

# Bowhill Primary School Curriculum Statement Design Technology

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| Why we teach DT                | <p>At Bowhill, our Design and Technology curriculum aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation. We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, and testing and to be reflective learners who evaluate their work and the work of others. Through the scheme we follow (Kapow), we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| How we teach Design Technology | <p>The Design and technology National curriculum outlines the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical, and technical understanding required for each strand. Cooking and nutrition has a separate section, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality. Our curriculum is carefully planned for our single age year groups and over a two year rolling programme for KS2 to ensure coverage and progression of skills across the school. Our teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products and then evaluating them.</p> <p><b>Design</b> Pupils design purposeful, functional, appealing products for themselves and other users based on design criteria that are fit for purpose and aimed at particular groups or individuals. Pupils generate, develop model and communicate their ideas through discussions.</p> <p><b>Make</b> Pupils select from and use a range of tools and equipment to perform practical tasks. They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics and functional properties.</p> <p><b>Evaluate</b> Pupils explore, evaluate, investigate and analyse a range of existing products. They evaluate their ideas and products against design criteria and consider the views of others to improve their work.</p> <p><b>Technical knowledge</b> Pupils build structures, explore how they can be made stronger and apply their understanding of how to strengthen, stiffen and reinforce structures. They explore and use mechanical systems in their products.</p> |
| What we want children to learn | <p>The impact of Kapow Primary's scheme can be constantly monitored through both formative and summative assessment opportunities. Each lesson includes guidance to support teachers in assessing pupils against the learning objectives. Furthermore, each unit has a unit quiz and knowledge catcher which can be used at the start and/ or end of the unit.</p> <p>Our children leave us at the end of Year 6 equipped with a range of skills to enable them to succeed in their secondary education and be innovative and resourceful members of society.</p> <p>Children will:</p> <ul style="list-style-type: none"> <li>• Understand the functional and aesthetic properties of a range of materials and resources.</li> <li>• Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products.</li> <li>• Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD, and products to fulfil the needs of users, clients, and scenarios.</li> <li>• Understand and apply the principles of healthy eating, diets, and recipes, including key processes, food groups and cooking equipment.</li> <li>• Have an appreciation for key individuals, inventions, and events in history and of today that impact our world.</li> <li>• Recognise where our decisions can impact the wider world in terms of community, social and environmental issues.</li> <li>• Self-evaluate and reflect on learning at different stages and identify areas to improve.</li> <li>• Meet the end of key stage expectations outlined in the National curriculum for Design and technology</li> </ul>                                                                                                                                                                             |

## DT core concepts

| Cooking and Nutrition                                                             | Mechanical Systems                                                                | Electrical Systems                                                                 | Digital World                                                                       | Structures                                                                          | Textiles                                                                            |
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| EYFS                 | Autumn 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Autumn 2                                                                                                         | Spring 1 | Spring 2                                                                                                      | Summer 1 | Summer 2                                                                                                 |
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| EYFS                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <br>Food and Nutrition:<br>Soup |          | <br>Textiles:<br>Bookmarks |          | <br>Structures: Boats |
| Early Learning Goals | <p><b>Expressive Arts &amp; Design: Creating with Materials</b></p> <ul style="list-style-type: none"> <li>• Safely use &amp; explore a variety of materials, tools &amp; techniques, experimenting with colour, design, texture, form &amp; function</li> <li>• Share their creations, explaining the process they used</li> </ul> <p><b>Communication &amp; Language: Speaking</b></p> <ul style="list-style-type: none"> <li>• Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary</li> <li>• Offer explanations for why things might happen</li> </ul> <p><b>PSED: Managing Self</b></p> <ul style="list-style-type: none"> <li>• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</li> </ul> <p><b>PSED: Building Relationships</b></p> <ul style="list-style-type: none"> <li>• Work and play cooperatively and take turns with others</li> </ul> <p><b>Physical Development: Fine Motor</b></p> <ul style="list-style-type: none"> <li>• Use a range of small tools, including scissors, paint brushes and cutlery</li> <li>• Begin to show accuracy and care when drawing</li> </ul> <p><b>UW: The Natural World</b></p> <ul style="list-style-type: none"> <li>• Understand some important processes and changes in the natural world around them</li> </ul> |                                                                                                                  |          |                                                                                                               |          |                                                                                                          |

| National Curriculum | <b>Design</b> <ul style="list-style-type: none"><li>design purposeful, functional, appealing products for themselves and other users based on design criteria</li><li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li></ul> <b>Make</b> <ul style="list-style-type: none"><li>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li><li>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li></ul> <b>Evaluate</b> <ul style="list-style-type: none"><li>explore and evaluate a range of existing products</li><li>evaluate their ideas and products against design criteria</li></ul> <b>Technical knowledge</b> <ul style="list-style-type: none"><li>build structures, exploring how they can be made stronger, stiffer and more stable</li><li>explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products</li></ul> |                                                                                                                                       |                                                                                                                               |                                                                                                                                      |                                                                                                                                 |                                                                                                                                |                                                                                                                               |
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|                     | KS1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Autumn 1                                                                                                                              | Autumn 2                                                                                                                      | Spring 1                                                                                                                             | Spring 2                                                                                                                        | Summer 1                                                                                                                       | Summer 2                                                                                                                      |
|                     | Year 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <br><b>Mechanisms:</b><br>Making a moving story book |                                                                                                                               | <br><b>Structures:</b><br>Constructing a Windmill |                                                                                                                                 | <br><b>Food and Nutrition:</b><br>Smoothies | <br><b>Mechanisms:</b><br>Wheels and Axles |
|                     | Year 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <br><b>Food and Nutrition:</b><br>Balanced Diet    | <br><b>Mechanisms:</b><br>Fairground Wheel | <br><b>Mechanisms:</b><br>Making a moving monster | <br><b>Structures:</b><br>Baby Bears Chair | <br><b>Textiles:</b><br>Pouches           |                                                                                                                               |

