



# *Design Technology Long Term Planning Document*

*Implemented: November 2021*

*Updated: September 2024*

*Next Review: September 2026*

## Our Curriculum Intent

The intent of our curriculum is for pupils to have high aspirations, make progress from their starting points and to contribute positively to the school community and beyond.

### Communication

It is essential that children leave Heathlands Primary Academy able to communicate their thoughts, ideas and feelings successfully in a wide range of different forms. Through our work on vocabulary, we aim to develop children's imaginations and to support them with building a rich vocabulary, which will enable them to understand the world in which we live. We will do this in DT by:

- ensuring that all children have an understanding of past and present design and technology that allows them to evaluate how design and technology today is different to the past
- enabling all children to develop an understanding of design and technology's impact on daily life and the wider world
- encouraging children to consider their own and others' needs, wants and values

### Community

Children who attend Heathlands Primary Academy should feel that they are always part of a community, whether this means their class, school, local area or as global citizens. We are closely supported by the Cultural Hub and this enables us to deliver authentic experiences that the children can then use back in the classroom. Some of the ways in which we will achieve this in DT will be:

- to give children the opportunity to use their creativity and imagination to make products that solve real and relevant problems in a variety of contexts
- to allow children the opportunity to take risks, which enable them to become resourceful, innovative, enterprising and capable citizens
- to allow children the opportunity to show how high quality design and technology can make an essential contribution to the creativity, culture, wealth and well-being of a nation

### Application

A key part of our curriculum is ensuring that new skills and knowledge are applied across the subjects, where appropriate. This will enable children to see new information in a variety of contexts, and to become more independent learners.

We will ensure this is effective in DT by:

- enabling children to apply their measuring, drawing and labelling skills when planning and designing
- enabling children to use their scientific skills when designing
- allowing children to use and develop their computing skills, by finding out how IT could be integrated into their design and technology work

## Long Term Planning Document

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Units of learning (linked to NC Pos)	<p>Refer to <b>Development Matters (2020)</b></p> <p><b>Pre-school</b> - Expressive Arts and Design (p.71-73) - Physical Development (p.39-41)</p> <p><b>Reception</b> - Expressive Arts and design (p.73-75) Physical Development (p.41-45)</p>	<p>-Design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>-Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>-Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria</p> <p>-Build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>-Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products</p>	<p>-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</p> <p>-Generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, pattern pieces and computer-aided design</p> <p>-Investigate and analyse a range of existing products</p> <p>-Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>-Understand how key events and individuals in design and technology have helped shape the world</p> <p>-Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>-Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p>	<p>-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</p> <p>-Generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, pattern pieces and computer-aided design</p> <p>-Investigate and analyse a range of existing products</p> <p>-Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>-Understand how key events and individuals in design and technology have helped shape the world</p> <p>-Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>-Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p>	<p>-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</p> <p>-Generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, pattern pieces and computer-aided design</p> <p>-Investigate and analyse a range of existing products</p> <p>-Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>-Understand how key events and individuals in design and technology have helped shape the world</p> <p>-Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>-Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>-Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors - linked to modelling in computing curriculum Y5&amp;6</p> <p>-Apply their understanding of computing to program, monitor and control their products linked to modelling in computing curriculum Y5&amp;6</p>		

