

## Strands of Design and Technology Understanding (see also Appendix 1)

| Design | Make     |                                 | Evaluate | Technical Knowledge | Cooking and Nutrition |
|--------|----------|---------------------------------|----------|---------------------|-----------------------|
|        | Planning | Practical Skills and Techniques |          |                     |                       |

### EYFS - NURSERY AND RECEPTION

| EYFS              |  |
|-------------------|--|
| Nursery<br>3-4yrs | <p>Physical Development - Fine Motor</p> <ul style="list-style-type: none"> <li>Use one handed tools and equipment, for example, making snips in paper with scissors.</li> <li>Use a comfortable grip with good control when holding pens and pencils.</li> <li>Show a preference for a dominant hand.</li> </ul> <p>Expressive Arts and Design - Creating with Materials</p> <ul style="list-style-type: none"> <li>Explore different materials freely, to develop their ideas about how to use them and what to make.</li> <li>Develop their own ideas and then decide on what materials to use to express them.</li> <li>Join different materials and explore different textures.</li> </ul> <p>Personal Social and Emotional Development - Managing Self</p> <ul style="list-style-type: none"> <li>Select and use activities and resources with help when needed. This helps them to achieve a goal that they have chosen or one that is suggested to them.</li> <li>Make healthy choices about food, drink, activity and toothbrushing.</li> </ul> |
| Reception         | <p>Physical Development - Fine Motor</p> <ul style="list-style-type: none"> <li>Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools - pencils, paintbrushes, scissors knives forks and spoons</li> </ul> <p>Expressive Arts and Design - Creating with Materials</p> <ul style="list-style-type: none"> <li>Explore, use and refine a variety of artistic effects to express their ideas and feelings.</li> <li>Return to and build on their previous learning, refining ideas and developing their ability to represent them</li> <li>Create collaboratively, sharing ideas, resources and skills</li> </ul> <p>Personal Social and Emotional Development - Managing Self</p> <ul style="list-style-type: none"> <li>show resilience and perseverance in the face of challenge.</li> <li>Know and talk about the different factors that support their overall health and wellbeing - regular physical activity, healthy eating.</li> </ul>                                      |

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| Statutory ELG:<br>PD - <b>Fine Motor</b>               | Children at the expected level of development will: <ul style="list-style-type: none"> <li>● <b>Hold a pencil effectively</b> in preparation for fluent writing – using the tripod grip in almost all cases;</li> <li>● <b>Use a range of small tools, including scissors, paint brushes and cutlery;</b></li> <li>● <b>Begin to show accuracy and care when drawing.</b></li> </ul>  |
| Statutory ELG:<br>PSED -<br><b>Managing Self</b>       | Children at the expected level of development will: <ul style="list-style-type: none"> <li>● <b>Be confident to try new activities and show independence, resilience and perseverance in the face of challenge;</b></li> <li>● <b>Manage their own basic hygiene and personal needs, including dressing, going to the toilet, and understanding the importance of healthy food choices.</b></li> </ul>                                      |
| Statutory ELG:<br>EAD - <b>Creating with materials</b> | Children at the expected level of development will: <ul style="list-style-type: none"> <li>● <b>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function;</b></li> <li>● <b>Share their creations, explaining the process they have used</b></li> <li>● <b>Make use of props and materials when role playing characters in narratives and stories</b></li> </ul> |
| Statutory ELG:<br><b>Speaking</b>                      | Links: <b>Offer explanations for why things might happen, making use of recently introduced vocabulary</b>  |
| Vocabulary   | build, design, draw, cut, snip, join, stick, glue, tape, thread, model, strong, sturdy, chop, peel, spread, cook, eat, sharp, safe, healthy, food   |