**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

**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

| LKS2               | Autumn 1                                                                                                                                | Autumn 2 | Spring 1                                                                                                                                | Spring 2                                                                                                                                       | Summer 1                                                                                                                             | Summer 2 |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------|
| Year 3/4<br>YEAR A | <br><b>Food and Nutrition:</b><br>Seasonal Fruit tart |          | <br><b>Electrical systems:</b><br>Torches           |                                                                                                                                                | <br><b>Textiles:</b><br>Fastenings               |          |
| Year 3/4<br>YEAR B | <br><b>Digital Moments:</b><br>Mindful moments timer |          | <br><b>Food and Nutrition:</b><br>Adapting a recipe | <br><b>Mechanical Systems:</b><br>Making a sling shot car | <br><b>Structures:</b><br>Constructing a castle |          |

| National Curriculum | Design Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |                                                                                                                                                       |                                                                                                                                        |                                                                                                                                                 |                                                                                                                        |
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|                     | <p><b>Design</b></p> <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul> <p><b>Evaluate</b></p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p><b>Technical knowledge</b></p> <ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> <li>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> </ul> <p>apply their understanding of computing to program, monitor and control their products</p> |          |                                                                                                                                                       |                                                                                                                                        |                                                                                                                                                 |                                                                                                                        |
| UKS2                | Autumn 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Autumn 2 | Spring 1                                                                                                                                              | Spring 2                                                                                                                               | Summer 1                                                                                                                                        | Summer 2                                                                                                               |
| Year 5/6<br>YEAR A  | <br><b>Mechanical systems</b><br>Automata toys<br>(Cams)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          | <br><b>Electrical systems:</b><br>Doodlers and<br>Steady hand game |                                                                                                                                        | <br><b>Food and nutrition:</b><br>What could be<br>healthier | <br><b>Textiles</b><br>Stuffed toys |
| Year 5/6<br>YEAR B  | <br><b>Mechanical systems:</b><br>Making a pop-up book                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          | <br><b>Structures:</b><br>Playgrounds                             | <br><b>Digital world:</b><br>Navigating the world | <br><b>Food nutrition:</b><br>Come dine with me            |                                                                                                                        |

## EYFS – All Units

Design Technology learning in the EYFS takes place within Understanding of the World and Expressive Art and Design and is based on the Early Years Outcomes Guidance for EYFS. Pupils experiment to create different textures and to manipulate materials to achieve a planned effect. They construct with a purpose in mind, using a variety of resources and simple tools and techniques competently and appropriately and with increasing independence and skill.

**Expressive Arts & Design: Creating with Materials**

- Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function
- Share their creations, explaining the process they used

**Communication & Language: Speaking**

- Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary
- Offer explanations for why things might happen

**PSED: Managing Self**

- Be confident to try new activities and show independence, resilience and perseverance in the face of challenge

**PSED: Building Relationships**

- Work and play cooperatively and take turns with others

**Physical Development: Fine Motor**

- Use a range of small tools, including scissors, paint brushes and cutlery
- Begin to show accuracy and care when drawing

**UW: The Natural World**

- Understand some important processes and changes in the natural world around them

Early Learning Goals

Planning and Resources

Planning

Resources

| Year 1                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |              |            |          |           |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------|------------|----------|-----------|
| Year 1<br>Autumn       | Mechanisms: Making a moving story book                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |              |            |          |           |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Knowledge Objectives |              | Vocabulary |          |           |
| Outcomes               | <ul style="list-style-type: none"><li>Explaining how to adapt mechanisms, using bridges or guides to control the movement.</li><li>Designing a moving story book for a given audience.</li><li>Following a design to create moving models that use levers and sliders.</li><li>Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed.</li><li>Reviewing the success of a product by testing it with its intended audience</li></ul> | <ul style="list-style-type: none"><li>Explaining how to adapt mechanisms, using bridges or guides to control the movement.</li><li>Designing a moving story book for a given audience.</li><li>Following a design to create moving models that use levers and sliders.</li><li>Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed.</li><li>Reviewing the success of a product by testing it with its intended audience</li></ul> | sliders              |              |            | test     |           |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | mechanism            |              |            | design   |           |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | adapt                |              |            | input    |           |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | design criteria      |              |            | model    |           |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | assemble             |              |            | template |           |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Making a Moving Monster</a>                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |              |            |          |           |
| Year 1<br>Spring       | Structures: Constructing a Windmill                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |              |            |          |           |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Knowledge Objectives |              | Vocabulary |          |           |
| Outcomes               | <ul style="list-style-type: none"><li>That the sails or blades of a windmill are moved by the wind.</li><li>That windmills are used to generate power and were used for grinding flour.</li><li>That a structure is something built for a reason.</li><li>That stable structures do not topple.</li><li>That adding weight to the base of a structure can make it more stable.</li></ul>                                                                                                        | <ul style="list-style-type: none"><li>That the sails or blades of a windmill are moved by the wind.</li><li>That windmills are used to generate power and were used for grinding flour.</li><li>That a structure is something built for a reason.</li><li>That stable structures do not topple.</li><li>That adding weight to the base of a structure can make it more stable</li></ul>                                                                                                         | axle                 |              |            | rotate   |           |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | base                 |              |            | rotor    | structure |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | centre               | rotor blades |            | test     |           |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | equal                | sails        |            | weak     |           |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | evaluate             | same         | wind       |          |           |
| middle                 | stable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | windmill                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      |              |            |          |           |
| strong                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |              |            |          |           |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Constructing a Windmill</a>                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |              |            |          |           |