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6							
Prior knowledge needed	<p><u>Expressive Arts and Design</u></p> <p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Join different materials and explore different textures.</p> <p><u>Physical Development</u></p> <p>Make healthy choices about food, drink, (activity and toothbrushing).</p> <p>Use one-handed tools and equipment, for example, making snips in paper with scissors.</p>	<p>To know that there is a reason behind why they need to design and make something e.g. to make something already existing better, more attractive, stronger. (EYFS)</p> <p>To know that ideas don't always work, but we can try again a different way. (EYFS)</p> <p>To know that tools must be used with care and precision. (EYFS)</p>	<p>To know that tools (e.g. scissors, knives) need to be handled safely. (Y1 aut)</p> <p>That a picture plan helps us to think about how we are going to make something and what we might need (EYFS)</p> <p>That we can get ideas about how to design and make something by looking at examples (EYFS)</p>	<p>To know that tools (e.g. scissors, knives) need to be handled safely. (Y1 aut)</p> <p>To know that there are some techniques that can reinforce materials (how to make materials stronger, stiffer and more stable) e.g. folding and layering (Y1)</p> <p>To know that there is a reason behind why they need to design and make something e.g. to make something already existing better, more attractive, stronger. This is called a brief. (Y1)</p>	<p>To know that tools (e.g. scissors, knives, peelers) need to be handled safely. (Y1 spr)</p> <p>To know that every product should be targeted at a specific user / audience (group of people) (Y2 spr)</p> <p>To know that some methods create a more permanent joins than others (e.g. temporary: paperclips, tape, permanent: glue, staples) (Y1)</p>	<p>To know that tools (e.g. scissors, knives, peelers) need to be handled safely. (Y1 spr)</p> <p>To know that there are basic hygiene rules that should be followed when preparing food (e.g. hands washed, hair up, apron on, sleeves rolled up) (Y1)</p>	<p>To know that tools (e.g. scissors, knives, peelers) need to be handled safely. (Y1 spr)</p> <p>To know that food can be evaluated for taste (Y1)</p> <p>To know that there are basic hygiene rules that should be followed when preparing food (e.g. hands washed, hair up, apron on, sleeves rolled up) (Y1)</p> <p>To know that some methods create a more permanent joins than others (e.g. temporary: paperclips, tape, permanent: glue, staples) (Y1)</p>	<p>To know that tools (e.g. scissors, knives, peelers) need to be handled safely. (Y1 aut)</p> <p>To know that there are existing products in the wider world that can be used as a source of inspiration for new designs (Y2)</p> <p>To know that more than one idea should be evaluated to decide which would meet the brief best before moving into manufacture. (Y3)</p> <p>To know that a product's ability to meet a brief is based on a balance between function and appearance (Y3)</p>	<p>To know that all tools need to be handled safely. (Y4 spr)</p> <p>To know that a product's ability to meet a brief is based on a balance between function and appearance (Y3)</p>	<p>To know that all tools need to be handled safely. (Y4)</p> <p>There are safety rules associated with using each tool (Y4 spr)</p> <p>To know that more than one idea should be evaluated to decide which would meet the brief best before moving into manufacture. (Y3)</p> <p>To know that a product's ability to meet a brief is based on a balance between function and appearance (Y3)</p> <p>To know that a brief identifies a need for a specific audience or user and can be broken down into design criteria, which identifies the needs the design should meet (Y4)</p>	<p>To know that all tools need to be handled safely. (Y4)</p> <p>There are safety rules associated with using each tool (Y4 spr)</p> <p>To know that there are basic hygiene rules that should be followed when preparing food (e.g. hands washed, hair up, apron on, sleeves rolled up) (Y1)</p> <p>To know that different materials can be joined together in different ways (Y2)</p> <p>To know that a brief identifies a need and can be broken down into design criteria, which identifies the need it should meet (Y2)</p>	<p>To know that all tools need to be handled safely. (Y4)</p> <p>There are safety rules associated with using each tool (Y4 spr)</p> <p>To know that the appeal of a product is based on ability of a product to fulfil a specified need, functionality, appearance and cost (and sustainability – geography link) (Y5)</p> <p>To know that for food to be appealing it needs to balance the senses: food can be evaluated for, appearance, smell, taste nutritional value and balance (sweet, sour, salty, bitter, spicy) (Y5)</p> <p>To know that different foods are grown, caught, reared and processed in different ways e.g. organic, farmed, wild, reared caged/uncaged, organic, processed / unprocessed (Y5)</p> <p>To know that there are basic hygiene rules that should be followed when preparing food (e.g. hands washed, hair up, apron on, sleeves rolled up) (Y1)</p> <p>To know that food can be</p>	<p>To know that all tools need to be handled safely. (Y4)</p> <p>There are safety rules associated with using each tool (Y4 spr)</p> <p>To know that more than one idea should be evaluated to decide which would meet the brief best before moving into manufacture. (Y3)</p> <p>To know that technology has developed over time and how this has changed people's way of life (Y6 aut)</p>	<p>To know that all tools need to be handled safely. (Y4)</p> <p>There are safety rules associated with using each tool (Y4 spr)</p> <p>To know that more than one idea should be evaluated to decide which would meet the brief best before moving into manufacture. (Y3)</p> <p>To know that for some materials, some adhesives are more effective than others (Y5)</p> <p>To know that a brief identifies a need for a specific audience or user and can be broken down into design criteria, which identifies the needs the design should meet (Y4)</p>

