



Design and Technology

PROGRESSION DOCUMENT

Subject Lead: R Corfield

Design and Technology Association National Curriculum Expert Group for D&T Key Stages 1 and 2

National Curriculum 2014 – statements which are either derived directly from the programmes of study for D&T or provide an age-related interpretation of the requirements are shown in regular font School Curriculum –

Statements which are additional to the programmes of study for D&T are shown in italic font

www.data.org.uk



| | Autumn Term | Spring Term | Summer Term |
|--------|--|--|--|
| Year 1 | Food Preparing DMEA Making a Fruit Salad | Free Standing Structures DMEA Making Bridges and Houses | Textiles Templates and Joining techniques DMEA Creating a fabric animal |
| Year 2 | Mechanisms Sliders and levers DMEA Making a Toy that uses a lever | Food Preparing Vegetables & Nutrition DMEA – Making Salad (linked to Residential Visit) | Mechanisms Wheels and Axles DMEA Space / moon Buggy |

DMEA
Design Make Evaluation
Assignment

| | Autumn Term | Spring Term | Summer Term |
|--------|--|--|--|
| Year 3 | Mechanical Systems inc Levers and Linkages DMEA Make a Christmas Calendar | Mechanical Systems inc Pneumatics DMEA Build Your Own Robot | Shell Structures inc CAD DMEA Making a Bridge |
| Year 4 | Textiles 2D Shapes to 3D product DMEA Emoji Cushion | Electrical Systems Simple Circuits and Switches DMEA | Healthy Food and Varied Diet DMEA Healthy Black Country Meal |

| | Autumn Term | Spring Term | Summer Term |
|--------|--|---|--|
| Year 5 | Food Celebrating Culture and seasonality DMEA | Mechanicals Systems Pulleys or Gears DMEA Boats | Electrical systems. More complex switches and circuits DMEA |
| Year 6 | Textiles Combining Fabric Shapes (perhaps CAD in textiles unit) | Structures Frame Structures (include some mechanical systems - Cams) | Mechanical Systems Cams DMEA DMEA |

| | | | |
|--|------------------------------------|------------------------|--|
| | DMEA Making Xmas Decorations | DMEA – making a truck. | |
|--|------------------------------------|------------------------|--|

Significant Designers and Inventors.

| | DT Topic / Project | Designer | Achievements |
|--------|---|--|--|
| Year 1 | Free Standing Structures DMEA Making Bridges and Houses | Isembard Kingdom Brunel. Mechanical and Civil engineer 1806-1859 | Assisted in the building of the SS Great Britain – the largest ship of its time. Also the first to use a propeller. Famous for the Clifton Suspension Bridge. |
| Year 2 | Mechanisms Wheels and Axles DMEA | Henry Ford Mechanical Engineer 1863 - 1947 | Worked with Edison before making the Model T car in 1904 under own company Ford. |
| Year 3 | Mechanical Systems inc Pneumatics DMEA Build Your Own Robot | James Dyson Engineer and Designer 1947 - | 500 prototypes before making his bagless vacuum cleaner. It was rejected by all major manufacturers so he set up his own company – Dyson. |
| Year 4 | Electrical Systems Simple Circuits and Switches DMEA | Thomas Edison inventor 1847-1932 | Lightbulb, phonograph and motion picture camera. |
| Year 5 | Electrical systems. More complex switches and circuits DMEA | Alexander Graham Bell Scientist, inventor, engineer. 1847-1922 | Inventing the first practical telephone also metal detectors. Interested in sound and his mother and wife were deaf. |
| Year 6 | Textiles Combining Fabric Shapes (perhaps CAD in textiles unit) DMEA Making Xmas Decorations | Mary Quant Fashion Designer 1934 | Awarded Dress of the Year 1963. Pioneered the miniskirt and hotpants in the 1960s |

EYFS

End of Reception Expectations

By the end of Early Years, children should be able to;

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the process they have used.
- Make use of props and materials when role playing characters in narratives and stories
- Use a range of small tools, including scissors, paintbrushes and cutlery.
- Begin to show accuracy and care when drawing

Nursery

- Explore different materials freely and begin to understand how they can be joined
- Develop own ideas and decide which materials to use
- Can draw in detail to represent own ideas