| Year 1<br>Summer 1     | Food and Nutrition: Smoothies                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                               |                                                                                       |                                                                                         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                   | Vocabulary                                                                                    |                                                                                       |                                                                                         |
| Outcomes               | <ul style="list-style-type: none"> <li>Designing smoothie carton packaging by hand.</li> <li>Chopping fruit and vegetables safely to make a smoothie.</li> <li>Juicing fruits to make a smoothie.</li> <li>Identifying if a food is a fruit.</li> <li>Learning where and how fruits and vegetables grow.</li> <li>Tasting and evaluating different foods.</li> <li>Describing appearance, smell and taste.</li> <li>Suggesting information to be included on packaging</li> </ul> | <ul style="list-style-type: none"> <li>That a blender is a machine which mixes ingredients together into a smooth liquid.</li> <li>That a fruit has seeds and a vegetable does not.</li> <li>That fruits grow on trees or vines.</li> <li>That vegetables can grow either above or below ground.</li> <li>That vegetables are any edible part of a plant</li> </ul>                                                                    | blend<br>blender<br>chopping board<br>compare<br>cut<br>design<br>evaluate<br>flavour<br>fork | fruit<br>healthy<br>ingredients<br>juice<br>juicer<br>leaf<br>plant<br>recipe<br>root | seed<br>select<br>smoothie<br>stem<br>table knife<br>taste<br>tree<br>vegetable<br>vine |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Smoothies</a>                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                               |                                                                                       |                                                                                         |
| Year 1<br>Summer 2     | Mechanisms: Wheels and Axles                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                               |                                                                                       |                                                                                         |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                   | Vocabulary                                                                                    |                                                                                       |                                                                                         |
| Outcomes               | <ul style="list-style-type: none"> <li>Designing a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move.</li> <li>Creating clearly labelled drawings that illustrate movement.</li> <li>Adapting mechanisms.</li> <li>Testing mechanisms, identifying what stops wheels from turning, knowing that a wheel needs an axle in order to <b>move</b></li> </ul>                                                                                  | <ul style="list-style-type: none"> <li>To know that wheels need to be round to rotate and move.</li> <li>To understand that for a wheel to move it must be attached to a rotating axle.</li> <li>To know that an axle moves within an axle holder which is fixed to the vehicle or toy.</li> <li>To know that the frame of a vehicle (chassis) needs to be balanced.</li> <li>To know some real-life items that use wheels.</li> </ul> | axle<br>axle holder<br>chassis<br>diagram                                                     | dowel<br>equipment<br>mechanism<br>wheel                                              |                                                                                         |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Wheels and Axles</a>                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                               |                                                                                       |                                                                                         |

| Year 2                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |                 |             |          |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|-------------|----------|
| Year 2<br>Autumn 1     | Food and Nutrition: Balanced Diet                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |                 |             |          |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                            | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                | Vocabulary      |             |          |
| Outcomes               | <ul style="list-style-type: none"><li>Chopping foods safely to make a wrap.</li><li>Grating foods to make a wrap.</li><li>Snipping smaller foods instead of cutting.</li><li>Spreading soft foods to make a wrap.</li><li>Identifying the five food groups.</li><li>Learning about a balanced diet.</li><li>Tasting and evaluating different food combinations. Describing appearance, smell and taste.</li><li>Designing three wrap ideas.</li></ul> | <ul style="list-style-type: none"><li>That ‘diet’ means the food and drink that a person or animal usually eats.</li><li>What makes a balanced diet.</li><li>That the five main food groups are: carbohydrates, fruits and vegetables, protein, dairy and oils and spreads.</li><li>That I should eat a range of different foods from each food group, and roughly how much of each food group.</li><li>That I should eat a range of different foods from each food group, and roughly how much of each food group.</li><li>That ‘ingredients’ means the items in a mixture or recipe.</li><li>How to cut, grate, snip and spread to prepare foods. How to review and give a score to evaluate.</li></ul> |                | appearance      | diet        | proteins |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                | balanced        | evaluate    | review   |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | carbohydrates  | feel            | scissors    |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | chopping board | fruit           | smell       |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | combination    | grate           | snip        |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | cut            | grater          | spread      |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | dairy          | ingredients     | spreads     |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | design         | menu            | table knife |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | design brief   | oils            | taste       |          |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Balanced Diet</a>                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |                 |             |          |
| Year 2<br>Autumn 2     | Mechanisms: Fairground Wheel                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |                 |             |          |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                            | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                | Vocabulary      |             |          |
| Outcomes               | <ul style="list-style-type: none"><li>Selecting a suitable linkage system to produce the desired motions.</li><li>Designing a wheel.</li><li>Selecting appropriate materials based on their properties.</li><li>Selecting materials according to their characteristics.</li><li>Following a design brief.</li><li>Evaluating different designs.</li><li>Testing and adapting a design.</li></ul>                                                      | <ul style="list-style-type: none"><li>To know that different materials have different properties and are therefore suitable for different uses.</li><li>To know the features of a Ferris wheel include the wheel, frame, pods, a base, an axle and an axle holder.</li><li>To know that it is important to test my design as I go along so that I can solve any problems that may occur.</li></ul>                                                                                                                                                                                                                                                                                                        |                | design          | pods        |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                | design criteria | axle        |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | wheel          | axle holder     |             |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ferris wheel   | frame           |             |          |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                | mechanism       |             |          |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Ferris Wheel</a>                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |                 |             |          |

| Year 2<br>Spring 1     | Mechanisms: Making a moving monster                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                            |
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|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Vocabulary                                                                                                                                                                                                 |
| Outcomes               | <ul style="list-style-type: none"> <li>Creating a design criteria for a moving monster as a class.</li> <li>Designing a moving monster for a specific audience in accordance with a design criteria.</li> <li>Making linkages using card for levers and split pins for pivots.</li> <li>Experimenting with linkages adjusting the widths, lengths and thicknesses of card used.</li> <li>Cutting and assembling components neatly.</li> <li>Evaluating own designs against design criteria.</li> <li>Using peer feedback to modify a final design.</li> </ul>                                                                                                                                                         | <ul style="list-style-type: none"> <li>To know that mechanisms are a collection of moving parts that work together as a machine to produce movement.</li> <li>To know that there is always an input and an output in a mechanism.</li> <li>To know that an input is the energy that is used to start something working.</li> <li>To know that an output is the movement that happens as a result of the input.</li> <li>To know that a lever is something that turns on a pivot.</li> <li>To know that a linkage mechanism is made up of a series of levers.</li> </ul>                 | <div> <div>axle</div> <div>design criteria</div> <div>input</div> <div>linkage</div> </div> <div> <div>mechanical</div> <div>output</div> <div>pivot</div> <div>wheel</div> </div>                         |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Making a Moving Monster</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                            |
| Year 2<br>Spring 2     | Structures: Baby Bear's Chair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                            |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Vocabulary                                                                                                                                                                                                 |
| Outcomes               | <ul style="list-style-type: none"> <li>Generating and communicating ideas using sketching and modelling.</li> <li>Learning about different types of structures, found in the natural world and in everyday objects</li> <li>Making a structure according to design criteria.</li> <li>Creating joints and structures from paper/card and tape.</li> <li>Building a strong and stiff structure by folding paper.</li> <li>Exploring the features of structures.</li> <li>Comparing the stability of different shapes.</li> <li>Testing the strength of their own structures. Identifying the weakest part of a structure.</li> <li>Evaluating the strength, stiffness and stability of their own structure.</li> </ul> | <ul style="list-style-type: none"> <li>To know that shapes and structures with wide, flat bases or legs are the most stable</li> <li>To understand that the shape of a structure affects its strength.</li> <li>To know that materials can be manipulated to improve strength and stiffness.</li> <li>To know that a structure is something which has been formed or made from parts.</li> <li>To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move.</li> <li>To know that a 'strong' structure is one which does not break easily.</li> </ul> | <div> <div>design criteria</div> <div>man-made</div> <div>natural</div> <div>properties</div> <div>structure</div> </div> <div> <div>stable</div> <div>shape</div> <div>model</div> <div>test</div> </div> |

