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**Year 1**

**National Curriculum Aims and 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

Cooking and Nutrition:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from

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

Autumn	Spring	Summer
<p><b>Textiles/Sheet Materials</b></p> <p>Textiles:</p> <ul style="list-style-type: none"> <li>• Colour fabrics using a range of techniques e.g. fabric paints, printing, painting.</li> <li>• Cut out shapes which have been created by drawing round a template onto the fabric.</li> </ul> <p>Sheet Materials:</p> <ul style="list-style-type: none"> <li>• Fold, tear and cut paper and card</li> <li>• Roll paper to create tubes</li> <li>• Cut along lines, straight and curved</li> <li>• Curl paper</li> <li>• Use a hole punch</li> </ul>	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Use a range of materials to create models.</li> <li>• Observe a glue gun being used by an adult.</li> <li>• Talk about how structures can be made stronger.</li> </ul>	<p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Develop a food vocabulary using taste, smell, texture and feel.</li> <li>• Group familiar food products e.g. fruit and vegetables.</li> <li>• Work safely and hygienically.</li> <li>• Understand the need for a variety of foods in a diet.</li> <li>• Understand where food comes from.</li> <li>• Work with an adult to make food following a simple recipe.</li> </ul>
<p>Design: Developing, planning and communicating ideas</p> <ul style="list-style-type: none"> <li>• Explain what they are making and which materials they are using.</li> <li>• Select materials from limited range that will meet the design criteria.</li> <li>• Select and name the tools needed to work the materials.</li> <li>• Produce a mockup with kits or reclaimed materials.</li> <li>• Use drawings to record ideas as they are developed and talk about them.</li> <li>• Design a product for a given purpose.</li> </ul>		<p>Evaluate: Evaluating processes and products</p> <ul style="list-style-type: none"> <li>• Say what they like and do not like about items they have made and attempt to say why.</li> <li>• Talk about their designs as they develop and identify good and bad points.</li> <li>• Talk about the changes made during the making process.</li> <li>• Explore and evaluate a range of existing products.</li> </ul>

**DT**

**Year 2**

**National Curriculum Aims and 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

Cooking and Nutrition:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from

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

Autumn	Spring	Summer
<p><b>Textiles/Sheet Materials</b></p> <p>Textiles:</p> <ul style="list-style-type: none"> <li>• Join fabrics by using running stitch, glue, staples, over sewing, tape.</li> <li>• Decorate fabrics with buttons, beads, sequins, braids, ribbons.</li> </ul> <p>Sheet Materials:</p> <ul style="list-style-type: none"> <li>• Insert paper fasteners for card linkages.</li> <li>• Create hinges.</li> <li>• Use simple pop ups.</li> <li>• Investigate strengthening sheet materials.</li> <li>• Investigate joinings temporary, fixed and moving.</li> </ul>	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Attach wheels to a chassis using an axle.</li> <li>• Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels.</li> <li>• Join appropriately for different materials and situations e.g. glue, tape.</li> <li>• Mark out materials to be cut using a template.</li> <li>• Cut strip wood/dowel using hacksaw and bench hook.</li> <li>• Investigate how structures can be made stronger, stiffer and more stable.</li> </ul>	<p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Cut, peel, grate, chop a range of ingredients.</li> <li>• Work safely and hygienically.</li> <li>• Understand the need for a variety of foods in a diet.</li> <li>• Measure and weigh food items, non-statutory measures e.g. spoons, cups.</li> <li>• Follow a recipe to make food with increasing independence.</li> </ul>
<p>Design: Developing, planning and communicating ideas</p> <ul style="list-style-type: none"> <li>• Use pictures and words to convey what they want to design and make.</li> <li>• Select appropriate technique explaining First...Next...Last...</li> <li>• Explore ideas by rearranging materials.</li> <li>• Describe their models and drawings of ideas and intentions.</li> <li>• Produce a mock up with kits/reclaimed materials or ICT.</li> <li>• Add notes to drawings to help explanations.</li> <li>• Design a product from a detailed design criteria.</li> </ul>		<p>Evaluate: Evaluating processes and products</p> <ul style="list-style-type: none"> <li>• Talk about their designs as they develop and identify good and bad points.</li> <li>• Talk about changes made during the making process.</li> <li>• Discuss how closely their finished products meet their design criteria.</li> <li>• Explore and evaluate a range of existing products.</li> </ul>