Reception

- Explore different resources, tools and effects that can be achieved.
- Use a range of resources and tools to represent ideas
- Share creations they have made
- Share creations they have made and explain the process

| | KS1 | LKS2 | UKS2 |
|--------|---|---|---|
| Design | <p>KS1 Design and Technology National Curriculum</p> <p>Understanding contexts, users and purposes</p> <p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> • work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • state what products they are designing and 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 | <p>KS2 Design and Technology National Curriculum</p> <p>Understanding contexts, users and purposes</p> <p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • 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 <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas | <p>KS2 Design and Technology National Curriculum</p> <p>Understanding contexts, users and purposes</p> <p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • 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 <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • <i>develop a simple design specification to guide their thinking</i> |
| Design | <p>Generating, developing, modelling and communicating ideas</p> <p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> • 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 information and communication technology, where appropriate, to develop and communicate their ideas | <p>Generating, developing, modelling and communicating ideas</p> <p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • 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 <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • generate realistic ideas, focusing on the needs of the user • make design decisions that take account of the availability of resources | <p>Generating, developing, modelling and communicating ideas</p> <p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • 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 <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> • generate innovative ideas, drawing on research • <i>make design decisions, taking account of constraints such as time, resources and cost</i> |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|--------|---|--|--|---|---|--|
| Design | <p>work confidently within a range of contexts, such as imaginary, story-based, , school, playgrounds,</p> <ul style="list-style-type: none"> • state what products they are designing and making • describe what their products are for • say how they will make their products suitable for their intended users <p>• generate ideas by drawing on their own experiences</p> <p>• develop and communicate ideas by talking and drawing</p> <p>• model ideas by exploring materials, components and construction kits</p> | <p>work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment</p> <ul style="list-style-type: none"> • say whether their products are for themselves or other users • say how their products will work • use simple design criteria to help develop their ideas • use knowledge of existing products to help come up with ideas • model ideas by exploring materials, components and construction kits and by making templates and mockups • use information and communication technology, where appropriate, to develop and communicate their ideas | <p>• work confidently within a range of contexts, such as the home, school and the wider environment</p> <ul style="list-style-type: none"> • 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 • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • make design decisions that take account of the availability of resources | <p>• work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment</p> <ul style="list-style-type: none"> • 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 the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas • model their ideas using prototypes and pattern pieces • use computer-aided design to develop and communicate their ideas • generate realistic ideas, focusing on the needs of the user | <p>• work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment</p> <ul style="list-style-type: none"> • 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 to identify the needs, wants, preferences and values of particular individuals and groups | <p>• work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment</p> <ul style="list-style-type: none"> • 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 • <i>develop a simple design specification to guide their thinking</i> |

| | | | |
|--------|---|--|---|
| Making | <p>KS1 Design and Technology National Curriculum</p> <p>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 making.</p> <p>Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].</p> <p>They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Planning Across KS1 pupils should:</p> <ul style="list-style-type: none"> • <i>plan by suggesting what to do next</i> • select from a range of tools and equipment, explaining their choices • select from a range of materials and components according to their characteristics | <p>KS2 Design and Technology National Curriculum</p> <p>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 making.</p> <p>Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately.</p> <p>They 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.</p> <p>Planning Across KS2 pupils should:</p> <ul style="list-style-type: none"> • select tools and equipment suitable for the task • <i>explain their choice of tools and equipment in relation to the skills and techniques they will be using</i> • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • <i>order the main stages of making</i> | <p>KS2 Design and Technology National Curriculum</p> <p>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 making.</p> <p>Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</p> <p>They 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.</p> <p>Planning Across KS2 pupils should:</p> <ul style="list-style-type: none"> • select tools and equipment suitable for the task • <i>explain their choice of tools and equipment in relation to the skills and techniques they will be using</i> • <i>select materials and components suitable for the task</i> • explain their choice of materials and components according to functional properties and aesthetic qualities <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> • <i>produce appropriate lists of tools, equipment and materials that they need</i> • <i>formulate step-by-step plans as a guide to making</i> |
| Making | <p>Practical skills and techniques</p> <p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> • 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 | <p>Practical skills and techniques</p> <p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • 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. <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • 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 | <p>Practical skills and techniques</p> <p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • 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. <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> • 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 |

| | | | | | | |
|--|--------|--------|--------|--------|--------|--------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|--|--------|--------|--------|--------|--------|--------|