## YEAR 1

| YEAR 1        | Autumn | Spring 1  | Summer 1   | Summer 2  |
|---------------|--------|---|--|---|
| Vocabulary    |        | vehicles, wheels, axels, chassis, axle, rod, centre, turn, frame, spindle, mechanism, move, design, specific purpose, creation, evaluation, design criteria,  | peeling, tearing, slicing, chopping, mashing, grating, product, tool   | shade, shelter, warmth, protection, weather, structures, environment, materials, strong, sturdy, temporary, permanent, similarities, differences, prototype   |
| N.C. Coverage |        | <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.</p> <p>Evaluate their ideas and products against design criteria.</p> <p>Explore and use mechanisms in their products. <b>(wheels, axles and chassis)</b></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 and drawing.</p> <p>Select from and use a range of tools and equipment to perform practical tasks <b>( selecting food prep tools )</b></p> <p>Evaluate their ideas and products against design criteria.</p> <p>Use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>Understand where food comes from. <b>(plant/animal derived)</b></p> <p>Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate</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 and <b>mock-ups. (junk modelling - use fabric sticks etc.. to mimic real life large scale resources)</b></p> <p>Select from and use a wide range of materials and components, including construction materials, and textiles according to their characteristics. <b>(waterproof/absorbent/flexible - Science linked)</b></p> <p>Explore and evaluate a range of existing products.</p> <p>Evaluate their ideas and products against design criteria.</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable.</p> |

# D&T - Whole School Long Term Planning

Academic Year 2023-24

|                         |   |      |  |   |
|-------------------------|---|------|--|---|
|                         |   |      | successfully in an increasingly technological world. | Develop the creative, technical and practical expertise needed to perform everyday tasks confidently. |
| Enquiry Questions       |   | Taxi | Chop Slice and Mash                                  | Shade and Shelter   |
| Enrichment              |   |      |  |   |
| D&T Skills and Concepts | use their knowledge of existing products and their own experience to help generate their ideas                    |      |  |   |
|                         | design products that have a purpose and are aimed at an intended user   |      |  |   |
|                         | explain how their products will look and work through talking and simple annotated drawings                       |      |  |   |
|                         | plan and test ideas using templates and mock-ups  |      |  |   |
|                         | understand and follow simple design criteria  |      |  |   |
|                         | work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment. |      |  |   |
|                         | <b>Planning</b>   |      |  |   |
|                         | with support, follow a simple plan or recipe  |      |  |   |
|                         | select from a range of materials, textiles and components according to their characteristics;                     |      |  |   |
|                         | <b>Practical skills and techniques</b>  |      |  |   |
|                         | learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures;    |      |  |   |
|                         | use a range of materials and components   |      |  |   |
|                         | assemble, join and combine materials, components or ingredients;  |      |  |   |
|                         | cut, peel and grate ingredients   |      |  |   |
|                         | explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations     |      |  |   |
|                         | talk about their design ideas and what they are making;   |      |  |   |

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|  | evaluate their products and ideas against their simple design criteria;  |
|  | build simple structures, exploring how they can be made stronger, stiffer and more stable;                             |
|  | talk about and start to understand the simple working characteristics of materials and components;                     |
|  | explore and create products using mechanisms, such as wheels.  |
|  | understand that all food comes from plants or animals;   |
|  | understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why; |
|  | use what they know about the Eatwell Guide to design and prepare dishes.   |

## YEAR 2

| YEAR 2        | Autumn   | Spring   | Summer 1   | Summer 2  |
|---------------|--|--|--|---|
| Vocabulary    | Fabric, brand, sewing, patterns, running stitch, embellishment   | Structure, join, strength, components, apex roof, saw, sand, 3D box frame, walls, roof   | Lever, linkage, mechanism, pivot, slider   | Food source, preparation, cooked, raw, recipe   |
| N.C. Coverage | <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 talk, drawing and templates.</p> <p>Select from and use a range of tools and equipment to perform practical tasks <b>(food preparation equipment)</b></p> <p>Select from and use a wide range of materials and components, including food ingredients, according to their characteristics.</p> <p>Explore and evaluate a range of existing products. <b>(textiles - fastenings and properties of materials)</b></p> <p>Evaluate their ideas and products against design criteria.</p> <p><b>Significant designer - Cath Kidson</b></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.</p> <p>Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).<b>(woodworking and combined materials modelling)</b></p> <p>Select from and use a wide range of materials and components, including construction materials, according to their characteristics.</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable.<b>(introduction to woodworking techniques and purposes)</b></p> <p>Evaluate their ideas and products against design criteria.</p> | <p>Design purposeful, functional, appealing products for themselves and other users based on design criteria.<b>(moving greetings card)</b></p> <p>Select from and use a wide range of materials and components.</p> <p>Explore and evaluate a range of existing products.</p> <p>Evaluate their ideas and products against design criteria.</p> <p>Explore, use and select mechanisms <b>(for example, levers, sliders and linkages)</b> in their products.</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>Select from and use a range of tools and equipment to perform practical tasks <b>(for example, safety knives, graters, juicers)</b></p> <p>Explore and evaluate a range of existing products.</p> <p>Evaluate their ideas and products against design criteria.</p> <p>Use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>Understand where food comes from.</p> <p>Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.</p> |