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**Year 3**

**National Curriculum Aims and 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.

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

Autumn	Spring	Summer
<p><b>Textiles/Sheet Materials</b></p> <p>Textiles:</p> <ul style="list-style-type: none"> <li>• Create a simple pattern.</li> <li>• Understand the need for patterns.</li> </ul> <p>Sheet Materials:</p> <ul style="list-style-type: none"> <li>• Cut slots.</li> <li>• Cut internal shapes.</li> <li>• Use lolly sticks/card to make levers and linkages.</li> <li>• Create nets.</li> </ul>	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Make structures more stable by giving them a wide base.</li> <li>• Prototype frame and shell structures.</li> <li>• Use glue gun with close supervision (one to one).</li> <li>• Choose materials based on their functional properties and asthetic qualities.</li> </ul>	<p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Develop sensory vocabulary/knowledge using, smell, taste, texture and feel.</li> <li>• Follow instructions.</li> <li>• Make healthy eating choices from and understanding of a balanced diet.</li> <li>• Join and combine a range of ingredients e.g. snack foods.</li> <li>• Work safely and hygienically.</li> <li>• Prepare and cook a range of predominately savoury dishes using a range of cooking techniques.</li> <li>• Understand seasonality and know where and how ingredients are grown and captured.</li> </ul>
<p>Design: Developing, planning and communicating ideas</p> <ul style="list-style-type: none"> <li>• Draw/sketch products to help analyse and understand how products are made.</li> <li>• Think ahead about the order of their work and decide upon tools and materials.</li> <li>• Record the plan by drawing (labelled sketches) or writing.</li> </ul>	<ul style="list-style-type: none"> <li>• Communicate their ideas through discussion and add notes to drawings to help explanations.</li> <li>• Design innovative, functional, appealing products that are fit for purpose that are aimed at particular individuals or groups.</li> </ul>	<p>Evaluate: Evaluating processes and products</p> <ul style="list-style-type: none"> <li>• Identify the strengths and weaknesses of their design ideas.</li> <li>• Decide which design idea to develop.</li> <li>• Consider and explain how the finished product could be improved.</li> <li>• Investigate and analyse a range of existing products.</li> </ul>

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**Year 4**

**National Curriculum Aims and 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.

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

Autumn	Spring	Summer
<p><b>Textiles/Sheet Materials</b></p> <p>Textiles:</p> <ul style="list-style-type: none"> <li>• Prototype a product using J cloths.</li> <li>• Use appropriate decoration techniques e.g. applique (glued or simple stitches).</li> <li>• Understand seam allowance.</li> <li>• Join fabrics using running stitch, over sewing, back stitch.</li> <li>• Explore fastenings and recreate some e.g. sew on buttons and make loops.</li> </ul> <p>Sheet Materials:</p> <ul style="list-style-type: none"> <li>• Use linkages to make movement larger or more varied.</li> <li>• Use and explore complex pop ups.</li> </ul>	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Measure and mark square selection, strip and dowel accordingly to 1cm.</li> <li>• Create shell or frame structures, strengthen frames with diagonal struts.</li> <li>• Incorporate a circuit with bulb or buzzer into a model.</li> <li>• Choose materials based on their functional properties and aestic qualities.</li> </ul>	<p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Analyse the taste, texture, smell, and appearance of a range of foods.</li> <li>• Measure and weigh ingredient appropriately.</li> <li>• Prepare and cook a range of predominately savoury dishes using a range of cooking techniques.</li> <li>• Make healthy eating choices from and understanding of a balanced diet.</li> <li>• Understanding seasonality and know where and how ingredients are grown and captured.</li> </ul>
<p>Design: Developing, planning and communicating ideas</p> <ul style="list-style-type: none"> <li>• Investigate similar products to the one to be made to produce own design criteria.</li> <li>• Plan a sequence of actions to make a product.</li> <li>• Develop more than one design or adaptation of an initial design.</li> </ul>	<ul style="list-style-type: none"> <li>• Propose realistic suggestions as to how they can achieve their design.</li> <li>• Design innovative, functional, appealing products that are fit for purpose that are aimed at particular individuals or groups.</li> <li>• Produce annotated sketches.</li> <li>• Make prototypes.</li> </ul>	<p>Evaluate: Evaluating processes and products</p> <ul style="list-style-type: none"> <li>• Discuss how well the finished product meets the design criteria and how well it meets the needs of the user.</li> <li>• Investigate and analyse a range of existing products.</li> </ul>