														cooked in a variety of ways - boil, sauté, fry, steam (Y5)					
														To know that a product should be designed with the specific audience/user in mind (Y5)					
	EYFS	Y1			Y2			Y3			Y4			Y5			Y6		
DT skills to be explicitly taught during this unit	<p><u>From Development Matters:</u></p> <p><u>Expressive Arts and Design</u></p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources and skills.</p> <p><u>Physical Development</u></p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently, including scissors to cut paper, card and cardboard.</p> <p>Know and talk about the different factors that support their overall health and wellbeing, inc. healthy eating.</p> <p><u>PSED</u></p> <p>Manage their own needs</p>	<p>Start to suggest ideas and explain what they are going to do.</p> <p><b>Begin to develop their ideas through talk and drawings.</b></p> <p>Make templates and mock ups of their ideas in card and paper or using ICT.</p>	<p><b>Begin to draw on their own experience to help generate ideas and research conducted on criteria.</b></p> <p>Begin to understand the development of existing products: What they are for, how they work, materials used.</p>	<p>Understand how to identify a target group for what they intend to design and make based on a design criteria.</p>	<p>Start to generate ideas by drawing on their own and other people's experiences.</p> <p><b>Begin to develop their design ideas through discussion, observation, drawing and modelling.</b></p> <p>Develop their ideas through talk and drawings and label parts.</p> <p>Make templates and mock ups of their ideas in card and paper or using ICT. (R)</p>	<p>Identify a purpose for what they intend to design and make.</p>	<p><b>Identify a target group for what they intend to design and make based on a design criteria. (R)</b></p>	<p>With growing confidence generate ideas for an item, considering its purpose and the user/s.</p> <p><b>Start to order the main stages of making a product.</b></p>	<p>Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p>	<p><b>Identify a purpose and establish criteria for a successful product.</b></p> <p>Understand how well products have been designed, made, what materials have been used and the construction technique.</p> <p>Know to make drawings with labels when designing.</p> <p>When planning explain their choice of materials and components including function and aesthetics.</p>	<p>Start to generate ideas, considering the purposes for which they are designing- link with mathematics and science.</p> <p><b>Confidently make labelled drawings from different views showing specific features.</b></p> <p>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.</p> <p>When planning consider the views of others, including intended users, to improve their work.</p>	<p><b>Identify the strengths and areas for development in their ideas and products.</b></p>	<p>Identify the strengths and areas for development in their ideas and products. (R)</p> <p><b>When planning explain their choice of materials and components according to function and aesthetic.</b></p> <p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>With growing confidence select appropriate materials, tools and techniques.</p>	<p>Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.</p> <p><b>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</b></p> <p>With growing confidence select appropriate materials, tools and techniques.</p>	<p>With growing confidence apply a range of finishing techniques, including those from art and design.</p> <p>Draw up a specification for their design- link with mathematics and science.</p> <p><b>With growing confidence apply a range of finishing techniques, including those from art and design. (R)</b></p> <p>Use results of investigations, information sources, including ICT when developing design ideas.</p>	<p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. (R)</p> <p>Suggest alternative methods of making if the first attempts fail.</p> <p><b>Identify how much products cost to make, how sustainable they are and the impact products have beyond their intended purpose.</b></p>	<p><b>Accurately apply a range of finishing techniques, including those from art and design. (R)</b></p> <p>Draw up a specification for their design- link with mathematics and science. (R)</p> <p><b>Plan the order of their work, choosing appropriate materials, tools and techniques.</b></p>	<p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces. (R)</p> <p>Draw up a specification for their design- link with mathematics and science. (R)</p> <p><b>Identify the strengths and areas for development in their ideas and products. (R)</b></p>	
	<p>Working with tools, equipment, materials and</p>	<p>Begin to make their design using appropriate techniques.</p> <p><b>Begin to build structures, exploring how they can be made stronger, stiffer and more stable.</b></p> <p>Explore using</p>	<p>Begin to use simple finishing techniques to improve the appearance and function of their product.</p>	<p><b>With help measure, mark out, cut and shape a range of materials.</b></p> <p>Build structures, exploring how they can be made stronger, stiffer and</p>	<p>Begin to select tools and materials; use correct vocabulary to name and describe them.</p> <p>Build structures, exploring how they can be made stronger, stiffer and</p>	<p>Learn to use hand tools safely and appropriately. (R)</p>	<p>Learn to use hand tools safely and appropriately. (R)</p> <p>Assemble, join and combine materials in order to make a product. (R)</p> <p>Start to choose and use appropriate finishing</p>	<p>Explain their choice of tools and equipment in relation to the skills and techniques they will be using.</p> <p>Start to think about their ideas as they make progress and be willing to change</p>	<p><b>Explain their choice of tools and equipment in relation to the skills and techniques they will be using. (R)</b></p>	<p>Explain their choice of tools and equipment in relation to the skills and techniques they will be using. (R)</p> <p>Measure, mark out, cut, score and assemble components</p>	<p>Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.</p> <p>Start to join and combine materials and components</p>	<p><b>Use basic sewing techniques.</b></p> <p><b>Start to measure, tape or pin, cut and join fabric with some accuracy.</b></p>	<p>Select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, mechanical components and electrical components.</p> <p><b>Select a wider range of tools</b></p>	<p>Select appropriate materials, tools and techniques e.g. cutting, shaping, joining and finishing, accurately.</p> <p>Select from and use a wider range of materials and components,</p>	<p><b>Weigh and measure accurately (time, dry ingredients, liquids).</b></p> <p>Use finishing techniques to strengthen and improve the appearance of their product using a range</p>	<p>Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.</p> <p>Know how mechanical systems such as pulleys or</p>	<p><b>Use tools safely and accurately.</b></p> <p>Aim to make and to achieve a quality product.</p>	<p><b>Assemble components to make working models.</b></p> <p>Understand how more complex electrical circuits and components can be used to create functional products.</p>	<p>Confidently select appropriate tools, materials, components and techniques and use them.</p> <p><b>Construct products using permanent joining techniques.</b></p>