# D&T - Whole School Long Term Planning

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| Enquiry Questions       | Cut Stitch and Join   | Beach Hut | Push and Pull | Remarkable Recipes |
|-------------------------|---|-----------|---------------|--------------------|
| Enrichment              |   |           |               |                    |
| D&T Skills and Concepts | use their knowledge of existing products and their own experience to help generate their ideas                          |           |               |                    |
|                         | design products that have a purpose and are aimed at an intended user   |           |               |                    |
|                         | explain how their products will look and work through talking and simple annotated drawings                             |           |               |                    |
|                         | plan and test ideas using templates and mock-ups  |           |               |                    |
|                         | understand and follow simple design criteria  |           |               |                    |
|                         | work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.       |           |               |                    |
|                         | <b>Planning</b>   |           |               |                    |
|                         | with support, follow a simple plan or recipe  |           |               |                    |
|                         | begin to select from a range of hand tools and equipment, such as scissors, graters, safe knives, sewing needles        |           |               |                    |
|                         | select from a range of materials, textiles and components according to their characteristics;                           |           |               |                    |
|                         | <b>Practical skills and techniques</b>  |           |               |                    |
|                         | learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures;          |           |               |                    |
|                         | use a range of materials and components, including textiles and food ingredients;                                       |           |               |                    |
|                         | with help, measure and mark out;  |           |               |                    |
|                         | cut, shape and score materials with some accuracy;  |           |               |                    |
|                         | assemble, join and combine materials, components or ingredients;  |           |               |                    |
|                         | begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations. |           |               |                    |

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|  | explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations;  |
|  | explore what materials products are made from;  |
|  | talk about their design ideas and what they are making;   |
|  | as they work, start to identify strengths and possible changes they might make to refine their existing design; |
|  | evaluate their products and ideas against their simple design criteria;   |
|  | build simple structures, exploring how they can be made stronger, stiffer and more stable;                      |
|  | talk about and start to understand the simple working characteristics of materials and components;              |
|  | explore and create products using mechanisms, such as levers, sliders and wheels.                               |
|  | understand that all food comes from plants or animals;  |
|  | understand that food has to be farmed, grown elsewhere (e.g. home) or caught;                                   |



### YEAR 3

| YEAR 3        | Autumn   | Spring   | Summer  |
|---------------|--|--|---|
| Vocabulary    | Fruits and vegetables, carbohydrates, protein, dairy, fats, healthy, balanced diet, minerals, nutrients, vitamin, taco, fry, bake, roast, boil   | Cam mechanism, automaton toys; Cutting, joining, strengthening and finishing, follower, mechanism, slides, levels, linkages, wheels and axles  | greenhouse, designer, 3D frame, rigid, supported, stable, strengthened, struts, butt joint, transparent, strong, lightweight, waterproof, flexible  |
| N.C. Coverage | <p>Develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. <b>(Eatwell cafe)</b></p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams.</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 and apply the principles of a healthy and varied diet.</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. <b>(choosing own method of cooking/preparation)</b></p> <p>Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.</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. <b>(Children's automaton toy using cam mechanism)</b></p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes.</p> <p>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>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>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Understand and use mechanical systems in their products <b>(cam mechanisms)</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>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams.</p> <p>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>Select from and use a wider range of materials and components according to their functional properties and aesthetic qualities. <b>(woodworking alongside other media)</b></p> <p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p> <p>Investigate and analyse a range of existing products.</p> <p>Understand how key events and individuals in design and technology have helped shape the world.</p> <p><b>Significant designers</b><br/> <b>Joseph Paxton -Great Conservatory of Chatsworth House</b><br/> <b>Nicholas Grimshaw - biomes of the Eden Project.</b></p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> |

