



**Subject:** Design and Technology  
Progression in Knowledge and Skills

### Aspect of the Curriculum

#### Key Stage 1 National Curriculum Objectives

**Design:**

design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

**Make:**

select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

**Evaluate:**

explore and evaluate a range of existing products, evaluate their ideas and products against design criteria,

**Technical vocabulary:**

build structures, exploring how pupils can be made stronger, stiffer and more stable, explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products

**Food and Nutrition:**

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

<p><b>Year 1</b></p>	<p><b>Mechanisms</b> Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project.</p> <p><b>Textiles</b> Begin to understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to identify a target group for what they intend to design and make based on a design criteria. Begin to understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Explore different finishing techniques Know and use technical vocabulary relevant to the project.</p> <p><b>Food and Nutrition</b> Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Begin to understand that all food comes from plants or animals. Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eat well plate</i>. Know and use technical and sensory vocabulary relevant to the project.</p>	<p><b>Developing, planning and communicating ideas:</b> Begin to draw on their own experience to help generate ideas and research conducted on criteria. Begin to understand the development of existing products: What they are for, how they work, materials used. Start to suggest ideas and explain what they are going to do. Understand how to identify a target group for what they intend to design and make based on a design criteria. Begin to develop their ideas through talk and drawings. Make templates and mock ups of their ideas in card and paper or using ICT.</p> <p><b>Working with tools, equipment, materials and components to make quality products</b> Begin to make their design using appropriate techniques. Begin to build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. With help measure, mark out, cut and shape a range of materials. Explore using tools e.g. scissors and a hole punch safely. Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. Begin to use simple finishing techniques to improve the appearance of their product.</p> <p><b>Evaluating processes and products</b> Start to evaluate their product by discussing how well it works in relation to the purpose (design criteria). When looking at existing products explain what they like and dislike about products and why. Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.</p>
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		<b>Food and Nutrition</b>
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Begin to organise foods into the five groups of the 'Eat Well Plate'.

Describe where many familiar foods come from, (plants/animals.)

Work with others to design and prepare a healthy dish, without a heat source.

Use techniques such including peeling and grating in a safe and hygienic way.

<p><b>Year 2</b></p>	<p><b>Food and Nutrition</b>  Understand that all food comes from plants or animals.  Know that food has to be <u>farmed, grown elsewhere (e.g. home) or caught.</u>  Understand how to name and sort foods into the five groups in 'The Eat well plate'  Know that everyone should eat at least five portions of fruit and vegetables every day.  Demonstrate how to prepare simple dishes safely and hygienically, without using a heat source.  Demonstrate how to use techniques such as cutting, peeling and grating.</p> <p><b>Textiles</b>  Understand how simple 3-D textile products are made, using a template to create two identical shapes.  Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.  Explore different finishing techniques  Know and use technical vocabulary relevant to the project.</p> <p><b>Structures</b>  Know how to make freestanding structures stronger, stiffer and more stable.  Understand how to identify a target group for what they intend to design and make based on a design criteria.  Know and use technical vocabulary relevant to the project</p>	<p><b>Developing, planning and communicating ideas</b>  Start to generate ideas by drawing on their own and other people's experiences.  Begin to develop their design ideas through discussion, observation, drawing and modelling.  Identify a purpose for what they intend to design and make.  Understand how to identify a target group for what they intend to design and make based on a design criteria.  Develop their ideas through talk and drawings and label parts. Make templates and mock ups of their ideas in card and paper or using ICT.</p> <p><b>Working with tools, equipment, materials and components to make quality products</b>  Begin to select tools and materials; use correct vocabulary to name and describe them.  Build structures, exploring how they can be made stronger, stiffer and more stable.  With help measure, cut and score with some accuracy.  Learn to use hand tools safely and appropriately.  Start to assemble, join and combine materials in order to make a product.  Demonstrate how to cut, shape and join fabric to make a simple product.  Use basic sewing techniques.  Start to choose and use appropriate finishing techniques based on own ideas.</p> <p><b>Evaluating processes and products</b>  Evaluate their work against their design criteria.  Look at a range of existing products explain what they like and dislike about products and why.  Start to evaluate their products as they are developed, identifying strengths and possible changes they might make.  With confidence talk about their ideas, saying what they like and dislike about them.</p> <p><b>Food and Nutrition</b></p> <ul style="list-style-type: none"> <li>• Organise foods into the five groups of the 'Eat Well Plate'.</li> <li>• Describe the basic principles of a healthy diet.</li> <li>• Design and prepare a healthy dish.</li> <li>• Use techniques such including cutting, peeling and grating in a safe and hygienic way.</li> </ul>
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## Key Stage 2 National Curriculum Objectives

