



## Rowsley Church of England Primary School

### Design Technology Progression and Long Term Plan

***“Then the LORD said to Moses, ... and I have filled him with the Spirit of God, with wisdom, with understanding, with knowledge and with all kinds of skills— to make artistic designs for work in gold, silver and bronze, to cut and set stones, to work in wood, and to engage in all kinds of crafts.” (Exodus 31:1-5)***

***“Life in all its fullness.” John 10:10***

#### **Intent:**

At Rowsley C of E Primary School we have designed a Design Technology curriculum which inspires our pupils to use creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We intend for all children to acquire appropriate subject knowledge, skills and understanding as set out in the National Curriculum.

#### **Implementation:**

Design and Technology is a crucial part of school life and learning and it is for this reason that as a school we are dedicated to the teaching and delivery of a high-quality Design and Technology curriculum.

This is implemented through:

- Well planned and resourced projects providing children with a hands-on and enriching experience
- A well thought out, whole school, yearly overview of the DT curriculum which allows for progression across year groups in all areas of DT (textiles, mechanisms, structures, food and electrical systems)
- A range of skills being taught ensuring that children are aware of health and safety issues related to the tasks undertaken
- Teachers being given ownership and flexibility to plan for Design and Technology; often teaching DT as a block of lessons to allow the time needed for the children to be critical, inventive and reflective on their work.
- Each project from Reception to Year 6 addressing the principles of designing, making, and evaluating and incorporating relevant technical knowledge and understanding in relevant contexts.

There are two elements to the teaching and learning of Design Technology at Rowsley C of E Primary School:

- 1) The knowledge of how to research, design and create a product as well as evaluating the final outcome.
- 2) The skills needed to create products including basic sewing, woodwork, food prep etc- we feel that the teaching of these basic skills is essential not only for the children experiences but also to ensure that our pupils develop an interest in skills that can be used in employment or recreation.

#### **Impact:**

- Children will have clear enjoyment and confidence in design and technology that they will then apply to other areas of the curriculum.
- Children will ultimately know more, remember more and understand more about Design Technology, demonstrating this knowledge when using tools or skills in other areas of the curriculum and in opportunities out of school.
- The large majority of children will achieve age related expectations in Design Technology.
- As designers children will develop skills and attributes they can use beyond school and into adulthood

## Art & DT Plan

| Cycle            | Autumn 1   | Autumn 2   | Spring 1  | Spring 2  | Summer 1                                    | Summer 2   |
|------------------|--|--|---|---|---|--|
| <b>Infants</b>   |  |  |   |   |   |  |
| <b>Cycle 1</b>   | Art: Sculpture<br><b>Observtion &amp;Shape</b>                               | DT/Art: Textiles<br>(sewing-basic stitch)                    | Art: Drawing<br><b>Tone &amp; line</b>          | DT: Food  | DT: Structures                              | Art: <b>Colour-</b><br>painting ,pastels,<br>mixed   |
| <b>Cycle 2</b>   | Art: Artist<br>Picasso   | DT: Making Toys<br>(Wheels & Pulleys)                        | Art: Collage<br><b>Colour &amp; Texture</b>     | DT: Woodwork  | Art: Print<br><b>Tone</b>                   | DT: Product Design<br>(Jewellery)  |
| <b>Year 3/4</b>  |  |  |   |   |   |  |
| <b>Cycle 1</b>   | DT: Textiles<br>(cross stitch)   | Art: Artists (Local<br>water colour artist)<br><b>Colour</b> | DT: Woodwork                                    | Art: Printing<br><b>Shape &amp; Line</b>                    | Art: Collage<br><b>Colour &amp; Texture</b> | DT: Product Design   |
| <b>Cycle 2</b>   | DT: Food   | Art: Drawing inc<br>digital art - <b>Tone &amp;<br/>line</b> | Art: <b>Colour-</b> painting<br>,pastels, mixed | Art: Sculpture<br>(culture)<br><b>Observation&amp;Shape</b> | DT: Mechanisms<br>(Slides & levers)         | DT: Structures<br>(culture)  |
| <b>Years 5/6</b> |  |  |   |   |   |  |
| <b>Cycle 1</b>   | DT: Textiles   | Art: Drawing<br>(Architecture)<br><b>Perspective</b>         | Art: Sculpture<br><b>Observtion &amp;Shape</b>  | DT: Woodwork  | DT: Product Design                          | Art: Collage & Digital<br>Photography Banksy -<br>(culture, tolerance, liberty)<br><b>Shape &amp; tone</b> |
| <b>Cycle 2</b>   | Art: Pastels& Painting<br>Edvard Much- <b>Colour,<br/>shape, observation</b> | Art: Printing  | DT: Structures                                  | Art: Drawing -(faces)<br><b>Texture, Shape and<br/>Tone</b> | DT: Food<br>(culture)                       | DT: Mechanisms<br>(Axels/gears)  |