# D&T - Whole School Long Term Planning

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| Enquiry Questions       | Cook Well Eat Well<br>How can I cook a healthy and balanced meal?   | Making It Move | Greenhouse |
|-------------------------|---|----------------|------------|
| Enrichment              |   |                |            |
| D&T Skills and Concepts | identify the design features of their products that will appeal to intended customers;  |                |            |
|                         | use their knowledge of a broad range of existing products to help generate their ideas;   |                |            |
|                         | design innovative and appealing products that have a clear purpose and are aimed at a specific user;  |                |            |
|                         | explain how particular parts of their products work;  |                |            |
|                         | use annotated sketches and cross-sectional drawings to develop and communicate their ideas;   |                |            |
|                         | when designing, explore different initial ideas before coming up with a final design;   |                |            |
|                         | when planning, start to explain their choice of materials and components including function and aesthetics;                                 |                |            |
|                         | develop and follow simple design criteria;  |                |            |
|                         | <b>Planning</b>   |                |            |
|                         | with growing confidence, carefully select from a range of tools and equipment, explaining their choices;                                    |                |            |
|                         | select from a range of materials and components according to their functional properties and aesthetic qualities;                           |                |            |
|                         | <b>Practical skills and techniques</b>  |                |            |
|                         | learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures;                    |                |            |
|                         | use a wider range of materials and components, including construction materials and mechanical systems                                      |                |            |
|                         | with growing independence, measure and mark out to the nearest cm and millimetre;   |                |            |
|                         | cut, shape and score materials with some degree of accuracy;  |                |            |
|                         | assemble, join and combine material and components with some degree of accuracy;  |                |            |
|                         | explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; |                |            |

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|  | explore what materials/ingredients products are made from and suggest reasons for this   |
|  | consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product;                        |
|  | evaluate their product against their original design criteria;   |
|  | evaluate the key designs of individuals in design and technology that have helped shape the world.   |
|  | understand that materials have both functional properties and aesthetic qualities;   |
|  | apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;  |
|  | understand and demonstrate how mechanical systems have an input and output process;  |
|  | explain how mechanical systems create movement;  |
|  | use mechanical systems in their products.  |
|  | understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically;  |
|  | with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven;   |
|  | explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes; |
|  | understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body;   |
|  | prepare ingredients using appropriate cooking utensils;  |
|  | start to independently follow a recipe;  |

## YEAR 4

| YEAR 4        | Autumn   | Spring   | Summer   |
|---------------|--|--|--|
| Vocabulary    | packaging, nutrition, fresh, damage, 3D nets, storage,   | natural, synthetic, fabric, design feature, purpose, function, appearance, quality, motif, pattern, Arts and Crafts movement, printing block, hem, running stitch, embellishment   | strength, rigidity, smoothness, machines, mechanical systems, lever, cam, linkage, wheel, axel,  |
| N.C. Coverage | <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, cross-sectional and exploded diagrams and prototypes.</p> <p>Select from and use a wider range of materials and components, including construction materials and ingredients, according to their functional properties and aesthetic qualities.</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><b>Significant designer - Nicolas Apper (food packaging changes due to food distribution)</b></p> <p><b>Historical distribution and packaging - China</b></p> <p>Apply their understanding of how to</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 and pattern pieces.</p> <p>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>Select from and use a wider range of textile materials and components, according to their functional properties and aesthetic qualities.</p> <p>Investigate and analyse a range of existing products.</p> <p>Understand how key events and individuals in design and technology have helped shape the world.</p> <p><b>Significant designer - William Morris</b></p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> | <p>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>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).</p> <p><b>(Significant historical designs - Egyptian machines for tomb building)</b></p> |

# D&T - Whole School Long Term Planning

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|                         |   |                              |               |
|-------------------------|---|------------------------------|---------------|
|                         | strengthen, stiffen and reinforce more complex structures. <b>(3D nets)</b><br>Understand and apply the principles of a healthy and varied diet.<br>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.<br>Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. |                              |               |
| Enquiry Questions       | Fresh Food Good Food  | Functional and Fancy Fabrics | Tomb Builders |
| Enrichment              |   |                              |               |
| D&T Skills and Concepts | identify the design features of their products that will appeal to intended customers;  |                              |               |
|                         | use their knowledge of a broad range of existing products to help generate their ideas;   |                              |               |
|                         | design innovative and appealing products that have a clear purpose and are aimed at a specific user;  |                              |               |
|                         | explain how particular parts of their products work;  |                              |               |
|                         | use annotated sketches and cross-sectional drawings to develop and communicate their ideas;   |                              |               |
|                         | when designing, explore different initial ideas before coming up with a final design;   |                              |               |
|                         | when planning, start to explain their choice of materials and components including function and aesthetics;   |                              |               |
|                         | test ideas out through using prototypes;  |                              |               |
|                         | develop and follow simple design criteria;  |                              |               |
|                         | work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment.  |                              |               |
|                         | <b>Planning</b>   |                              |               |