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|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>To know that a 'stiff' structure or material is one which does not bend easily.</li> </ul>                                                                                                                                                                                                         |                                                                                                                                                                                                                                    |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Baby Bear's Chair</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                    |
| Year 2 Summer 1        | Textiles: Pouches                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                    |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Knowledge Objectives                                                                                                                                                                                                                                                                                                                      | Vocabulary                                                                                                                                                                                                                         |
| Outcomes               | <ul style="list-style-type: none"> <li>Designing a pouch.</li> <li>Selecting and cutting fabrics for sewing.</li> <li>Decorating a pouch using fabric glue or running stitch.</li> <li>Threading a needle.</li> <li>Sewing running stitch, with evenly spaced, neat, even stitches to join fabric.</li> <li>Neatly pinning and cutting fabric using a template.</li> <li>Troubleshooting scenarios posed by teacher.</li> <li>Evaluating the quality of the stitching on others' work.</li> <li>Discussing as a class, the success of their stitching against the success criteria.</li> <li>Identifying aspects of their peers' work that they particularly like and why.</li> </ul> | <ul style="list-style-type: none"> <li>To know that sewing is a method of joining fabric.</li> <li>To know that different stitches can be used when sewing.</li> <li>To understand the importance of tying a knot after sewing the final stitch.</li> <li>To know that a thimble can be used to protect my fingers when sewing</li> </ul> | <div> <div>decorate</div> <div>fabric</div> <div>fabric glue</div> <div>knot</div> <div>needle</div> </div> <div> <div>needle threader</div> <div>running stitch</div> <div>sew</div> <div>template</div> <div>thread</div> </div> |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Pouch</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                    |

| Year 3/4 Year A        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                  |                                                                                                                                                                               |                                                                                                                                                                                                 |
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| Year 3 / 4<br>Autumn A | Food and Nutrition: Seasonal Fruit Tart                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                  |                                                                                                                                                                               |                                                                                                                                                                                                 |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Vocabulary                                                                                                                                                                                                                       |                                                                                                                                                                               |                                                                                                                                                                                                 |
| Outcomes               | <ul style="list-style-type: none"> <li>Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.</li> <li>Knowing how to prepare themselves and a workspace to cook safely in, learning the basic rules to avoid food contamination.</li> <li>Following the instructions within a recipe.</li> <li>Establishing and using design criteria to help test and review dishes.</li> <li>Describing the benefits of seasonal fruits and vegetables and the impact on the environment.</li> <li>Suggesting points for improvement when making a seasonal tart.</li> </ul> | <ul style="list-style-type: none"> <li>To know that not all fruits and vegetables can be grown in the UK.</li> <li>To know that climate affects food growth.</li> <li>To know that vegetables and fruit grow in certain seasons.</li> <li>To know that cooking instructions are known as a 'recipe'.</li> <li>To know that imported food is food that has been brought into the country.</li> </ul>                                                                                                                               | <b>climate</b><br><br><b>diet</b><br><br><b>imported</b><br><br><b>ingredients</b>                                                                                                                                               | <b>natural</b><br><br><b>processed</b><br><br><b>reared</b><br><br><b>recipe</b>                                                                                              | <b>seasonal</b><br><br><b>seasons</b><br><br><b>sugar</b>                                                                                                                                       |
| Planning and Resources | <b>Planning (resources are embedded links within the planning)</b><br><br><a href="#">Fruit Tart</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                  |                                                                                                                                                                               |                                                                                                                                                                                                 |
| Year 3 / 4<br>Spring A | Electrical Systems: Torches                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                  |                                                                                                                                                                               |                                                                                                                                                                                                 |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Vocabulary                                                                                                                                                                                                                       |                                                                                                                                                                               |                                                                                                                                                                                                 |
| Outcomes               | <ul style="list-style-type: none"> <li>Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.</li> <li>Making a torch with a working electrical circuit and switch.</li> <li>Using appropriate equipment to cut and attach materials.</li> <li>Assembling a torch according to the design and success criteria.</li> <li>Evaluating electrical products.</li> <li>Testing and evaluating the success of a final product.</li> </ul>                                                                                                                         | <ul style="list-style-type: none"> <li>To understand that electrical conductors are materials which electricity can pass through.</li> <li>To understand that electrical insulators are materials which electricity cannot pass through.</li> <li>To know that a battery contains stored electricity that can be used to power products.</li> <li>To know that an electrical circuit must be complete for electricity to flow.</li> <li>To know that a switch can be used to complete and break an electrical circuit.</li> </ul> | <b>battery</b><br><b>bulb</b><br><b>buzzer</b><br><b>conductor</b><br><b>circuit</b><br><b>circuit</b><br><b>diagram</b><br><b>electricity</b><br><b>insulator</b><br><b>series circuit</b><br><b>switch</b><br><b>component</b> | <b>design</b><br><b>design</b><br><b>criteria</b><br><b>ingredients</b><br><b>packaging</b><br><b>properties</b><br><b>sketch</b><br><b>test diagram</b><br><b>evaluation</b> | <b>LED</b><br><b>model</b><br><b>shape</b><br><b>target</b><br><b>audience</b><br><b>input</b><br><b>recyclable</b><br><b>theme</b><br><b>aesthetics</b><br><b>assemble</b><br><b>equipment</b> |

