Design Technology Progression of Skills KS1-Year 1

<table>
<tr><td colspan="2">Year 1 National Curriculum objectives: In this unit, children will be taught to:</td></tr>
<tr><td><u>KS1 Area of Study</u>

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</td><td><u>Designing</u>

• 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
• Use simple design criteria to help develop their ideas</td></tr>
<tr><td><u>Making</u>

• Select from a range of tools and equipment, explaining their choices
• Select from a range of materials and components according to their characteristics</td><td><u>Technical Knowledge</u>

• Know about the simple working characteristics of materials and components
• Know about the movement of simple mechanisms such as levers, sliders, wheels and axles</td></tr>
<tr><td><u>Textiles</u>

• Apply shapes with glue or stitching
• Apply decoration using beads, buttons, feathers etc
• Cut and shape fabric using scissors/snips</td><td><u>Cooking and Nutrition</u>

• That all food comes from plants or animals
• That everyone should eat at least five portions of fruit and vegetables every day
• How to prepare simple dishes safely and hygienically, without a heat source</td></tr>
</table>

Evaluating • Talk about their design ideas and what they are making • Make simple judgements about their products and ideas against design criteria • Explore what they like and dislike about products	

Design Technology Progression of Skills KS1-Year 2

<table>
<tr><td colspan="2">Year 2 National Curriculum objectives: In this unit, children will be taught to:</td></tr>
<tr><td><u>KS1 Area of Study</u>

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</td><td><u>Designing</u>

• 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
• Say how they will make their products suitable for their intended users
• Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment
• Plan by suggesting what to do next</td></tr>
<tr><td><u>Making</u>

• Select from a range of tools and equipment, explaining their choices
• Select from a range of materials and components according to their characteristics</td><td><u>Technical Knowledge</u>

• Know that freestanding structures can be made stronger, stiffer and more stable
• That a 3-D textiles product can be assembled from two identical fabric shape
• That food ingredients should be combined according to their sensory characteristics
• The correct technical vocabulary for the projects they are</td></tr>
</table>

	undertaking
Textiles • apply colour with printing, dipping, fabric crayons • create fabrics by weaving materials, i.e. grass through twigs • apply decoration using beads, buttons, feathers etc • choose fabrics/threads based on colour, texture and shape	**Cooking and Nutrition** • That food has to be farmed, grown elsewhere (e.g. home) or caught • How to name and sort foods into the five groups in The Eatwell Plate • How to use techniques such as cutting, peeling and grating • Select ingredients to include in a healthy snack and explain their decisions • Show awareness of safety and hygiene when using food
Evaluating • Explore what products are and who or what they are for. • Explore how products work and how or where they might be used. • Explore what materials products are made from • Suggest how their products could be improved	

Design Technology Progression of Skills KS2-Year 3

<table>
<tr><td colspan="2">Year 3 National Curriculum objectives: In this unit, children will be taught to:</td></tr>
<tr><td><u>KS2 Area of Study</u>

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</td><td><u>Designing</u>

• 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
• Share and clarify ideas through discussion
• Model their ideas using prototypes and pattern pieces</td></tr>
<tr><td><u>Making</u>

• 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
• 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</td><td><u>Technical Knowledge</u>

• That materials have both functional properties and aesthetic qualities
• That materials can be combined and mixed to create more useful characteristics
• How mechanical systems such as levers and linkages or pneumatic systems create movement
• How to make strong, stiff shell structures
• That a single fabric shape can be used to make a 3D textiles product</td></tr>
</table>

Textiles	**Cooking and Nutrition**
• Use a variety of techniques e.g. printing, dyeing, weaving and stitching to create different textural effects. • Develop skills in stitching, cutting and joining	• 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 • How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • That a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate

Evaluating

- Identify the strengths and areas for development in their ideas and products
- Consider the views of others, including intended users, to improve their work
- Refer to their design criteria as they design and make
- Explain how well products work to achieve their purposes
- Describe how well products meet user needs and wants
- Explain whether products can be recycled or reused

