



**PRESCOT PRIMARY SCHOOL**  
**KS1/KS2 LONG TERM PLAN FOR: DESIGN & TECHNOLOGY**  
**KEY CONCEPTS & SKILLS (REF: DT ASSOCIATION)**

		KEY STAGE ONE	KET STAGE TWO
DESIGNING	Understanding contexts, users & purposes	<p><b>Across KS1 pupils should:</b></p> <ul style="list-style-type: none"> <li>• work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment</li> <li>• state what products they are designing and making</li> <li>• say whether their products are for <b>themselves or other users</b></li> <li>• describe <b>what their products are for</b></li> <li>• say <b>how their products will work</b></li> <li>• say how they will make their products suitable for their intended users</li> <li>• use <b>simple design criteria</b> to help develop their ideas</li> </ul>	<p><b>Across KS2 pupils should:</b></p> <ul style="list-style-type: none"> <li>• work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the <b>purpose of their products</b></li> <li>• indicate the design features of their products that will appeal to intended users</li> <li>• explain how particular parts of their products work</li> </ul> <p><b>In early KS2 pupils should also:</b></p> <ul style="list-style-type: none"> <li>• <b>gather information</b> about the needs and wants of particular individuals and groups</li> <li>• develop their <b>own design criteria</b> and use these to inform their ideas</li> </ul> <p><b>In late KS2 pupils should also:</b></p> <ul style="list-style-type: none"> <li>• <b>carry out research</b>, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups</li> <li>• <i>develop a simple design specification to guide their thinking.</i></li> </ul>
	Generating, developing, modelling, communicating ideas.	<p><b>Across KS1 pupils should:</b></p> <ul style="list-style-type: none"> <li>• generate ideas by <b>drawing on their own</b> experiences</li> <li>• use knowledge of existing products to help come up with ideas</li> <li>• develop and communicate ideas by <b>talking</b> and drawing</li> <li>• model ideas by exploring materials, components and construction kits and by making templates and mock-ups</li> <li>• use information and communication technology, where appropriate, to develop and communicate their ideas</li> </ul>	<p><b>Across KS2 pupils should:</b></p> <ul style="list-style-type: none"> <li>• share and clarify ideas through discussion</li> <li>• model their ideas using <b>prototypes and pattern</b> pieces</li> <li>• use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas</li> <li>• use <b>computer-aided design</b> to develop and communicate their ideas</li> </ul> <p><b>In early KS2 pupils should also:</b></p> <ul style="list-style-type: none"> <li>• <b>generate realistic ideas</b>, focusing on the needs of the user</li> <li>• <i>make design decisions that take account of the availability of resources</i></li> </ul> <p><b>In late KS2 pupils should also:</b></p> <ul style="list-style-type: none"> <li>• <b>generate innovative ideas</b>, drawing on research • <i>make design decisions, taking account of constraints such as time, resources and cost</i></li> </ul>

# MAKING

## Planning

### Across KS1 pupils should:

- *plan by suggesting what to do next*
- select from a range of tools and equipment, explaining their choices
- select from a range of materials and components according to their characteristics

### Across KS2 pupils should:

- select tools and equipment suitable for the task
- *explain their choice of tools and equipment in relation to the skills and techniques they will be using*

- select materials and components suitable for the task

- explain their choice of materials and components according to functional properties and aesthetic qualities

In early KS2 pupils should also:

- *order the main stages of making*

In late KS2 pupils should also:

- *produce appropriate lists of tools, equipment and materials that they need*
- *formulate step-by-step plans as a guide to making.*

## Practical skills & techniques

### Across KS1 pupils should:

- follow procedures for safety and hygiene
- use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components
- measure, mark out, cut and shape materials and components
- assemble, join and combine materials and components
- use finishing techniques, including those from art and design

### Across KS2 pupils should:

- follow procedures for safety and hygiene
- use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components

### In early KS2 pupils should also:

- measure, mark out, cut and shape materials and components with **some accuracy**
- assemble, join and combine materials and components with **some accuracy**
- apply a range of finishing techniques, including those from art and design, with **some accuracy**

### In late KS2 pupils should also:

- **accurately** measure, mark out, cut and shape materials and components
- **accurately** assemble, join and combine materials and components
- **accurately** apply a range of finishing techniques, including those from art and design
- use techniques that involve a number of steps
- demonstrate resourcefulness when tackling practical problems.