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| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Torches</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                    |
| Year 3 / 4 Summer A    | Textiles: Fastenings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                    |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Knowledge Objectives                                                                                                                                                                                                                                                                                                                            | Vocabulary                                                                                                                         |
| Outcomes               | <ul style="list-style-type: none"> <li>• Writing design criteria for a product, articulating decisions made.</li> <li>• Designing a personalised book sleeve.</li> <li>• Making and testing a paper template with accuracy and in keeping with the design criteria.</li> <li>• Measuring, marking and cutting fabric using a paper template.</li> <li>• Selecting a stitch style to join fabric.</li> <li>• Sewing neatly using small regular stitches.</li> <li>• Incorporating a fastening to a design.</li> <li>• Testing and evaluating an end product against the original design criteria</li> </ul> | <ul style="list-style-type: none"> <li>• To know that a fastening is something that holds two pieces of material together.</li> <li>• To know that different fastening types are useful for different purposes.</li> <li>• To know that creating a mock-up (prototype) of their design is useful for checking ideas and proportions.</li> </ul> | <div>Criteria</div> <div>Fabric</div> <div>Fastening</div> <div>Fix</div> <div>Mock-up</div> <div>Stitch</div> <div>Template</div> |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Fastenings</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                    |

| Year 3 / 4<br>Autumn B   | Digital Moments: Mindful moments timer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                          | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Vocabulary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Outcomes                 | <ul style="list-style-type: none"> <li>To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit.</li> <li>To understand common features of an electric product (switch, battery or plug, dials, buttons etc.)</li> <li>To list examples of common electric products (kettle, remote control etc.)</li> <li>To understand that an electric product uses an electrical system to work (function).</li> <li>To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits</li> </ul> | <ul style="list-style-type: none"> <li>To understand what variables are in programming.</li> <li>To know some of the features of a micro:bit.</li> <li>To know that an algorithm is a set of instructions to be followed by the computer.</li> <li>To know that it is important to check code for errors (bugs).</li> <li>To know that a simulator can be used as a way of checking code works before installing it onto an electronic device.</li> <li>To understand the terms 'ergonomic' and 'aesthetic'.</li> <li>To know that a prototype is a 3D model made out of cheap materials, that allows us to test design ideas and make better decisions about size, shape and materials.</li> <li>To know that an exhibition is a way for companies to showcase products, meet potential new customers and gather feedback from users.</li> </ul> | <div> <div>advantage</div> <div>annotate</div> <div>assemble</div> <div>aesthetic</div> <div>block</div> <div>brand</div> <div>brand identity</div> <div>bug</div> <div>computer-aided design (CAD)</div> <div>clipart</div> <div>coding</div> <div>criteria</div> </div> <div> <div>debug</div> <div>design</div> <div>develop</div> <div>disadvantage</div> <div>display</div> <div>ergonomic</div> <div>evaluate</div> <div>exhibition</div> <div>feedback</div> <div>form</div> <div>function</div> <div>join</div> <div>logo</div> </div> <div> <div>loop</div> <div>mindfulness</div> <div>model</div> <div>net</div> <div>program</div> <div>prototype</div> <div>research</div> <div>script</div> <div>sketchpad</div> <div>test</div> <div>timer</div> <div>user</div> <div>variable</div> </div> |
| Planning and Resources   | Planning (resources are embedded links within the planning)<br><a href="#">Mindful Moments Timer</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Year 3 / 4<br>Spring 1 B | Food and Nutrition: Adapting a Recipe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                          | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Vocabulary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Outcomes                 | <ul style="list-style-type: none"> <li>Evaluating and comparing a range of products. Following a baking recipe.</li> <li>Understanding safety and hygiene rules. Identifying a target audience.</li> <li>Designing a biscuit within a given budget.</li> <li>Suggesting modifications.</li> <li>Adapting a recipe.</li> <li>Conducting market research.</li> </ul>                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>That the amount of an ingredient in a recipe is known as the 'quantity'.</li> <li>That safety and hygiene are important when cooking.</li> <li>The following cooking techniques: sieving, measuring, mixing/stirring, cutting out and shaping.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div> <div>adapt</div> <div>addition</div> <div>appearance</div> <div>budget</div> <div>buttery</div> <div>combine</div> <div>comment</div> </div> <div> <div>cuboid</div> <div>cut</div> <div>design</div> <div>evaluate</div> <div>fold</div> <div>hygiene</div> <div>ingredients</div> </div> <div> <div>modify</div> <div>multiplication</div> <div>opinion</div> <div>pounds</div> <div>sieve</div> <div>sift</div> </div>                                                                                                                                                                                                                                                                                                                                                                            |