# Design

| Reception  | Year 1/2  | Year 3/4  | Year 5/6   |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>• Begin to use the language of designing and making, e.g. join, build and shape. - Learning about planning and adapting initial ideas to make them better.</li> </ul> | <ul style="list-style-type: none"> <li>• Work confidently within a range of contexts e.g. imaginary, local community, industry and wider environment.</li> <li>• Use knowledge of existing products to help come up with ideas.</li> <li>• Say whether their products are for themselves or other users.</li> <li>• Develop and communicate ideas by talking and drawing and using ICT where appropriate.</li> <li>• Say how their products will work and how they're suitable for intended users.</li> <li>• Use simple design criteria to help develop their ideas.</li> <li>• Model ideas by exploring materials, components, constructions kits and by making templates and mockups.</li> </ul> | <ul style="list-style-type: none"> <li>• Work confidently in a range of contexts, e.g. home, school, leisure, culture, industry and wider environment.</li> <li>• Describe the purpose of their products.</li> <li>• Indicate design features of their products that will appeal to intended users.</li> <li>• Gather information about the needs and wants of individuals or groups.</li> <li>• Develop their own design criteria and use this to inform their ideas.</li> <li>• Share and clarify ideas confidently, through discussion.</li> <li>• Model ideas using prototypes and pattern pieces.</li> <li>• Use annotated sketches, some cross-sectional drawings and computer-aided design packages, to develop and communicate ideas.</li> <li>• Generate realistic ideas, focusing on the needs of the user.</li> <li>• Make design decisions that take account of the availability of resources.</li> </ul> | <ul style="list-style-type: none"> <li>• Work confidently in a wide range of contexts, e.g. home, school, leisure, culture, industry, enterprise and wider environment.</li> <li>• Describe in detail, the purpose of their products.</li> <li>• Indicate design features of their products that will appeal to intended users.</li> <li>• Gather information about the needs and wants of particular individuals and groups.</li> <li>• Develop their own design criteria and use this to inform their ideas.</li> <li>• Carry out research e.g. surveys, interviews, questionnaires and web-based resources, to identify users' needs, wants and preferences.</li> <li>• Develop detailed design specifications to guide their thinking and planning.</li> <li>• Share and clarify ideas confidently, through discussion.</li> <li>• Model ideas using prototypes and pattern pieces.</li> <li>• Use annotated sketches, cross sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas.</li> <li>• Generate realistic ideas, focusing on the needs of the user.</li> <li>• Make design decisions that take account of the availability of resources.</li> </ul> |