Making

• plan by suggesting what to do next

• select from a range of tools and equipment,

• select from a range of materials and components

• use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components

• assemble, join and combine materials and components

• 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

• follow procedures for safety and hygiene

• use a range of materials and components, including construction materials and kits, textiles, food

• measure, mark out, cut and shape materials and components

• use finishing techniques, including those from art and design

• select tools and equipment suitable for the task

• select materials and components suitable for the task

• begin to explain their choice of materials and components

• order the main stages of making

• follow procedures for safety and hygiene

• use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, and mechanical 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

• explain their choice of tools and equipment in relation to the skills and techniques they will be using

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

• order the main stages of making

• 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

• select tools and equipment suitable for the task

• select materials and components suitable for the task

• 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

• 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

• explain their choice of tools and equipment in relation to the skills and techniques they will be using

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

• 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

| | | | |
|----------|--|--|--|
| Evaluate | <p>KS1 Design and Technology National Curriculum</p> <p>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. Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria.</p> <p>Own ideas and products</p> <p>Across KS1 pupils should: talk about their design ideas and what they are making</p> <ul style="list-style-type: none"> • make simple judgements about their products and ideas against design criteria • <i>suggest how their products could be improved</i> | <p>KS2 Design and Technology National Curriculum</p> <p>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. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped shape the world.</p> <p>Own ideas and products</p> <p>Across KS2 pupils should: identify the strengths and areas for development in their ideas and products</p> <ul style="list-style-type: none"> • consider the views of others, including intended users, to improve their work <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • refer to their design criteria as they design and make • use their design criteria to evaluate their completed product | <p>KS2 Design and Technology National Curriculum</p> <p>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. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped shape the world.</p> <p>Own ideas and products</p> <p>Across KS2 pupils should: identify the strengths and areas for development in their ideas and products</p> <ul style="list-style-type: none"> • consider the views of others, including intended users, to improve their work <p>In Late KS2 pupils should also: critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make</p> <ul style="list-style-type: none"> • evaluate their ideas and products against their original design specification |
| Evaluate | <p>Existing products</p> <p>Across KS1 pupils should explore: what products are</p> <ul style="list-style-type: none"> • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products | <p>Existing products</p> <p>Across KS2 pupils should investigate and analyse:</p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and want <p>In early KS2 pupils should also investigate and analyse::</p> <ul style="list-style-type: none"> • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused | <p>Existing products</p> <p>Across KS2 pupils should investigate and analyse:</p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and want <p>In Late KS2 pupils should also investigate and analyse: how much products cost to make</p> <ul style="list-style-type: none"> • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose |

| | | | | | | |
|----------|---|--|---|--|--|--|
| Evaluate | Key Events and Individuals Not a requirement in KS1 | | Key Events and Individuals Across KS2 pupils should know: • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products | | Key Events and Individuals Across KS2 pupils should know: • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products | |
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Evaluate | talk about their design ideas and what they are making | talk about their design ideas and what they are making • make simple judgements about their products and ideas against design criteria <i>• suggest how their products could be improved</i> | identify the strengths and areas for development in their ideas and products • refer to their design criteria as they design and make • use their design criteria to evaluate their completed product Investigate and analyse:: • who designed and made the products • where products were designed and made | • 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 • use their design criteria to evaluate their completed product Investigate and analyse:: • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused | identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work • evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make | 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 <i>• evaluate their ideas and products against their original design specification</i> |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|----------|---|--|---|--|---|--|
| Evaluate | <p>explore: what products are</p> <ul style="list-style-type: none"> • who products are for • what products are for • how products are used • where products might be used • what materials products are made from • what they like and dislike about products | <p>explore: what products are</p> <ul style="list-style-type: none"> • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products | <p>Investigate and analyse</p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen • how well products work <p>know:</p> <ul style="list-style-type: none"> • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products | <p>Investigate and analyse</p> <ul style="list-style-type: none"> • how well products have been designed and made • why materials have been chosen • what methods of construction have been used • how well products achieve their purposes • how well products meet user needs and want <p>know:</p> <ul style="list-style-type: none"> • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products <p>:</p> | <p>investigate and analyse:</p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen • how well products work • how well products achieve their purposes • how well products meet user needs and want <p>Investigate and analyse: how much products cost to make</p> <p>know:</p> <ul style="list-style-type: none"> • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products | <p>investigate and analyse:</p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and want <p>Investigate and analyse: how much products cost to make</p> <ul style="list-style-type: none"> • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose <p>know:</p> <ul style="list-style-type: none"> • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products |