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|                        | <ul style="list-style-type: none"> <li>Evaluating an adapted recipe.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>The importance of budgeting while planning ingredients for a recipe.</li> <li>That products often have a target audience.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>compare</b><br><b>construct</b><br><b>cream</b><br><b>crunchy</b>                           | <b>layout</b><br><b>market</b><br><b>research</b>                                                | <b>target</b><br><b>audience</b><br><b>taste</b><br><b>texture</b><br><b>unique</b> |
| Planning and Resources | <b>Planning (resources are embedded links within the planning)</b><br><a href="#">Adapting a Recipe</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |                                                                                                  |                                                                                     |
| Year 3 / 4 Spring 1 B  | <b>Mechanical Systems: Making a Sling shot Car</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |                                                                                                  |                                                                                     |
|                        | <b>Key Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Knowledge Objectives</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Vocabulary</b>                                                                              |                                                                                                  |                                                                                     |
| Outcomes               | <ul style="list-style-type: none"> <li>To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit.</li> <li>To understand common features of an electric product (switch, battery or plug, dials, buttons etc.)</li> <li>To list examples of common electric products (kettle, remote control etc.)</li> <li>To understand that an electric product uses an electrical system to work (function).</li> <li>To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits</li> </ul> | <ul style="list-style-type: none"> <li>To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit.</li> <li>To understand common features of an electric product (switch, battery or plug, dials, buttons etc.)</li> <li>To list examples of common electric products (kettle, remote control etc.)</li> <li>To understand that an electric product uses an electrical system to work (function).</li> <li>To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits</li> </ul> | <b>chassis</b><br><b>energy</b><br><b>kinetic</b><br><b>mechanism</b><br><b>air resistance</b> | <b>design</b><br><b>structure graphics</b><br><b>research</b><br><b>model</b><br><b>template</b> |                                                                                     |
| Planning and Resources | <b>Planning (resources are embedded links within the planning)</b><br><a href="#">Sling shot car</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |                                                                                                  |                                                                                     |
| Year 3 / 4 Summer B    | <b>Structures: Constructing a Castle</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |                                                                                                  |                                                                                     |
|                        | <b>Key Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Knowledge Objectives</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Vocabulary</b>                                                                              |                                                                                                  |                                                                                     |
| Outcomes               | <ul style="list-style-type: none"> <li>Designing a castle with key features to appeal to a specific person/purpose.</li> <li>Drawing and labelling a castle design using 2D shapes.</li> <li>Designing and/or decorating a castle tower on CAD software.</li> </ul>                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>To understand that wide and flat based objects are more stable.</li> <li>To understand the importance of strength and stiffness in structures.</li> <li>To know the following features of a castle: flags, towers, battlements, turrets,</li> </ul>                                                                                                                                                                                                                                                                                                                      | <b>2D</b><br><b>3D</b><br><b>castle</b><br><b>design</b>                                       | <b>scoring</b><br><b>shape</b><br><b>stable</b><br><b>stiff</b>                                  |                                                                                     |

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|                        | <ul style="list-style-type: none"> <li>Constructing a range of 3D geometric shapes using nets.</li> <li>Creating special features for individual designs.</li> <li>Making facades from a range of recycled materials.</li> <li>Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design.</li> <li>Suggesting points for modification of the individual designs.</li> </ul> | <p>curtain walls, moat, drawbridge and gatehouse – and their purpose.</p> <ul style="list-style-type: none"> <li>To know that a façade is the front of a structure.</li> <li>To understand that a castle needed to be strong and stable to withstand enemy attack.</li> </ul> | <p><b>key features</b></p> <p><b>net</b></p> | <p><b>strong structure</b></p> <p><b>tab</b></p> |
| Planning and Resources | <p><b>Planning (resources are embedded links within the planning)</b></p> <p><a href="#">Constructing a Castle</a></p>                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                               |                                              |                                                  |

| Year 5/6 Year A        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Year 5 / 6<br>Autumn A | Mechanical Systems: Automata Toys                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                  | Vocabulary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Outcomes               | <ul style="list-style-type: none"> <li>Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement.</li> <li>Understanding how linkages change the direction of a force.</li> <li>Making things move at the same time.</li> <li>Understanding and drawing cross-sectional diagrams to show the inner-workings of my design.</li> <li>Measuring, marking and checking the accuracy of the jelutong and dowel pieces required.</li> <li>Measuring, marking and cutting components accurately using a ruler and scissors.</li> <li>Assembling components accurately to make a stable frame.</li> <li>Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles.</li> <li>Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set.</li> <li>Evaluating the work of others and receiving feedback on own work.</li> <li>Applying points of improvement to their toys.</li> <li>Describing changes they would make/do if they were to do the project again.</li> </ul> | <ul style="list-style-type: none"> <li>To understand that the mechanism in an automata uses a system of cams, axles and followers.</li> <li>To understand that different shaped cams produce different outputs.</li> <li>To know that an automata is a hand-powered mechanical toy.</li> <li>To know that a cross-sectional diagram shows the inner workings of a product.</li> </ul> | <div> <div>accurate</div> <div>assembly-diagram</div> <div>automata</div> <div>axle</div> <div>bench hook</div> <div>cam</div> <div>clamp</div> <div>component</div> <div>cutting list</div> </div> <div> <div>diagram</div> <div>dowel</div> <div>drill bits</div> <div>exploded-diagram</div> <div>finish</div> <div>follower</div> <div>frame</div> <div>function</div> </div> <div> <div>hand drill</div> <div>jelutong</div> <div>linkage</div> <div>mark out</div> <div>measure</div> <div>mechanism</div> <div>model</div> <div>research</div> <div>right-angle set square</div> </div> |
| Planning and Resources | <b>Planning (resources are embedded links within the planning)</b><br><br><a href="#">Automata Toys</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Year 5 / 6<br>Spring 1 A | Electrical Systems: Doodlers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                           |
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|                          | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                         | Vocabulary                                                                                                                                                                                                                                                                                                                |
| Outcomes                 | <ul style="list-style-type: none"> <li>Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product.</li> <li>Developing design criteria based on findings from investigating existing products.</li> <li>Developing design criteria that clarifies the target user.</li> <li>Altering a product's form and function by tinkering with its configuration.</li> <li>Making a functional series circuit, incorporating a motor.</li> <li>Constructing a product with consideration for the design criteria.</li> <li>Breaking down the construction process into steps so that others can make the product.</li> <li>Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses</li> <li>Determining which parts of a product affect its function and which parts affect its form.</li> <li>Analysing whether changes in configuration positively or negatively affect an existing product.</li> <li>Peer evaluating a set of instructions to build a product.</li> </ul> | <ul style="list-style-type: none"> <li>To know that, in a series circuit, electricity only flows in one direction.</li> <li>To know when there is a break in a series circuit, all components turn off.</li> <li>To know that an electric motor converts electrical energy into rotational movement, causing the motor's axle to spin.</li> <li>To know a motorised product is one which uses a motor to function</li> </ul> | <div> <div>circuit component</div> <div>configuration</div> <div>current</div> <div>develop</div> <div>DIY</div> <div>investigate</div> <div>motor</div> </div> <div> <div>motorised</div> <div>problem solve</div> <div>product analysis</div> <div>series circuit</div> <div>stable</div> <div>target user</div> </div> |
| Planning and Resources   | Planning (resources are embedded links within the planning)<br><a href="#">Doodlers</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                           |