			Begin to understand that everyone should eat at least five portions of fruit and vegetables every day.  Know how to prepare simple dishes safely and hygienically, without using a heat source.  Use techniques such as cutting, mixing & spreading			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.	hygienically including, where appropriate, the use of a heat source.  Use a range of techniques such as peeling, chopping, slicing, and grating  Start to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'	spreading, kneading and baking. (R)  Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate' (R)  Know that to be active and healthy, food and drink are needed to provide energy for the body. (R)					processed into ingredients that can be eaten or used in cooking.  Know 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 that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.	Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. (R)  Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health. (R)		
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	EYFS	Y1	Y2	Y3	Y4	Y5	Y6									
Knowledge to be taught (Secured knowledge in bold)	<p><b>Expressive Arts and Design</b></p> <p>To know how to use a range of different materials to realise creative ideas, including glue.</p> <p>To know that there is a reason behind why they need to design and make something e.g. to make something already existing better, more attractive, stronger.</p> <p>That we can get ideas about how to design and make something by looking at examples</p> <p>To know that ideas don't always work, but we can try again a different way.</p>	<p>To know that plans can be adjusted during manufacture (if part of it doesn't work)</p> <p>To know that food can be evaluated for taste</p> <p>To know that food looks different in its raw to its cooked state or prepared/unprepared state (e.g. kiwi pineapple)</p> <p>To know that there are basic hygiene rules that should be followed when preparing food (e.g. hands washed, hair up, apron on, sleeves rolled up)</p> <p>To know that tools (e.g. scissors, knives) need to be handled safely.</p>	<p>To know that every product should be targeted at a specific user / audience (group of people)</p> <p>To know that the design and planning process can be enhanced by generating more than one idea and adding labels to plans.</p> <p>To know that different materials have different scientific properties which makes some more suitable than others to fulfil a brief.</p> <p>To know that tools (e.g. scissors, knives) need to be handled safely.</p>	<p>To know that how effective a product is depends on how well it meets the brief</p> <p>To know that food can be grown and country of origin - link to food miles and sustainability: geography</p> <p>To know that tools (e.g. scissors, knives, peelers) need to be handled safely.</p> <p>To know that a product needs to be appealing to the audience.</p> <p>To know that a brief / design criteria can be solved / met in different ways</p> <p>To know that there are existing</p>	<p>To know that a brief identifies a need for a user or audience and can be broken down into design criteria, which identifies the need the design should meet</p> <p>To know that this user / audience should be identified in the design criteria</p> <p>To know that the design and planning process can be enhanced by generating more than one idea.</p> <p>To know that more than one idea should be evaluated to decide which would meet the brief best</p>	<p>To know that how effective a product is depends on how well it meets the brief</p> <p>To know that existing products all have good and bad points (flaws) and meet some parts of the design criteria better than others.</p> <p>To know that food can be evaluated for, taste, appearance, smell and nutritional value</p> <p>To know that a product's ability to meet a brief is based on a balance between function and appearance</p>	<p>To know that need to be handled safely. Focus on those not previously covered e.g. saws, strong adhesives, wood glue, fabric glue, craft knives / craft scissors, pliers and wire cutters to cut and mould wire</p> <p>That there are some techniques that can reinforce materials (how to make materials stronger, stiffer and more stable) such as layering and folding using reinforcing strips and triangles</p>	<p>To know that a brief identifies a need for an audience or user and can be broken down into design criteria, which identifies the needs the design should meet</p> <p>To know that designs should be evaluated against the design criteria</p> <p>To know that materials can be joined together in different ways</p> <p>To know that the design and planning process can be enhanced by generating more than one idea.</p> <p>To know that more than one idea should be evaluated to decide which would meet the brief best</p>	<p>To know that there are different types of stitches each technique has advantages and disadvantages that should be taken into account when choosing which to use, which affects when they should be used (e.g. overstitch, running stitch, blanket stitch)</p> <p>To know that function and appearance, availability of resources, time available and skill level should be taken into account when choosing the final design and manufacturing process</p>	<p>To know that the use / user of a product will affect design choices e.g. a smaller cushion for children</p> <p>To know that different materials have different scientific properties which make some more suitable than others to fulfil a brief including electrical systems (see Y4 science)</p> <p>To know that simple electrical circuits and components can be used to create functional products.</p>	<p>To know that a product should be designed with the specific audience/user in mind</p> <p>To know that the appeal of a product is based on ability of a product to fulfil a specified need, functionality, appearance and cost (and sustainability – geography link)</p> <p>To know that there are lots of designs in the wider world that can be used as a source of inspiration for new designs</p> <p>To know that the longevity of some materials/mec</p>	<p>To know that for food to be appealing it needs to balance the senses: food can be evaluated for, appearance, smell, taste, nutritional value and balance (sweet, sour, salty, bitter, spicy)</p> <p>To know that seasonality and cost to health should be taken into account when choosing the final design</p> <p>To know where food they are consuming comes from</p> <p>To know that different foods are grown, caught, reared and processed in different</p>	<p>To know that for some materials, some adhesives are more effective than others</p> <p>To know that materials can be joined together in different ways e.g. glue, staple, pin</p> <p>To know how different mechanisms work and why/when they should be used (e.g. linkages and gears, pulleys)</p> <p>To know that cross section and exploded diagrams are a way of demonstrating how part of a product will work</p>	<p>To know that market research can be conducted to gain a better understanding of the factors that influence the needs of the specific user, this should be incorporated into a design.</p> <p>To know that technology has developed over time and how this has changed people's way of life</p> <p>To know that different foods are grown at different times of the year, this means they are more readily available: seasonality</p> <p>To know that different types</p>	<p>To know that there are safety rules associated with using each tool</p> <p>Focus on those not previously covered e.g. saws, strong adhesives, wood glue, fabric glue, craft knives / craft scissors, pliers and wire cutters to cut and mould wire</p> <p>To know that more complex electrical circuits and components can be used to create functional products</p>	<p>To know that different mechanisms work differently and why/when they should be used (e.g. pneumatics, hinges, cams)</p>