## Making

| Reception   | Year 1/2   | Year 3/4   | Year 5/6  |
|---|--|--|---|
| <ul style="list-style-type: none"> <li>To learn to construct with a purpose in mind. -Selects tools and techniques needed to shape, assemble and join materials.</li> </ul> | <ul style="list-style-type: none"> <li>Plans by suggesting what to do next.</li> <li>Selects from a range of tools, materials and components according to their characteristics.</li> <li>Explains their choices.</li> <li>Follows procedures for safety and hygiene.</li> <li>Uses a range of materials, components, construction kits, textiles, food ingredients and mechanical products.</li> <li>Measures, marks out, cuts and shapes a range of materials and components.</li> <li>Assembles, joins and combines materials and components.</li> <li>Begins to use finishing techniques, including those from art and design sessions.</li> </ul> | <ul style="list-style-type: none"> <li>Select tools, equipment and some materials and components suitable to the task and explain their choices.</li> <li>Order the main stages of making.</li> <li>Follow procedures for safety and hygiene.</li> <li>Use a wide range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients.</li> <li>Measures, marks out, cuts and shapes materials and components with some accuracy.</li> <li>Assembles, joins and combines many materials with some accuracy.</li> <li>Applies some finishing techniques.</li> </ul> | <ul style="list-style-type: none"> <li>Confidently select tools, equipment, materials and components suitable to the task. Explain their choices, giving evidence.</li> <li>Produce appropriate lists of tools, equipment and materials that they will need.</li> <li>Order the stages of the making process, in logical steps.</li> <li>Formulate step-by-step plans as guide to making.</li> <li>Follow procedures for safety and hygiene.</li> <li>Use an extensive range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients.</li> <li>Measures, marks out, cuts and shapes materials and components with accuracy.</li> <li>Accurately assembles, joins and combines materials.</li> <li>Accurately apply a range of finishing techniques, including those from art and design.</li> <li>Use techniques that involve a number of steps.</li> <li>Use resourcefulness, resilience and innovation, when tackling practical problems.</li> <li>Explains next steps in learning, drawing from prior experience.</li> </ul> |

## Evaluating

| Reception   | Year 1/2   | Year 3/4  | Year 5/6  |
|---|--|---|---|
| <ul style="list-style-type: none"> <li>• Begin to talk about changes made during the making process, e.g. making a decision to use a different joining method.</li> </ul> | <ul style="list-style-type: none"> <li>• Talk about their design ideas and what they are making.</li> <li>• Make simple judgements about their products and ideas against design criteria.</li> <li>• Talk and write about how to make their products better.</li> <li>• Explore what products are, what they are made from, who they are for, how they are used and where they might be used.</li> <li>• Talk about likes and dislikes of existing products. Give reasons.</li> </ul> | <ul style="list-style-type: none"> <li>• Identify the strengths and areas for development in their ideas and products.</li> <li>• Consider the views of others, including intended users, to improve their work.</li> <li>• Refer to their design criteria as they design and make.</li> <li>• Use their design criteria to evaluate and improve their completed products.</li> <li>• Investigate and analyse: how well products have been designed and made; why materials have been chosen; what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users.</li> <li>• Investigate and analyse: who designed the products; where products were designed and made; when products were designed and made; whether products can be recycled or re-used.</li> <li>• Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries.</li> </ul> | <ul style="list-style-type: none"> <li>• Confidently identify the strengths and areas for development in their ideas and products.</li> <li>• Consider the views of others, including intended users, to improve their work.</li> <li>• Refer to their design criteria as they design and make.</li> <li>• Use their design criteria to evaluate and improve their completed products.</li> <li>• Critically evaluate the quality of the design, manufacture and fitness for purpose of their products.</li> <li>• Evaluate their ideas and products against their original design specification.</li> <li>• Investigate and analyse: how well products have been designed and made; why materials have been chosen; what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users.</li> <li>• Investigate and analyse: who designed the products; where products were designed and made; when products were designed and made; whether products can be recycled or re-used.</li> <li>• Investigate and analyse: how much products cost to make; how innovative products are; how sustainable the materials in products are; what impact products have beyond their intended purpose.</li> <li>• Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries.</li> </ul> |

