the design, materials used and construction technique
* Create their own design with accurate drawings, labels and notes to give guidance of how to make their design
* Plan and test the materials, equipment and processes they plan to use and explain why these have been chosen according to function and aesthetic
* Understand how electrical circuits and components can be designed and used to create products with an input and output process
* Have a clear understanding of the safety aspects of using electrical systems
 |
| Make | * Work through the stages of their design to create their product
* Explain their choice of tools and equipment and the skills and techniques they are using
* Join and combine materials in temporary and permanent ways to carefully complete their product
* Demonstrate how to measure, tape, pin, cut and join fabric with some accuracy
* Sew using a range of different stitches in order to strengthen and improve the appearance of the product
* Work safely and accurately with a range of tools
* Think about their design and be willing to make changes if it helps to improve their work
 |
| Evaluate | * Begin to evaluate their work as the progress through the making stage and adapt where necessary
* Evaluate their products with others by carrying out appropriate tests
* Complete a written evaluation for their product against their original design commenting on aspects which work well and do not work, changes they made during the making process giving reasoning and any future changes they would make.
* Consider the views of others in order to improve their work
* Begin to understand how events and individuals in design have helped shape the world.
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|  | Year 5 |
| Design | * Discuss designers, inventors, engineers who have developed products and use these as inspiration for their own designs
* Explore and evaluate products by other designers with similar designs
* Begin to understand the cost of products to make, how sustainable they are and how products and materials can be reused, recycled or redesigned in order to consider the environment
* Begin to use research and generate ideas considering the purpose and the audience
* Look at similar products to inspire their design and discuss the design, materials used and construction technique
* Create their own design with annotated sketches labels, and notes to give guidance of how to make their design along with accurate drawings (link with maths) and prototypes.
* Plan and test the materials, equipment, techniques and processes they plan to use and explain why these have been chosen according to function and aesthetic
 |
| Make | * Select from a wider range of materials according to their functional properties.
* Use appropriate materials, tools and techniques demonstrating skills such at cutting, joining, shaping and finishing
* Use mathematical skills to measure and mark out materials accurately
* Understand how mechanical systems such as cams and gears create movement
* Demonstrate how to use tools and equipment safely and accurately with growing confidence
* Use finishing techniques to improve the appearance of their finished product including ICT
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| Evaluate | * Evaluate their work as the progress through the making stage and adapt where necessary in order to strengthen their product
* Evaluate their finished products and gain evaluations from others by carrying out appropriate tests
* Complete a written evaluation for their product against their original design commenting on aspects which work well and do not work, changes they made during the making process giving reasoning and any future changes they would make.
* Consider the views of others in order to improve their work
* Begin to understand how events and individuals in design have helped shape the world.
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|  | Year 6 |
| Design | * Discuss designers, inventors, engineers who have developed products and use these as inspiration for their own designs
* Research, explore and evaluate products by other designers with similar designs
* Understand the cost of products to make, how sustainable they are and how products and materials can be reused, recycled or redesigned in order to consider the environment
* Use research, look at similar products, discuss the designs, materials used and construction technique and use this knowledge as input for their own design
* Generate ideas considering the purpose and the audience
* Explore fabrics looking at textures, shapes and colours
* Create their own design with annotated sketches labels, and notes to give guidance of how to make their design along with accurate drawings (link with maths) and prototypes and pattern pieces.
* Plan and test the materials, equipment, techniques and processes they plan to use and explain why these have been chosen according to function and aesthetics
* Suggest alternative methods if original strategies do not work during the making process
 |
| Make | * Select from a wider range of materials according to their functional and aesthetic properties.
* Use appropriate materials, tools and techniques demonstrating skills such at cutting, joining, shaping and finishing
* Use mathematical skills to measure and mark out materials accurately
* Assemble components in order to make working models
* With confidence pin and sew using a variety of stitching methods, use methods of embroidery and layering
* Understand how more complex electrical circuits and components can be used to make functional products
* Understand electrical systems have an input and an output process
* Use techniques to strengthen, reinforce and improve the functionality and appearance of their products
 |
| Evaluate | * Evaluate their work as the progress through the making stage and adapt where necessary in order to improve their product
* Evaluate their finished products and gain evaluations from others by carrying out appropriate tests
* Complete a written evaluation for their product against their original design commenting on aspects which work well and do not work, changes they made during the making process giving reasoning and any future changes they would make including drawings where necessary.
* Understand how events and individuals in design have helped shape the world.
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