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**Year 5**

**National Curriculum Aims and 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.

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

Autumn	Spring	Summer
<p><b>Textiles/Sheet Materials</b></p> <p>Textiles:</p> <ul style="list-style-type: none"> <li>• Understand pattern layout.</li> <li>• Decorate textiles appropriately often before joining components.</li> <li>• Combine fabrics to create more useful properties.</li> </ul> <p>Sheet Materials:</p> <ul style="list-style-type: none"> <li>• Cut slots</li> <li>• Cut accurately and safely to a marked line.</li> <li>• Join and combining materials with temporary, fixed or moving joinings.</li> <li>• Choose an appropriate sheet material for the purpose.</li> </ul>	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Use hand drill to drill tight and loose fit holes.</li> <li>• Cut strip wood, dowel, square section wood accurately to 1mm.</li> <li>• Join materials using appropriate methods.</li> <li>• Incorporate motor and a switch into a model.</li> <li>• Control a model using an ICT control programme.</li> <li>• Use a cam to make an up and down mechanism.</li> <li>• Use a glue gun with close supervision.</li> <li>• Choose materials based on their functional properties and aesthetic qualities.</li> </ul>	<p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Select and prepare foods for a particular purpose.</li> <li>• Taste a range of ingredients, food items to develop a sensory food vocabulary for use when designing.</li> <li>• Weigh and measure using scales.</li> <li>• Cut and shape ingredients using appropriate tools and equipment e.g. grating.</li> <li>• Join and combine food ingredients appropriately e.g. beating, rubbing in.</li> <li>• Work safely and hygienically</li> <li>• Show awareness of a healthy diet from an understanding of a balanced diet</li> <li>• Understand how to feed themselves and others affordably now and in the future</li> </ul>
<p>Design: Developing, planning and communicating ideas</p> <ul style="list-style-type: none"> <li>• Combine modelling and drawing to refine ideas.</li> <li>• Investigate products/images to collect ideas and create own design criteria.</li> <li>• Plan the sequence of work using a storyboard.</li> <li>• Sketch and model alternative ideas.</li> <li>• Record ideas using annotated diagrams.</li> <li>• Develop one idea in depth</li> </ul>	<ul style="list-style-type: none"> <li>• Use models, kits and drawings to help formulate design ideas.</li> <li>• Make prototypes.</li> <li>• Use found information to inform decisions.</li> </ul>	<p>Evaluate: Evaluating processes and products</p> <ul style="list-style-type: none"> <li>• Use the design criteria to inform their decisions about ways to proceed.</li> <li>• Make suggestions as how their or others designs could be improved.</li> <li>• Justify their decisions about materials and methods of construction.</li> <li>• Investigate and analyse a range of existing products.</li> <li>• Identify what does and does not work in the product.</li> </ul>

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**Year 6**

**National Curriculum Aims and 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.

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

Autumn	Spring	Summer
<p><b>Textiles/Sheet Materials</b></p> <p>Textiles:</p> <ul style="list-style-type: none"> <li>• Create 3D products using pattern pieces and seam allowance.</li> <li>• Pin and tack fabric pieces together.</li> <li>• Join fabrics using oversewing, back stitch, blanket stitch or machine stitching.</li> <li>• Make quality products.</li> </ul> <p>Sheet Materials:</p> <ul style="list-style-type: none"> <li>• Use craft knife, cutting mat and safety ruler under one to one supervision.</li> </ul>	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Use bradawl to mark hole positions.</li> <li>• Build frameworks using a range of materials e.g. wood, card corrugated plastic to support mechanisms.</li> <li>• Choose materials based on their functional properties and aesthetic qualities.</li> <li>• Apply their understanding of how to strengthen, stiffen more complex structures.</li> <li>• Understand and use mechanical systems in their products eg gears, pulleys, cams, levers and linkages.</li> </ul>	<p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Prepare food products taking into account the properties of ingredients and sensory characteristics.</li> <li>• Understand how to feed themselves and others affordably now and in the future.</li> </ul>

Design: Developing, planning and communicating ideas

- Investigate products/images to collect ideas and create own design criteria.
- Sketch and model alternative ideas.
- Develop one idea in depth.
- Combine modelling and drawing to refine ideas.

- Record ideas using annotated diagrams.
- Draw plans which can be read/followed by someone else.
- Use models, kits and drawings to help formulate ideas.
- Give a report using correct technical vocabulary.
- Make prototypes.
- Design innovative, functional, appealing products that are fit for purpose
- Use found information to inform decisions.
- that are aimed at particular individuals or groups.
- Use a computer aided design to model ideas.
- When designing produced patterned pieces.
- Draw plans which can be read/followed by someone else.

Evaluate: Evaluating processes and products

- Reflect on their work using design criteria stating how well the design fits the needs of the user.
- Investigate and analyse a range of existing products.