	<p>To be able to recognise problems with constructions and solve them as they arise.</p> <p>To know how to evaluate a product.</p> <p>To know that there are different techniques for joining materials together.</p> <p>To know that tools must be used with care and precision.</p> <p>That a picture plan helps us to think about how we are going to make something and what we might need</p> <p><u>Physical Development</u></p> <p>To know how to use a range of tools competently, safely and confidently.</p> <p><u>PSED</u></p> <p>Specific to cooking and nutrition: That a balanced diet, with lots of fruits and vegetables is important to be healthy. (Half a plate of vegetables, 5 a day)</p> <p>That hands can carry germs and should be washed before handling food</p>	<p>permanent: glue, staples)</p> <p>To know that tools (e.g. scissors, knives) need to be handled safely.</p> <p>To know that there are lots of uses for different materials.</p>	<p>peelers) need to be handled safely.</p>				<p>products in the wider world that can be used as a source of inspiration for new designs</p> <p>To know that tools (e.g. scissors, knives) need to be handled safely.</p>	<p>before moving into manufacture.</p> <p>To know that a dish/meal should be evaluated for how healthy it will be the time of planning (e.g. science link healthy bodies)</p> <p>To know that a recipe can be adapted to change the taste, appearance and smell.</p> <p>To know that raw food sometimes has additional hygiene rules linked to food preparation (e.g. raw meat) NB: raw meat does now have to be included in recipes to teach this.</p>	<p>To know that food can be cooked in a variety of ways, but a heat source is always required.</p>			<p>To know that tools (e.g. needles) need to be handled safely</p> <p>There are safety rules associated with using each tool Focus needles, pins and different material scissors</p> <p>To know that materials can be joined together in different ways - focus on sewing</p>		<p>hanisms can be increased through reinforcing, stiffening and strengthening techniques.</p> <p>To know that prototypes can be used to give an indication of how successful the design will be at the manufacturing stage.</p> <p>To know that designs should be evaluated against the design criteria and the success of prototypes made</p>	<p>ways e.g. organic, farmed, wild, reared caged/uncaged, organic, processed / unprocessed</p> <p>To know that locally produced food has a lower carbon footprint and that meat farming produces carbon dioxide</p> <p>To know that some ingredients in products have a higher carbon footprint or lower sustainability and health benefits e.g. palm oil, high sugar</p> <p>To know that there are some common allergies e.g. nuts, egg, wheat, gluten that sometimes need to be factored into a design process</p> <p>To know that food can be cooked in a variety of ways - boil, sauté, fry, steam</p> <p>To know that different types of food need correct storage.</p> <p>To know that garnishes can make food more attractive</p> <p>To know that seasons and climate affect food growth, but that some products are grown out of natural climates to increase yield.</p>		<p>of food need correct storage and how this would have been an issue in wartime Britain.</p>		
EYFS		Y1		Y2				Y3			Y4			Y5			Y6		