**Design:** use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups,  
generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

**Make:** select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing],  
accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

**Evaluate:** investigate and analyse a range of existing products  
evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  
understand how key events and individuals in design and technology have helped shape the world

**Technical vocabulary:** 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.

**Food and Nutrition:** understand and apply the principles of a healthy and varied diet  
prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  
understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

<p><b>Year 3</b></p>	<p><b>Food and Nutrition</b>          Know how to use appropriate equipment and utensils to prepare, combine and <u>cook</u> food.          Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.          Know and use relevant technical and sensory vocabulary appropriately.          Understand that a healthy diet is made up by a variety and balance of foods and drinks, as depicted in ‘The Eat Well Plate’          Know that food and drink are needed to provide energy for the body.</p> <p><b>Textiles</b>          Know how to strengthen, stiffen and reinforce existing fabrics.          Understand how to securely join two pieces of fabric together.          Understand the need for patterns and seam allowances.          Know and use technical vocabulary relevant to the project</p>	<p><b>Developing, planning and communicating ideas</b>          With growing confidence generate ideas for an item, considering its purpose and the user/s.          Start to order the main stages of making a product. Identify a purpose and establish criteria for a successful product.          Understand how well products have been designed, made, what materials have been used and the construction technique.          Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.          Start to understand whether products can be recycled or reused.          Know to make drawings with labels when designing.          When planning explain their choice of materials and components including function and aesthetics.</p>
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**Mechanisms**

Understand and use lever and linkage mechanisms.  
Distinguish between fixed and loose pivots.  
Know and use technical vocabulary relevant to the project.  
Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.  
Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.

**Working with tools, equipment, materials and components to make quality products**

Select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components and electrical components.  
Explain their choice of tools and equipment in relation to the skills and techniques they will be using.  
Start to understand that mechanical and electrical systems have an input, process and output.  
Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.  
Know how simple electrical circuits and components can be used to create functional products.  
Measure, mark out, cut, score and assemble components with more accuracy.  
Start to work safely and accurately with a range of simple tools.  
Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work.  
Start to measure, tape or pin, cut and join fabric with some accuracy.

**Evaluating processes and products**

Start to evaluate their product against original design criteria *e.g. how well it meets its intended purpose*

Begin to disassemble and evaluate familiar products and consider the views of others to improve them.

Evaluate the key designs of individuals in design and technology has helped shape the world.

**Food and Nutrition**

- Prepare and cook predominantly savoury dishes using a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
- Start to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish).
- Explain why we have fresh and processed foods.
- Design a healthy plate of food linked to the categories on 'The Eat Well Plate'.



<p><b>Year 4</b></p>	<p><b>Food and nutrition:</b>          Know how to use appropriate equipment and utensils to prepare, combine and cook food.          Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught, relevant to the UK, Europe and the wider world.          Know and use relevant technical and sensory vocabulary appropriately.          Know that to be active and healthy, food and drink are needed to provide energy for the body.</p> <p><b>Electrical systems:</b>          Understand and use electrical systems in their products linked to science coverage.          Understand how more complex electrical circuits and components can be used to create functional products.          Apply their understanding of computing to program and control their products.          Know and use technical vocabulary relevant to the project.</p> <p><b>Structures:</b>          Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.          Understand how to reinforce and strengthen a 3D framework.          Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.          Know and use technical vocabulary relevant to the project.          Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p>	<p><b>Developing, planning and communicating ideas</b>          Start to generate ideas, considering the purposes for which they are designing- link with Mathematics and Science.          Confidently make labelled drawings from different views showing specific features.          Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail.          Identify the strengths and areas for development in their ideas and products.          When planning consider the views of others, including intended users, to improve their work.          Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.          When planning explain their choice of materials and components according to function and aesthetic.</p> <p><b>Working with tools, equipment, materials and components to make quality products</b>          Select a wider range of tools and techniques for making their product safely.          Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.          Start to join and combine materials and components accurately in temporary and permanent ways.          Know how mechanical systems such as cams or pulleys or gears create movement.          Understand how more complex electrical circuits and components can be used to create functional products.          Continue to learn how to program a computer to monitor changes in the environment and control their products.          Understand how to reinforce and strengthen a 3D framework.          Now sew using a range of different stitches, to weave and knit.          Demonstrate how to measure, tape or pin, cut and join fabric with some</p>
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**Evaluating processes and products**

Evaluate their products carrying out appropriate tests.