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|  | with growing confidence, carefully select from a range of tools and equipment, explaining their choices;  |
|  | select from a range of materials and components according to their functional properties and aesthetic qualities;   |
|  | place the main stages of making in a systematic order;  |
|  | <b>Practical skills and techniques</b>  |
|  | learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures;  |
|  | use a wider range of materials and components, including construction materials and kits, textiles and mechanical components;   |
|  | with growing independence, measure and mark out to the nearest cm and millimetre;   |
|  | cut, shape and score materials with some degree of accuracy;  |
|  | assemble, join and combine material and components with some degree of accuracy;  |
|  | demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product;   |
|  | join textiles with an appropriate sewing technique;   |
|  | begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming   |
|  | explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose;                                       |
|  | explore what materials/ingredients products are made from and suggest reasons for this  |
|  | consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product; |
|  | evaluate their product against their original design criteria;  |
|  | evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.                              |
|  | understand that materials have both functional properties and aesthetic qualities;  |
|  | apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;                         |

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|  | understand and demonstrate how mechanical systems have an input and output process;  |
|  | explain how mechanical systems such as levers and linkages create movement;  |
|  | use mechanical systems in their products.  |
|  | start to know when, where and how food is grown in the UK, Europe and the wider world;   |
|  | understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically;  |
|  | with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven;   |
|  | explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes; |
|  | understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body;   |
|  | prepare ingredients using appropriate cooking utensils;  |
|  | start to independently follow a recipe;  |
|  | start to understand seasonality.   |

## YEAR 5

| YEAR 5        | Autumn   | Spring   | Summer   |
|---------------|--|--|--|
| Vocabulary    | actuator, analysis, compress, compressor, deflate, design criteria, force, gas, inflate, iterative, jack, lever, liquid, nozzle, particle, piston, plunger, pneumatic system, pneumatics, pressure, prototype, reservoir, solid, syringe, system, valve  | Seasonality, harvest, dicing, peeling, grating, nutrition, consumer, healthy, balanced diet, sweet, savoury  |  |
| N.C. Coverage | <p>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>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>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><b>(Focus - pneumatic systems combined with other structures)</b></p> <p>Critique, evaluate and test their ideas and products and the work of others.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p><b>(iterative design processes)</b></p> | <p>Understand and apply the principles of a healthy and varied diet.</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. <b>(soup - peeling, dicing, grating)</b></p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</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, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p> <p>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>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><b>Significant historical architectural design periods</b> e.g. Classical (c850 BC–cAD 470), Gothic (1100–1500), Renaissance (1400–1600), Baroque (1600–1830) and Postmodern (1960–1990).</p> |



# D&T - Whole School Long Term Planning

Academic Year 2023-24

|                         |  |  |   |
|-------------------------|--|--|---|
|                         |  |  | <b>Focus - Greek Architecture</b><br>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. |
| Enquiry Questions       | Moving Mechanisms<br>What is a pneumatic system and how is it useful?  | Eat The Seasons<br>What are the benefits of seasonal eating? | Architecture<br>How has architecture changed over time?   |
| Enrichment              |  |  |   |
| D&T Skills and Concepts | use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose |  |   |
|                         | use their knowledge of a broad range of existing products to help generate their ideas;  |  |   |
|                         | design products that have a clear purpose  |  |   |
|                         | explain how particular parts of their products work;   |  |   |
|                         | use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas;   |  |   |
|                         | generate a range of design ideas and clearly communicate final designs;  |  |   |
|                         | work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.  |  |   |
|                         | <b>Planning</b>  |  |   |
|                         | independently plan by suggesting what to do next;  |  |   |
|                         | with growing confidence, select from a wide range of tools and equipment, explaining their choices;  |  |   |
|                         | select from a range of materials and components according to their functional properties and aesthetic qualities;  |  |   |
|                         | <b>Practical skills and techniques</b>   |  |   |
|                         | learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures;   |  |   |
|                         | use a full range of materials and components, including mechanical components; cut a range of materials with precision and accuracy;                       |  |   |