DT vocabulary to be explicitly taught during this unit	glue scissors paper card cardboard healthy	uses materials design join tools paperclip staple purpose brief template mock up drawing	function raw cooked portion fillings	split pin V-fold spring attach	target audience properties user	appealing open fire dough traditional sustainability	lever pivot slider axle criteria twine mechanism	suitability peel chop slice grate	taste appearance smell heat savoury sweet hygiene	robust effective attractive	opening/closing net disassemble criteria	resources fabric stitch needle thread (noun and verb)	internal circuit fulfil brief cell lamp crocodile clip wire	annotate friction angle gravity amusement	footprint organic farmed fair trade, caged/uncaged, processed/unprocessed seasonal/seasonality	pulley cross section exploded diagram	market research consumption ration storage impact	eco-friendly innovative specification	entertainment smooth movement cams hinge
	EYFS	Y1			Y2			Y3			Y4			Y5			Y6		
Supporting inventors to research	<p>Link relevant inventors to 'inventor' story books (examples below) ...</p> <p><b>Rosie Revere Engineer</b> (Andrea Beaty)</p> <p>The Girl Who Thought in Pictures (Julia Finley Mosca)</p> <p><b>If I Built a Car / House</b> (Chris Van Dusen)</p> <p><b>Whoosh!</b> (Chris Barton)</p> <p><b>The Most Magnificent Thing</b> (Ashley Spires)</p>	Take inspiration from nature – visit the spinney. What would a hedgehog need?	John Montague, Earl of Sandwich (sandwich)	Fritz Klatt (PVA glue)  Ramon Llull (pop-ups)	(Sir) Christopher Wren (St Paul's Cathedral)	Alan MacMasters (toaster)	Leonardo da Vinci (various vehicles)	Heston Blumenthal (pioneer of multi-sensory cooking)	Julius Freed (fruit smoothies)  Claudius Gelee (Danish pastry)	Sarah Boone (ironing board)	Charles Rennie Mackintosh (furniture designer)	Morris Michtom (teddy bear)	Georges Claude (inventor of neon lights)	Elizabeth Magie (Monopoly)  Ancient Egyptians (the first 'safe' was discovered in a pharaoh's tomb) – Links to Y5 history unit	Alphonse Allais (instant coffee)  William Hermanson (teabag)	Henry Ford (mass car production)	Jay Hormel (Spam)  Pietro Ferrero (Nutella)	Thomas Edison & Nikola Tesla (lightbulb)	Jim Henson (puppeteer)
	EYFS	Y1			Y2			Y3			Y4			Y5			Y6		
Suggested outcomes	<p>Activities to be included in continuous provision throughout the year ....</p> <p><b>Pre-school</b></p> <ul style="list-style-type: none"> <li>- Explore different materials (how to use them and what to make).</li> <li>- Join different materials together using a range of tools.</li> <li>- Develop model-making.</li> <li>- Use one-handed tools and equipment.</li> </ul> <p><b>Reception</b></p> <ul style="list-style-type: none"> <li>- Provide a range of materials for the children to construct with. Solve problems as they arise.</li> <li>- Teach children different</li> </ul>	Bug hotels and animal shelters	Lighthouse keeper's lunch (sandwich and sandwich fillings)	Finger puppets (glue based)	Buildings and structures - models	Make South African food – could link with Forest School – cooking on open fire ( <i>braai/broodjie</i> )	Simple vehicles (Construction kits)	Iron age root vegetable stew (including meat)	Roman food eg Roman apple cakes/honey cakes/flatbread	Free standing photograph frames/kites	Treasure box	Stuffed toy	A light-up name sign	Design and build a simple marble run	Fruit and vegetables – soup, smoothies and fruit salad, ancient Greek inspired fruit pancakes (tiganites)	Make an animal that opens its mouth, using simple mechanisms	Wartime recipes - rationing	Electric and non-electric toy vehicles – exciting and interesting for a child	Make an automata animal, incorporating cams