# Technical Knowledge

| Reception  | Year 1/2  | Year 3/4  | Year 5/6   |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>To learn how to use a range of tools, e.g. scissors, hole punch, stapler, woodworking tools, rolling pins, pastry cutters. -Learn how everyday objects work by dismantling things.</li> </ul> | <ul style="list-style-type: none"> <li>Pupils understand the working characteristics of materials and components.</li> <li>They know about the movement of simple mechanisms such as levers, sliders, wheels and axles.</li> <li>Recognise that food ingredients should be combined according to their sensory characteristics.</li> <li>Understand how freestanding structures can be made stronger, stiffer and more stable.</li> <li>Recognise that 3D textiles products can be assembled from two identical fabric shapes.</li> <li>Use the correct technical vocabulary for projects.</li> </ul> | <ul style="list-style-type: none"> <li>Pupils use learning from science, mathematics and other subjects to help design and make products that work.</li> <li>They understand that materials have functional and aesthetic qualities. Apply this thinking successfully to their own products.</li> <li>Recognise that materials can be combined and mixed to create more useful characteristics.</li> <li>Know that mechanical and electrical systems have an input, process and output.</li> <li>Know how mechanical systems such as levers and linkages create movement.</li> <li>Know that simple electrical circuits and components can be used to create functional products.</li> <li>Program a computer to control their products.</li> <li>Make strong, stiff shell structures for a purpose.</li> <li>Know that a single fabric shape can be used to make a 3D textile product.</li> <li>Recognise a range of fresh, pre-cooked and processed foods.</li> </ul> | <ul style="list-style-type: none"> <li>Recognise that materials can be combined and mixed to create more useful characteristics.</li> <li>Know that mechanical and electrical systems have an input, process and output.</li> <li>Know how mechanical systems such as levers and linkages create movement.</li> <li>Know that simple electrical circuits and components can be used to create functional products.</li> <li>Program computer systems and devices to control their products.</li> <li>Make strong, stiff shell structures for a purpose.</li> <li>Know that a single fabric shape can be used to make a 3D textile product.</li> <li>Recognise a wide range of fresh, pre-cooked and processed foods.</li> <li>Know that mechanical systems e.g. cams, pulleys or gears create movement.</li> <li>Explore more complex electrical circuits and components.</li> <li>Program computers and devices to monitor changes in the environment and control their products.</li> <li>Reinforce and strengthen a 3D framework.</li> <li>Know that 3D textile products can be made from a combination of fabric shapes.</li> <li>Recreate and adapt existing and new recipes by adding or substituting a range of ingredients.</li> </ul> |

# Cooking - Knowledge

| Reception   | Year 1/2   | Year 3/4  | Year 5/6  |
|---|--|---|---|
| <p>That children should wash their hands before touching food.</p> <p>The names of basic cooking utensils i.e. spoon, whisk, bowl, scales.</p> <p>That food can be grown.</p> <p><u>Key Vocab:</u><br/>Washing, spoon, whisk, bowl, scales, mix, pour</p> <p><u>Assessment:</u><br/>Do chn understand basic hygiene around keeping healthy?<br/>Can chn name basic cooking utensils?<br/>Do pupils understand that food can be grown?</p> | <p>Know that food comes from plants or animals.</p> <p>Food is farmed, grown elsewhere (e.g home), imported or caught. Look at the types of food grown in India and other parts of the world.</p> <p>Name and sort foods into the five groups in 'The Eatwell Plate.'</p> <p>Begin to recognise that everyone should eat at least five portions of fruit and vegetables every day.</p> <p><u>Key Vocab:</u> Protein, carbohydrate, fats, dairy, starch, sugar, fruit, vegetables, imported, exported.</p> <p><u>Assessment:</u><br/>Where does food come from?<br/>How can food be grown?<br/>How many portions of fruit and veg should you eat a day?<br/>Can you name some different</p> | <p>Prior Knowledge: Pupils know that food comes from plants or animals and is grown or is farmed and that it comes from all over the world. Understand that you need different types of food to be healthy.</p> <p>Know that food is farmed, reared, grown elsewhere (e.g home), imported or caught locally, regionally and internationally. Look at the types of food grown in India and other parts of the world.</p> <p>Recognise that a healthy diet is made up of a variety and balance of different foods and drinks, as depicted on 'The Eatwell Plate.'</p> <p>Know that to be active and healthy, food is needed to provide energy for the body.</p> <p><u>Key Vocab:</u> Protein, carbohydrate, fats, dairy, starch, sugar, fruit, vegetables, imported, exported, local, regional, international.</p> <p><u>Assessment:</u><br/>What types of food could we find in these countries? (have a map).<br/>Create a healthy dinner on an Eatwell plate)<br/>Why do we need a healthy diet?</p> | <p>Prior Knowledge: Pupils know that food grows or is farmed and that it comes from all over the world. Children can talk about foods from other countries. Understand that you need different types of food to be healthy and say why.</p> <p>Know that food is farmed, reared, grown elsewhere (e.g. home, allotments), exported, imported or caught. This can be on a local, regional and international scale. Look at the types of food grown in Mexico (or other country) and other parts of the world i.e. India (or other country)- look at the effects of large scale deforestation for food production. Look at air-miles to transport food from India to the UK.</p> <p>Understand fairtrade.</p> <p>Begin to know that seasons and weather affect food availability.</p> <p>Know that a healthy diet is made up of a variety and balance of different foods and drinks, as depicted on 'The Eatwell Plate.' Compare a traditional Indian plate with that of a UK dinner.</p> <p>Know that to be active and healthy, food is needed to provide energy for the body.</p> |