Design Technology Progression of Skills KS2-Year 4

Year 4 National Curriculum objectives: In this unit, children will be taught to:	
KS2 Area of Study Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].	**Designing** • Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • Gather information about needs and wants of particular individuals and groups • Develop their own design criteria and use these to inform their ideas • Use annotated sketches, cross-sectional drawings and exploded diagrams 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 • 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 • Apply a range of finishing techniques, including those from art and design, with some accuracy	**Technical Knowledge** • That mechanical and electrical systems have an input, process and output • How simple electrical circuits and components can be used to create functional products • How to make strong, stiff shell structures • That a single fabric shape can be used to make a 3D textiles product • Use the correct technical vocabulary for the projects they are undertaking

Textiles	**Cooking and Nutrition**
• Discuss use of tools, materials and their properties using technical vocabulary. • Use a variety of techniques e.g. printing, dyeing, weaving and stitching to create different textural effects. • Develop skills in stitching, cutting and joining	• How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • That a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate • That to be active and healthy, food and drink are needed to provide energy for the body
Evaluating • Use their design criteria to evaluate their completed products • Describe how well products have been designed and made • Explain why materials have been chosen • Describe what methods of construction have been used	

Design Technology Progression of Skills KS2-Year 5

<table>
<tr><td colspan="2">Year 5 National Curriculum objectives: In this unit, children will be taught to:</td></tr>
<tr><td><u>KS2 Area of Study</u>

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</td><td><u>Designing</u>

• 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
• 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</td></tr>
<tr><td><u>Making</u>
• Select tools and equipment suitable for the task</td><td><u>Technical Knowledge</u></td></tr>
</table>

• 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 • Follow procedures for safety and hygiene • 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 • Start to think about marketing ideas for their product	• 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 • How mechanical systems such as cams or pulleys or gears create movement • How more complex electrical circuits and components can be used to create
Textiles • Use fabrics to create 3D structures/ • Experiment with a range of media to overlap and layer creating textures, effects and colours. • Discuss use of tools, materials and their properties using technical vocabulary. • Use a variety of techniques e.g. printing, dyeing, weaving and stitching to create different textural effects. • Develop skills in stitching, cutting and joining	**Cooking and Nutrition** • Know 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 • Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • Understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate

Evaluating

- Explain how well products have been designed and made
- Explain why materials have been chosen
- Describe what methods of construction have been used
- Understand how well products work to achieve their purposes
- Describe how well products meet user needs and wants
- Determine how sustainable the materials in products are

Design Technology Progression of Skills KS2-Year 6

Year 6 National Curriculum objectives: In this unit, children will be taught to:	
KS2 Area of Study Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].	**Designing** • 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, justifying their choices of materials in a convincing way • 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 • 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	**Technical Knowledge**
• 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 • Follow procedures for safety and hygiene • 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 • Start to think about marketing ideas for their product	• Understand that materials have both functional properties and aesthetic qualities • Understand that materials can be combined and mixed to create more useful characteristics • Understand that mechanical and electrical systems have an input, process and output • Know the correct technical vocabulary for the projects they are undertaking • Explain how mechanical systems such as cams or pulleys or gears create movement • Explain how more complex electrical circuits and components can be used to create functional products • Use a computer programme to control a product • Understand that a recipe can be adapted by adding or subtracting one or More ingredients
Textiles	**Cooking and Nutrition**
• Use fabrics to create 3D structures/ • Experiment with a range of media to overlap and layer creating textures, effects and colours. • Discuss use of tools, materials and their properties using technical vocabulary. • Use a variety of techniques e.g. printing, dyeing, weaving and stitching to create different textural effects. • Develop skills in stitching, cutting and joining	• Know 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 • Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • Understand that a healthy diet is made up from a variety and

	balance of different food and drink, as depicted in The Eatwell Plate • Know that to be active and healthy, food and drink are needed to provide energy for the body

Evaluating

- Explain how well products have been designed and made
- Explain why materials have been chosen
- Describe what methods of construction have been used
- Understand how well products work to achieve their purposes
- Describe how well products meet user needs and wants
- Discuss how innovative products are
- Determine how sustainable the materials in products are
- Explain what impact products have beyond their intended purpose
- Talk about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products