| Year 5 / 6<br>Spring 2 A     | Electrical Systems: Steady Hand Game                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                              |                                                                                                        |                                                                                             |
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|                              | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Vocabulary                                                                                                   |                                                                                                        |                                                                                             |
| Outcomes                     | <ul style="list-style-type: none"><li>Designing a steady hand game, identifying and naming the components required.</li><li>Drawing a design from three different perspectives.</li><li>Generating ideas through sketching and discussion.</li><li>Modelling ideas through prototypes.</li><li>Understanding the purpose of products (toys), including what is meant by ‘fit for purpose’ and ‘form over function’.</li><li>Constructing a stable base for a game.</li><li>Accurately cutting, folding and assembling a net.</li><li>Decorating the base of the game to a high-quality finish.</li><li>Making and testing a circuit.</li><li>Incorporating a circuit into a base.</li><li>Testing their own and others’ finished games, identifying what went well and making suggestions for improvement.</li><li>Gathering images and information about existing children’s toys.</li><li>Analysing a selection of existing children’s toys.</li></ul> | <ul style="list-style-type: none"><li>To know that ‘form’ means the shape and appearance of an object.</li><li>To know the difference between ‘form’ and ‘function’.</li><li>To understand that ‘fit for purpose’ means that a product works how it should and is easy to use.</li><li>To know that ‘form over purpose’ means that a product looks good but does not work very well.</li><li>To know the importance of ‘form follows function’ when designing: the product must be designed primarily with the function in mind.</li><li>To understand the diagram perspectives ‘top view’, ‘side view’ and ‘back’.</li></ul> | assemble<br>battery<br>battery pack<br>benefit<br>bulb<br>bulb holder<br>buzzer<br>circuit<br>circuit symbol | component<br>conductor<br>copper<br>design<br>design<br>criteria<br>evaluation<br>fine motor<br>skills | fit for<br>purpose<br>form<br>function<br>gross motor<br>skills<br>insulator<br>LED<br>user |
| Planning<br>and<br>Resources | Planning (resources are embedded links within the planning)<br><a href="#">Steady Hand Game</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                              |                                                                                                        |                                                                                             |
| Year 5/ 6<br>Summer 1 A      | Food and Nutrition: What Could be Healthier?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                              |                                                                                                        |                                                                                             |
|                              | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Vocabulary                                                                                                   |                                                                                                        |                                                                                             |
| Outcomes                     | <ul style="list-style-type: none"><li>Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.</li><li>Writing an amended method for a recipe to incorporate the relevant changes to ingredients.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"><li>To understand where meat comes from – learning that beef is from cattle and how beef is reared and processed, including key welfare issues.</li><li>To know that I can adapt a recipe to make it healthier by substituting ingredients.</li></ul>                                                                                                                                                                                                                                                                                                                                       | beef<br>reared<br>processed<br>ethical<br>diet                                                               | ingredients<br>supermarket<br>farm<br>balanced                                                         |                                                                                             |

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|                        | <ul style="list-style-type: none"> <li>Designing appealing packaging to reflect a recipe.</li> <li>Cutting and preparing recipes safely. Using equipment safely, including knives, hot pans and hobs.</li> <li>Knowing how to avoid cross-contamination. Following a step-by-step method carefully to make a recipe.</li> <li>Identifying the nutritional differences between different products and recipes.</li> <li>Identifying and describing healthy benefits of food groups.</li> </ul>                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>To know that I can use a nutritional calculator to see how healthy a food option is.</li> <li>To understand that 'cross-contamination' means that bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.</li> </ul>                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                   |
| Planning and Resources | <b>Planning (resources are embedded links within the planning)</b><br><a href="#">What could be healthier</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                   |
| Year 5 / 6 Summer 2 A  | <b>Textiles: Stuffed Toys</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                   |
|                        | <b>Key Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Knowledge Objectives</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Vocabulary</b>                                                                                                                                                                                                                                                                                                 |
| Outcomes               | <ul style="list-style-type: none"> <li>Designing a stuffed toy considering the main component shapes required and creating an appropriate template.</li> <li>Considering the proportions of individual components.</li> <li>Creating a 3D stuffed toy from a 2D design.</li> <li>Measuring, marking and cutting fabric accurately and independently.</li> <li>Creating strong and secure blanket stitches when joining fabric.</li> <li>Threading needles independently. Using appliqué to attach pieces of fabric decoration. Sewing blanket stitch to join fabric.</li> <li>Applying blanket stitch so the spaces between the stitches are even and regular.</li> <li>Testing and evaluating an end product and giving points for further improvements.</li> </ul> | <ul style="list-style-type: none"> <li>To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric.</li> <li>To understand that it is easier to finish simpler designs to a high standard.</li> <li>To know that soft toys are often made by creating appendages separately and then attaching them to the main body.</li> <li>To know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stuffing securely.</li> </ul> | <div> <div>sew</div> <div>shape</div> <div>stuffed toy</div> <div>stuffing</div> <div>template</div> </div> <div> <div>accurate</div> <div>annotate</div> <div>appendage</div> <div>blanket-stitch</div> </div> <div> <div>design criteria</div> <div>detail</div> <div>evaluation</div> <div>fabric</div> </div> |
| Planning and Resources | <b>Planning (resources are embedded links within the planning)</b><br><a href="#">Stuffed Toys</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                   |