	<p>techniques for joining materials.  - Provide extended range of tools and materials for children to use independently.  - Develop small-motor skills to support the use of a range of tools.</p>
<b>Rationale</b>	<p>This curriculum aims for all pupils to leave school with an understanding that design and technology is about the creation of a product to fulfil a need and that technical knowledge and skills are required in the manufacture of this product.  The curriculum has been designed so that children’s understanding of the design process, the making process, the evaluation of a product and their own technical knowledge is built up year on year.  Design: At KS1 the children design purposeful, appealing products based on design criteria. They generate and communicate their ideas through talking, drawing and templates. At KS2 children research and develop design criteria to inform the design of innovative products that are fit for purpose. Ideas will be communicated through complex sketches, prototypes and pattern pieces.  Make: KS1 children will use a range of tools to perform simple practical tasks, such as cutting and shaping. They will choose from a wide range of construction materials, according to their characteristics. At KS2 children will use a wider range of tools that will allow them to perform practical tasks more accurately. They will choose form a wider range of materials that will be chosen for their functional properties and aesthetic qualities.  Evaluate: At KS1 children will evaluate their ideas and products against design criteria. At KS2 children will also consider the views of others to improve their work and think about how key events and individuals in design have helped to shape the world.  Technical knowledge: At KS1 children will build structures, considering how they can be made more stable. They will explore and use simple mechanisms in their products, e.g. levers, sliders, wheels and axles. At KS2 the children will apply their understanding of how to strengthen more complex structures. They will use mechanical (gears, pulleys, cams) and electrical (series circuits incorporating switches, buzzers) systems in their products. They will use ICT within their products.  The process of design, manufacture and evaluate run through each unit of work. Some units may focus on learning a specific skills within the manufacture process.</p>

*(R) – repeated skill to ensure all children have had the opportunity to practise.*