Start to evaluate their work both during and at the end of the assignment.

Be able to disassemble and evaluate familiar products and consider the views of others to improve them.

Evaluate the key designs of individuals in design and technology has helped shape the world.

**Food and Nutrition**

- Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.
- use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
- Describe where many foods come from, in relation to both UK and worldwide foods.

<p><b>Year 5</b></p>	<p><b>Mechanisms</b>  Understand that mechanical and electrical systems have an input, process and an output.  Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.  Know and use technical vocabulary relevant to the project.</p> <p><b>Food and Nutrition</b>  Know how to use utensils and equipment including heat sources to prepare and cook food.  Begin to understand about seasonality in relation to food products and the source of different food products.  Know and use relevant technical and sensory vocabulary.  Understand how food is processed into ingredients that can be eaten or used in cooking.  Begin to understand that different food and drink contain different substances, (nutrients, water and fibre – that are needed for health.)</p> <p><b>Textiles</b>  Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics.  Understand how fabrics can be strengthened, stiffened and reinforced where appropriate.  Know and use technical vocabulary relevant to the project.</p>	<p><b>Developing, planning and communicating ideas</b>  Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.  Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.  With growing confidence apply a range of finishing techniques, including those from art and design.  Draw up a specification for their design- link with Mathematics and Science.  Use results of investigations, information sources, including ICT when developing design ideas.  With growing confidence select appropriate materials, tools and techniques.  Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.</p> <p><b>Working with tools, equipment, materials and components to make quality products</b>  Select appropriate materials, tools and techniques e.g. 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.  Understand how mechanical systems such as cams or pulleys or gears create movement.  Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.  Understand that mechanical and electrical systems have an input, process and output.  Begin to measure and mark out more accurately.  Demonstrate how to use skills in using different tools and equipment safely and accurately with growing confidence cut and join with accuracy to ensure a good-quality finish to the product.  Weigh and measure accurately (time, dry ingredients, liquids).</p>
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**Evaluating processes and products**

Start to evaluate a product against the original design specification and by carrying out tests.

Evaluate their work both during and at the end of the assignment.

Begin to evaluate it personally and seek evaluation from others.

Evaluate the key designs of individuals in design and technology has helped shape the world.

**Food and Nutrition**

- Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.
- use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.

<p><b>Year 6</b></p>	<p><b>Electrical Systems</b>  Understand and use electrical systems in their products linked to science coverage.  Apply their understanding of computing to program, monitor and control their products.  Know and use technical vocabulary relevant to the project.  Understand that mechanical and electrical systems have an input, process and output.</p> <p><b>Food and nutrition</b>  Know how to use utensils and equipment including heat sources to prepare and cook food.  Understand about seasonality in relation to food products and the source of different food products.  Know and use relevant technical and sensory vocabulary  Understand that different food and drink contain different substances, (nutrients, water and fibre – that are needed for health.)</p> <p><b>Mechanisms</b>  Understand that mechanical and electrical systems have an input, process and an output.  Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.  Know and use technical vocabulary relevant to the project.</p>	<p><b>Developing, planning and communicating ideas</b>  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.  Accurately apply a range of finishing techniques, including those from art and design.  Draw up a specification for their design- link with Mathematics and Science.  Plan the order of their work, choosing appropriate materials, tools and techniques.  Suggest alternative methods of making if the first attempts fail.  Identify the strengths and areas for development in their ideas and products.  Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.</p> <p><b>Working with tools, equipment, materials and components to make quality products</b>  Confidently select appropriate tools, materials, components and techniques and use them.  Use tools safely and accurately.  Assemble components to make working models.  Aim to make and to achieve a quality product.  With confidence pin, sew and stitch materials together to create a product.  Demonstrate when make modifications as they go along.  Construct products using permanent joining techniques.  Understand how mechanical systems such as cams or pulleys or gears create movement.  Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.  Know how to reinforce and strengthen a 3D framework.  Understand that mechanical and electrical systems have an input, process and output.  Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.</p> <p><b>Evaluating processes and products</b>  Evaluate their products identifying strengths and areas for development</p>
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Evaluate their work both during and at the end of the assignment.  
Record their evaluations using drawings with labels.  
Evaluate against their original criteria and suggest ways that their product could be improved.  
Evaluate the key designs of individuals in design and technology has helped shape the world.

**Food and Nutrition**

- Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.
- use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.