KS1 Design and Technology National Curriculum

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*

KS2 Design and Technology National Curriculum

Making products work

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:

- 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*

KS2 Design and Technology National Curriculum

Making products work

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 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*

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---------------------|---|--|---|---|---|--|
| Technical Knowledge | <ul style="list-style-type: none"> • about the simple working characteristics of materials and components • how freestanding structures can be made stronger, stiffer and more stable • <i>that a 3-D textiles product can be assembled from two identical fabric shapes</i> • <i>begin to use the correct technical vocabulary for the projects they are undertaking</i> | <ul style="list-style-type: none"> • about the movement of simple mechanisms such as levers, sliders, wheels and axles • <i>that food ingredients should be combined according to their sensory characteristics</i> • <i>use the correct technical vocabulary for the projects they are undertaking</i> | <p>Begins to know:</p> <ul style="list-style-type: none"> 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 • <i>to use the correct technical vocabulary for the projects they are undertaking</i> | <p>knows:</p> <ul style="list-style-type: none"> 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 mechanical and electrical systems have an input, process and output • <i>that materials can be combined and mixed to create more useful characteristics</i> | <p>knows:</p> <ul style="list-style-type: none"> how to use learning from science and maths to help design and make products that work • <i>that materials can be combined and mixed to create more useful characteristics</i> • that mechanical and electrical systems have an input, process and output • <i>the correct technical vocabulary for the projects they are undertaking</i> 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 reinforce and strengthen a 3D framework | <p>knows:</p> <ul style="list-style-type: none"> • that materials have both functional properties and aesthetic qualities • <i>that a 3D textiles product can be made from a combination of fabric shapes</i> • <i>that a recipe can be adapted by adding or substituting one or more ingredients</i> • how to program a computer to monitor changes in the environment and control their products |

KS1 Design and Technology National Curriculum

Children use the basic principles of a healthy and varied diet to prepare dishes.

Where food comes from.**Across KS1 pupils should know:**

- that all food comes from plants or animals
- that food has to be farmed, grown elsewhere (e.g. home) or caught

KS2 Design and Technology National Curriculum

Children understand and apply the principles of a healthy and varied diet.

Where food comes from.**Across KS2 pupils should 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

KS2 Design and Technology National Curriculum

Children understand and apply the principles of a healthy and varied diet.

Where food comes from.**Across KS2 pupils should 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

In late KS2 pupils should also know:

- that seasonality may affect the food available
- how food is processed into ingredients that can be eaten or used in cooking

Food preparation, cooking and nutrition

Across KS1 pupils should know:

- how to name and sort foods into the five groups in The eatwell plate
- that everyone should eat at least five portions of fruit and vegetables every day
- how to prepare simple dishes safely and hygienically, without using a heat source
- how to use techniques such as cutting, peeling and grating

Food preparation, cooking and nutrition

Across KS2 pupils should know:

- 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

In early KS2 pupils should also know

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

Food preparation, cooking and nutrition

Across KS2 pupils should know:

- 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

In late KS2 pupils should also know

• that recipes can be adapted to change the appearance, taste, texture and aroma

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

Cooking and Nutrition

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|--|---|--|---|--|--|--|
| | <ul style="list-style-type: none"> • that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught knows: • that everyone should eat at least five portions of fruit and vegetables every day • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling | <ul style="list-style-type: none"> • that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught knows: • how to name and sort foods into the five groups in The eatwell plate • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling and grating | <ul style="list-style-type: none"> • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. <p>Begins to understand 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</p> <ul style="list-style-type: none"> • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking <p>knows that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate</p> | <ul style="list-style-type: none"> • Understands 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 prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • that to be active and healthy, food and drink are needed to provide energy for the body | <ul style="list-style-type: none"> • Knows how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • Begin to understand seasonality, • know where and how a variety of ingredients are grown, reared, caught and processed. • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking | <ul style="list-style-type: none"> • Knows how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • to understand seasonality, • that seasonality may affect the food available • how food is processed into ingredients that can be eaten or used in cooking • <i>know that recipes can be adapted to change the appearance, taste, texture and aroma</i> • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health. |