| Year 5/6 Year B          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                         |
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| Year 5 / 6<br>Autumn B   | Mechanical Systems: Making a Pop-up Book                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                         |
|                          | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Vocabulary                                                                                                                                              |
| Outcomes                 | <ul style="list-style-type: none"> <li>Designing a pop-up book which uses a mixture of structures and mechanisms.</li> <li>Naming each mechanism, input and output accurately.</li> <li>Storyboarding ideas for a book.</li> <li>Following a design brief to make a pop up book, neatly and with focus on accuracy.</li> <li>Making mechanisms and/or structures using sliders, pivots and folds to produce movement.</li> <li>Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.</li> <li>Evaluating the work of others and receiving feedback on own work.</li> <li>Suggesting points for improvement.</li> </ul> | <ul style="list-style-type: none"> <li>To know that mechanisms control movement.</li> <li>To understand that mechanisms can be used to change one kind of motion into another.</li> <li>To understand how to use sliders, pivots and folds to create paper-based mechanisms.</li> <li>To know that a design brief is a description of what I am going to design and make.</li> <li>To know that designers often want to hide mechanisms to make a product more aesthetically pleasing</li> </ul> | <div>design</div> <div>input</div> <div>motion</div> <div>mechanism</div> <div>criteria</div> <div>research</div> <div>reinforce</div> <div>model</div> |
| Planning and Resources   | <b>Planning (resources are embedded links within the planning)</b><br><a href="#">Making a pop-up book</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                         |
| Year 5 / 6<br>Spring 1 B | Structures: Playgrounds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                         |
|                          | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Vocabulary                                                                                                                                              |
| Outcomes                 | <ul style="list-style-type: none"> <li>Designing a playground featuring a variety of different structures, giving consideration to how the structures will be used.</li> <li>Considering effective and ineffective designs.</li> <li>Building a range of play apparatus structures drawing upon new and prior knowledge of structures.</li> <li>Measuring, marking and cutting wood to create a range of structures.</li> <li>Using a range of materials to reinforce and add decoration to structures.</li> <li>Improving a design plan based on peer evaluation.</li> <li>Testing and adapting a design to improve it as it is developed.</li> </ul>                   | <ul style="list-style-type: none"> <li>To know that structures can be strengthened by manipulating materials and shapes.</li> <li>To understand what a 'footprint plan' is.</li> <li>To understand that in the real world, design can impact users in positive and negative ways.</li> <li>To know that a prototype is a cheap model to test a design idea.</li> </ul>                                                                                                                           | <div>apparatus</div> <div>design criteria</div> <div>equipment</div> <div>playground</div> <div>landscape features</div> <div>cladding</div>            |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                         | <ul style="list-style-type: none"> <li>Identifying what makes a successful structure</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Planning and Resources  | <b>Planning (resources are embedded links within the planning)</b><br><a href="#">Playgrounds</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Year 5/ 6<br>Spring 2 B | <b>Digital World: Navigating the World</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                         | <b>Key Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Knowledge Objectives</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Vocabulary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Outcomes</b>         | <ul style="list-style-type: none"> <li>Writing a design brief from information submitted by a client.</li> <li>Developing design criteria to fulfil the client's request.</li> <li>Developing a product idea through annotated sketches.</li> <li>Placing and manoeuvring 3D objects, using CAD.</li> <li>Changing the properties of, or combine one or more 3D objects, using CAD.</li> <li>Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo).</li> <li>Explaining material choices and why they were chosen as part of a product concept.</li> <li>Programming an N,E, S,W cardinal compass.</li> <li>Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool.</li> <li>Developing an awareness of sustainable design.</li> <li>Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch.</li> <li>Demonstrating a functional program as part of a product concept.</li> </ul> | <ul style="list-style-type: none"> <li>To know that accelerometers can detect movement.</li> <li>To understand that sensors can be useful in products as they mean the product can function without human input.</li> <li>To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request.</li> <li>To know that 'multifunctional' means an object or product has more than one function.</li> <li>To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing.</li> </ul> | <div> <div>mart</div> <div>smartphone</div> <div>equipment</div> <div>navigation</div> <div>client</div> <div>function</div> <div>program</div> <div>duplicate</div> <div>replica</div> <div>loop</div> <div>recyclable</div> <div>boolean</div> <div>corrode</div> <div>cardinal compass</div> <div>application (apps)</div> </div> <div> <div>pedometer</div> <div>GPS tracker</div> <div>design brief</div> <div>design criteria</div> <div>variable</div> <div>value</div> <div>if statement</div> <div>moudable</div> <div>lightweight</div> <div>sustainable design</div> <div>environmentally friendly</div> <div>biodegradable</div> <div>product lifecycle</div> <div>product lifespan</div> </div> |

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| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Navigating the World</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Year 5/ 6 Summer B     | Food and Nutrition: Come Dine With Me                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                        | Key Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Knowledge Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Vocabulary                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Outcomes               | <ul style="list-style-type: none"> <li>Writing a recipe, explaining the key steps, method and ingredients.</li> <li>Including facts and drawings from research undertaken.</li> <li>Following a recipe, including using the correct quantities of each ingredient.</li> <li>Adapting a recipe based on research. Working to a given timescale.</li> <li>Working safely and hygienically with independence.</li> <li>Evaluating a recipe, considering: taste, smell, texture and origin of the food group.</li> <li>Taste testing and scoring final products.</li> <li>Suggesting and writing up points of improvements in productions.</li> <li>Evaluating health and safety in production to minimise cross contamination.</li> </ul> | <ul style="list-style-type: none"> <li>That 'flavour' is how a food or drink tastes.</li> <li>That many countries have 'national dishes' which are recipes associated with that country.</li> <li>That 'processed food' means food that has been put through multiple changes in a factory.</li> <li>That it is important to wash fruit and vegetables before eating to remove any dirt and insecticides.</li> <li>What happens to a certain food before it appears on the supermarket shelf (farm to fork).</li> </ul> | <div>balance</div> <div>bitter</div> <div>bridge</div> <div>method</div> <div>complement</div> <div>cookbook</div> <div>cross-contamination</div> <div>research</div> <div>enhance</div> <div>equipment</div> <div>farm to fork</div> <div>flavours</div> <div>ingredients</div> <div>method</div> <div>pairing</div> <div>recipe</div> <div>preparation</div> <div>salty</div> <div>sour</div> <div>storyboard</div> <div>sweet</div> <div>umami</div> |
| Planning and Resources | Planning (resources are embedded links within the planning)<br><a href="#">Come dine with me</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |