



# Chilthorne Domer Church School Skills Progression DT



## DT Progression of Skills Key Stage 1

### Designing – Understanding contexts, users and purposes

- work confidently within a range of contexts, such as imaginary, storybased, home, school, gardens, playgrounds, local community, industry and the wider environment state what products they are making
- say whether their products are for themselves or other users
- describe what their products are for
- say how their products will work
- say how they will make their products suitable for their intended users use simple design criteria to help develop their ideas

### Designing – Generating, developing, modelling and communicating ideas

- generate ideas by drawing on their own experiences
- use knowledge of existing products to help come up with ideas
- develop and communicate ideas by talking and drawing
- model ideas by exploring materials, components and construction kits and by making templates and mockups
- use ICT, where appropriate, to develop and communicate their ideas

### Evaluating – Own ideas and products

- talk about their design ideas and what they are making
- make simple judgements about their products and ideas against design criteria
- suggest how their products could be improved

### Evaluating - Existing products

- explore what products are and who or what they are for
- explore how products work and how or where they might be

### Making - Planning

- 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 Making – Practical skills and techniques
- 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

### Technical knowledge – Making products work

- 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 shape

<p>used</p> <ul style="list-style-type: none"> <li>• explore what materials products are made from</li> <li>• explore what they like and dislike about products</li> </ul>	<ul style="list-style-type: none"> <li>• that food ingredients should be combined according to their sensory characteristics</li> <li>• the correct technical vocabulary for the projects they are undertaking</li> </ul>
	<p><b>Cooking and nutrition – Where food comes from</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>Cooking and nutrition – Food preparation, cooking and nutrition</b></p> <ul style="list-style-type: none"> <li>• how to name and sort foods into the five groups in The Eatwell Plate</li> <li>• that everyone should eat at least five portions of fruit and vegetables everyday</li> <li>• how to prepare simple dishes safely and hygienically, without using a heat source</li> <li>• how to use techniques such as cutting, peeling and grating</li> </ul>

## DT Progression of Skills Lower KS2

### Designing – Understanding contexts, users and purposes

- work confidently within a range of contexts, such as the home, school, leisure,
- culture, enterprise, industry and the wider environment
- describe the purpose of their products
- indicate the design features of their products that will appeal to intended users
- explain how particular parts of their products work
- gather information about needs and wants of particular individuals and groups
- develop their own design criteria and use these to inform their ideas

### Designing - Generating, developing, modelling and communicating ideas

- share and clarify ideas through discussion
- model their ideas using prototypes and pattern pieces
- use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas
- use computer-aided design to develop and communicate their ideas
- generate realistic ideas, focusing on the needs of the user
- make design decisions that take account of the availability of resources

### Making - Planning

- 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
- order the main stages of making

### Making – Practical skills and techniques

- 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
- 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

### Evaluating – Own ideas and products

- identify the strengths and areas for development in their ideas and products
- consider the views of others, including intended

### Technical knowledge – Making products work

- how to use learning from science and maths to help design and make products that work
- that materials have both functional properties and aesthetic qualities

<ul style="list-style-type: none"> <li>• users, to improve their work</li> <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>Evaluating – Existing products Pupils will be taught to investigate and analyse:</b></p> <ul style="list-style-type: none"> <li>• how well products have been designed and made</li> <li>• why materials have been chosen</li> <li>• what methods of construction have been used</li> <li>• developed ground-breaking products</li> <li>• how well products work to achieve their purposes</li> <li>• how well products meet user needs and wants</li> <li>• who designed and made the products</li> <li>• where and when products were designed and made</li> <li>• whether products can be recycled or reused</li> <li>• Evaluating – Key events and individuals</li> <li>• about inventors, designers, engineers, chefs and manufacturers</li> </ul>	<ul style="list-style-type: none"> <li>• that materials can be combined and mixed to create more useful</li> <li>• characteristics</li> <li>• that mechanical and electrical systems have an input, process and output</li> <li>• use the correct technical vocabulary for the projects they are undertaking</li> <li>• how mechanical systems such as levers and linkages or pneumatic systems</li> <li>• create movement</li> <li>• how simple electrical circuits and components can be used to create</li> <li>• functional products</li> <li>• how to program a computer to control their products</li> <li>• how to make strong, stiff shell structures</li> <li>• that a single fabric shape can be used to make a 3D textiles product</li> <li>• that food ingredients can be fresh, pre-cooked and processed</li> </ul>
	<p><b>Cooking and nutrition – Where food comes from</b></p> <ul style="list-style-type: none"> <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>Cooking and nutrition – Food preparation, cooking and nutrition</b></p> <ul style="list-style-type: none"> <li>• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</li> <li>• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</li> <li>• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate</li> <li>• that to be active and healthy, food and drink are needed to provide energy for the body</li> </ul>

## DT Progression of Skills Upper KS2

### Designing – Understanding contexts, users and purposes

- work confidently within a range of contexts, such as the home, school, leisure,
- culture, enterprise, industry and the wider environment
- describe the purpose of their products
- indicate the design features of their products that will appeal to intended users
- explain how particular parts of their products work
- carry out research, using surveys, interviews, questionnaires and web-based resources
- identify the needs, wants, preferences and values of particular individuals and groups
- develop a simple design specification to guide their thinking

### Designing - Generating, developing, modelling and communicating ideas

- share and clarify ideas through discussion
- model their ideas using prototypes and pattern pieces
- use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas
- use computer-aided design to develop and communicate their ideas
- generate realistic ideas, focusing on the needs of the user
- make design decisions that take account of the availability of resources

### Making - Planning

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

### Making – Practical skills and techniques

- 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
- 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
- Technical knowledge – Making products work
- how to use learning from science and maths 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

	<ul style="list-style-type: none"> <li>• that mechanical and electrical systems have an input, process and output</li> <li>• the correct technical vocabulary for the projects they are undertaking</li> <li>• how mechanical systems such as cams or pulleys or gears create movement</li> <li>• how more complex electrical circuits and components can be used to create functional products</li> <li>• how to program a computer to monitor changes in the environment and control their products</li> <li>• how to reinforce and strengthen a 3D framework</li> <li>• that a 3D textiles product can be made from a combination of fabric shapes</li> <li>• that a recipe can be adapted by adding or substituting one or more</li> <li>• Ingredients</li> </ul>
<p><b>Evaluating – Own ideas and products</b>  identify the strengths and areas for development in their ideas and products  consider the views of others, including intended users, to improve their work  critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make  evaluate their ideas and products against their original design specification</p> <p><b>Evaluating – Existing products Pupils will be taught to investigate and analyse:</b>  how well products have been designed and made  why materials have been chosen  what methods of construction have been used  how well products work to achieve their purposes  how well products meet user needs and wants  how much products cost to make  how innovative products are</p>	<p><b>Cooking and nutrition – Where food comes from</b></p> <ul style="list-style-type: none"> <li>• that food is grown (such as tomatoes, wheat and potatoes), reared (such as</li> <li>• pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the</li> <li>• wider world</li> <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> <li>• Cooking and nutrition – Food preparation, cooking and nutrition</li> <li>• how to prepare and cook a variety of predominantly savoury dishes safely and</li> <li>• hygienically including, where appropriate, the use of a heat source</li> <li>• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</li> <li>• that recipes can be adapted to change the appearance, taste, texture and aroma</li> </ul>

how sustainable the materials in products are  
what impact products have beyond their intended purpose

**Evaluating – Key events and individuals**

about inventors, designers, engineers, chefs and manufacturers  
who have  
developed ground-breaking products

- that different food and drink contain different substances –  
nutrients, water and fibre – that are needed for health