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| **Skills** | Design, make Evaluate and improve | Cooking and nutrition | Construction, mechanics and electronics | Materials | Taking inspiration from design throughout history |
| **Year 1** | * Explain what they are making and which materials they are using.
* Design products that nave a clear purpose and an intended use
* Use pictures and words to convey what they want to make.
* Make products using a range of tools to cut, shape, join and finish.
* Say what they like and don’t like about their product and why.
* Talk about how closely their finished product meets their design criteria.
* Begin to use software to represent 2D shape
 | * Understand where food comes from.
* Group familiar products e.g. fruit and vegetables
* Cut ingredients safely
* Prepare simple dishes safely and hygienically.
 | * Mark out materials to be cut using a template
* Attach wheels to chassis using an axle
* With support cut strip, wood or dowel using a hacksaw
* Make vehicles with construction kits which contain free running wheels
 | * Fold, tear and cut paper or card
* Investigate strengthening sheet material
* Roll paper to create tubes
* Demonstrate a range of joining techniques such as gluing or taping
* Measure and mark out lines
 | * Explore objects and designs to identify likes and dislikes
* Explore how products have been created
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| **Skills** | Design, make Evaluate and improve | Cooking and nutrition | Construction, mechanics and electronics | Materials | Taking inspiration from design throughout history |
| **Year 2** | * Explain what they are making and which materials they are using.
* Design products that nave a clear purpose and an intended use
* Use pictures and words to convey what they want to make.
* Make products using a range of tools to cut, shape, join and finish.
* Say what they like and don’t like about their product and why.
* Talk about how closely their finished product meets their design criteria.
* Begin to use software to represent 2D shape
 | * Group foods into five groups in the eat well plate
* Cut, grate or peel ingredients safely
* Prepare simple dishes safely and hygienically
* Measure or weigh using cups or electronic scales
 | * Use a range of materials to create models with wheels and axles e.g. tubes, dowels and cotton reels
* Use materials to practise drilling, screwing, nailing and gluing to strengthen products
 | * Demonstrate a range of joining techniques such as gluing, taping or creating hinges
* Cut materials safely using tools provided
* Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling
* Use simple pop ups
 | * Explore objects and designs to identify likes and dislikes
* Explore how products have been created
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| **Skills** | Design, make Evaluate and improve | Cooking and nutrition | Construction, mechanics and electronics | Materials | Taking inspiration from design throughout history |
| **Year 3** | * Investigate existing products including drawing them to analyse and understand how they are made
* Plan a sequence of actions to make a product
* Develop more than one design
* Develop prototypes
* Generate designs with annotated sketches and computer aided design (CAD) where appropriate
* Refine work and techniques as work progresses, continually evaluating the product design.
* Identify strengths and weaknesses of their design ideas
* Talk about how closely their finished product meets their design criteria and meets the need of the user.
 | * Cut materials accurately and safely by selecting appropriate tools.
* Know that a healthy diet is made up of a variety of different food and drink, as depicted in the eat well plate.
* Measure and weigh ingredients appropriately.
* Follow a receipe
 | * Create series circuits
* Strengthen frames using diagonal struts
* Begin to use mechanical systems in their products e.g. gears, pulleys and levers
 | * Measure and mark out accurately
* Cut materials accurately and safely by selecting appropriate tools
* Cut slots
 | * Dissemble products to understand how they work
* Improve on existing designs giving reasons for their choices
* Identify some of the great designers in their areas of study to generate ideas for their designs
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| **Skills** | Design, make Evaluate and improve | Cooking and nutrition | Construction, mechanics and electronics | Materials | Taking inspiration from design throughout history |
| **Year 4** | * Investigate existing products including drawing them to analyse and understand how they are made
* Plan a sequence of actions to make a product
* Develop more than one design
* Develop prototypes
* Generate designs with annotated sketches and computer aided design (CAD) where appropriate
* Refine work and techniques as work progresses, continually evaluating the product design.
* Identify strengths and weaknesses of their design ideas
* Talk about how closely their finished product meets their design criteria and meets the need of the user.
 | * Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).
* Measure ingredients using scales.
* Prepare ingredients hygienically and using the appropriate utensils by following a recipe.
 | * Create series and parallel circuits.
* Investigate how to make structures more stable e.g. by widening the base.
* Understand and use mechanical structures in their products e.g. gears, pulleys, levers and gears.
 | * Measure and mark out to the nearest mm.
* Use and explore complex pop-ups.
* Cut slots and internal shapes.
* Create nets.
 | * Dissemble products to understand how they work
* Improve on existing designs giving reasons for their choices
* Identify some of the great designers in their areas of study to generate ideas for their designs
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