|  |  |
|--|--|
|  | shape and score materials with precision and accuracy;   |
|  | assemble, join and combine materials and components with accuracy;   |
|  | refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.        |
|  | critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make;  |
|  | evaluate their ideas and products against the original design criteria, making changes as needed.  |
|  | apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;              |
|  | understand and demonstrate that mechanical systems have an input, process and output;  |
|  | explain how mechanical systems, such as pneumatics, create movement and use mechanical systems in their products;  |
|  | understand about seasonality, how this may affect the food availability and plan recipes according to seasonality;   |
|  | understand that food is processed into ingredients that can be eaten or used in cooking;   |
|  | demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source;          |
|  | demonstrate how to use a range of cooking techniques   |
|  | explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes; |
|  | independently follow a recipe.   |

## YEAR 6

| YEAR 6        | Autumn  | Spring 1   | Summer  |
|---------------|---|--|---|
| Vocabulary    | whole food, nutrients, homemade, convenience, additive, flavouring, organic, unprocessed, processed food, healthy, shelf life   | abutment, aqueduct, arch, beam, beam bridge, bridge, compression, concertina, distort, engineer, support pier, suspension, truss, tension, truss bridge  | bias binding, bunting, running/blanket/whip/tacking stitch, coupon, darn, fastening, rationing, recycle, utility  |
| N.C. Coverage | <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 and apply the principles of a healthy and varied diet.</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> | <p>Understand how key events and individuals in design and technology have helped shape the world.</p> <p><b>(Significant bridge designs: the Menai Bridge, Clifton Suspension Bridge and Forth Bridge.)</b></p> <p>Investigate and analyse a range of existing products.</p> <p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes</p> <p>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>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p><b>(iterative design process)</b></p> | <p>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>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>Investigate and analyse a range of existing products.</p> |

# D&T - Whole School Long Term Planning

Academic Year 2023-24

|                         |  |  |                  |
|-------------------------|--|--|------------------|
| Enquiry Questions       | Food for Life<br>What are the benefits of homemade food?   | Engineer<br>What makes a structure stable? | Make Do and Mend |
| Enrichment              |  |  |                  |
| D&T Skills and Concepts | use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market; |  |                  |
|                         | use their knowledge of a broad range of existing products to help generate their ideas;  |  |                  |
|                         | design products that have a clear purpose  |  |                  |
|                         | explain how particular parts of their products work;   |  |                  |
|                         | use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas;   |  |                  |
|                         | generate a range of design ideas and clearly communicate final designs;  |  |                  |
|                         | work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.                                |  |                  |
|                         | <b>Planning</b>  |  |                  |
|                         | independently plan by suggesting what to do next;  |  |                  |
|                         | with growing confidence, select from a wide range of tools and equipment, explaining their choices;  |  |                  |
|                         | select from a range of materials and components according to their functional properties and aesthetic qualities;  |  |                  |
|                         | <b>Practical skills and techniques</b>   |  |                  |
|                         | learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures;   |  |                  |
|                         | use a full range of materials and components, including construction materials and textiles and cut a range of materials with precision and accuracy;                                    |  |                  |
|                         | shape and score materials with precision and accuracy;   |  |                  |
|                         | assemble, join and combine materials and components with accuracy;   |  |                  |

|  |  |
|--|--|
|  | demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product;                                |
|  | join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch;  |
|  | refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.        |
|  | complete detailed competitor analysis of other products on the market;   |
|  | critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make;  |
|  | evaluate their ideas and products against the original design criteria, making changes as needed.  |
|  | apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;              |
|  | understand that food is processed into ingredients that can be eaten or used in cooking;   |
|  | demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source;          |
|  | demonstrate how to use a range of cooking techniques   |
|  | explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes; |
|  | adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma;   |
|  | independently follow a recipe and measure ingredients accurately   |

## Appendix 1