EVALUATING	Own ideas & products	<p><b>Across KS1 pupils should:</b></p> <ul style="list-style-type: none"> <li>• talk about their design ideas and what they are making</li> <li>• make simple judgements about their products and ideas against design criteria</li> </ul> <p>• <i>suggest how their products could be improved</i></p>	<p><b>Across KS2 pupils should:</b></p> <ul style="list-style-type: none"> <li>• identify the strengths and areas for development in their ideas and products</li> <li>• consider the views of others, including intended users, to improve their work</li> </ul> <p><b>In early KS2 pupils should also:</b></p> <ul style="list-style-type: none"> <li>• refer to their design criteria as they design and make</li> <li>• use their design criteria to evaluate their completed products</li> </ul> <p><b>In late KS2 pupils should also:</b></p> <ul style="list-style-type: none"> <li>• critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make</li> <li>• <i>evaluate their ideas and products against their original design specification</i></li> </ul>
	Existing products	<p><b>Across KS1 pupils should explore:</b></p> <ul style="list-style-type: none"> <li>• what products are</li> <li>• who products are for</li> <li>• what products are for</li> <li>• how products work</li> <li>• how products are used</li> <li>• where products might be used</li> <li>• what materials products are made from</li> <li>• what they like and dislike about products</li> </ul>	<p><b>Across KS2 pupils should investigate and analyse:</b></p> <ul style="list-style-type: none"> <li>• how well products have been designed</li> <li>• how well products have been made</li> <li>• why materials have been chosen</li> <li>• what methods of construction have been used how well products work <ul style="list-style-type: none"> <li>• how well products achieve their purposes</li> <li>• how well products meet user needs and wants</li> </ul> </li> </ul> <p><b>In early KS2 pupils should also investigate and analyse:</b></p> <ul style="list-style-type: none"> <li>• who designed and made the products</li> <li>• where products were designed and made</li> <li>• when products were designed and made</li> <li>• whether products can be recycled or reused</li> </ul> <p><b>In late KS2 pupils should also investigate and analyse:</b></p> <ul style="list-style-type: none"> <li>• how much products cost to make</li> <li>• how innovative products are</li> <li>• how sustainable the materials in products are</li> <li>• what impact products have beyond their intended purpose</li> </ul>
	Key events & individuals	Not a requirement in KS1	<p><b>Across KS2 pupils should know:</b></p> <ul style="list-style-type: none"> <li>• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</li> </ul>

# TECHNICAL KNOWLEDGE

## Making products work

### Across KS1 pupils should know:

- about the simple working characteristics of materials and components about the movement of simple mechanisms such as levers, sliders, wheels and axles
- how freestanding structures can be made stronger, stiffer and more stable
- *that a 3-D textiles product can be assembled from two identical fabric shapes*
- *that food ingredients should be combined according to their sensory characteristics*
- *the correct technical vocabulary for the projects they are undertaking*

### • Across KS2 pupils should know:

- how to use learning from science to help
- design and make products that work how to use learning from mathematics to
- help design and make products that work that materials have both functional properties and aesthetic qualities
- that materials can be combined and mixed to create more useful characteristics
- that mechanical and electrical systems have an input, process and output
- the correct technical vocabulary for the projects they are undertaking
- **In early KS2 pupils should also know:**
  - how mechanical systems such as levers and linkages or pneumatic systems create movement
- how simple electrical circuits and components can be used to create functional products
- how to program a computer to control their products
- how to make strong, stiff shell structures that a single fabric shape can be used to make a
- 3D textiles product that food ingredients can be fresh, pre-cooked and processed

### In late KS2 pupils should also know:

- how mechanical systems such as cams or pulleys or gears create movement
- how more complex electrical circuits and components can be used to create functional products
- how to program a computer to monitor changes in the environment and control their products
- how to reinforce and strengthen a 3D framework
- *that a 3D textiles product can be made from a combination of fabric shapes*
- *that a recipe can be adapted by adding or substituting one or more ingredients*

COOKING & NUTRITION	Where food comes from	<p><b>Across KS1 pupils should know:</b></p> <ul style="list-style-type: none"> <li>• that all food comes from plants or animals</li> <li>• that food has to be farmed, grown elsewhere (e.g. home) or caught</li> </ul>	<p><b>Across KS2 pupils should know:</b></p> <ul style="list-style-type: none"> <li>• that a recipe can be adapted a by adding or substituting one or more ingredients</li> <li>• that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world</li> </ul> <p><b>In late KS2 pupils should also know:</b></p> <ul style="list-style-type: none"> <li>• that seasons may affect the food available</li> <li>• how food is processed into ingredients that can be eaten or used in cooking</li> </ul>
	Food preparation, cooking & nutrition	<p><b>Across KS1 pupils should know:</b></p> <ul style="list-style-type: none"> <li>• how to name and sort foods into the five groups in the Eatwell Guide</li> </ul> <p>• that everyone should eat at least five portions of fruit and vegetables every day</p> <p>• how to prepare simple dishes safely and hygienically, without using a heat source</p> <p>• how to use techniques such as cutting, peeling and grating</p>	<p><b>Across KS2 pupils should know:</b></p> <ul style="list-style-type: none"> <li>• <i>how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</i></li> <li>• <i>how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</i></li> </ul> <p><b>In early KS2 pupils should also know:</b></p> <ul style="list-style-type: none"> <li>• <i>that a healthy diet is made up from a variety and balance of different food and drink, as depicted in the Eatwell Guide</i></li> <li>• <i>that to be active and healthy, food and drink are needed to provide energy for the body</i></li> </ul> <p><b>In late KS2 pupils should also know:</b></p> <ul style="list-style-type: none"> <li>• <i>that recipes can be adapted to change the appearance, taste, texture and aroma</i></li> <li>• <i>that different food and drink contain different substances – nutrients, water and fibre – that are needed for health</i></li> </ul>