|  |  |  |  |
|--|--|--|--|
|  | food groups (carbohydrates, protein, fats etc) |  | <p>Know that different foods contain substances that are needed for health e.g. water, fibre, vitamins, minerals and nutrients.</p> <p>Understand that healthy diets must incorporate the correct amounts of food types and substances.</p> <p><u>Key Vocab:</u> Protein, carbohydrate, fats, dairy, starch, sugar, fruit, vegetables, imported, exported, local, regional, international, fibre, vitamins, nutrients, seasonality.</p> <p><u>Assessment:</u><br/>What are air miles and how do they affect our planet?<br/>What can we do to reduce the air miles of our food?<br/>What is the role of fiber in our diet?<br/>Which food could you get vitamin C from?<br/>Name one other way to keep healthy other than the food we eat?</p> |
|--|--|--|--|

# Textiles - Sewing Skills

| Reception  | Year 1/2  | Year 3/4   | Year 5/6   |
|--|---|--|--|
| <ul style="list-style-type: none"> <li>To describe textiles by the way they feel.</li> <li>To join fabrics using glue.</li> <li>To use stitches to add a pattern to a piece of fabric</li> </ul> <p><u>Vocabulary:</u><br/>Cut, join, make a pattern, needle, thread</p> <p><u>Assessment:</u><br/>Can children use appropriate language to describe how textiles feel i.e. smooth, rough, silky?<br/>Can chn select appropriate ways to join fabric i.e. stitching or gluing?</p> | <ul style="list-style-type: none"> <li>To make a product out of textiles.</li> <li>Measure mark out and cut fabric.</li> <li>To sew in a running stitch.</li> <li>To make sure work is neat and tidy.</li> </ul> <p><u>Vocabulary:</u><br/>Pattern, join, mark out, decorate, running stitch, needle, fabric, template</p> <p><u>Assessment:</u><br/>Can children use a running stitch to secure fabric together?<br/>Can children measure, mark out and cut fabric?<br/>Is the children's work is neat and tidy?</p> | <p>Prior Knowledge: Pupils know what a running stitch is.</p> <ul style="list-style-type: none"> <li>Select appropriate textiles for a product.</li> <li>Use sharp scissors accurately to cut textiles.</li> <li>To know the texture and properties of materials and choose appropriately.</li> <li>To applique fabrics using basic sewing skills.</li> <li>To improve designs as you work</li> </ul> <p><u>Vocab:</u><br/>finishing technique, function, prototype, Aesthetics, cross stitch.</p> <p><u>Assessment:</u><br/>Can pupil applique fabrics using cross stitch sewing skills?<br/>Can pupils improve designs as you work?<br/>Can pupils thread a needle?<br/>Can pupils say whether they achieved their purpose and the needs/wants of the users?</p> | <p>Prior Knowledge: Pupils know a running stitch, cross stitch and how to thread a needle.</p> <ul style="list-style-type: none"> <li>To combine materials to improve design for strength or visual appeal.</li> <li>To join materials to make products with permanent or temporary fastenings.</li> <li>To develop a range of stitches including backward stitch, lazy daisy stitch and French knot</li> <li>To describe the qualities of materials and to say why it is the most suitable choice.</li> <li>create a design for a purpose</li> </ul> <p><u>Vocab:</u><br/>Specification, tacking, clasp, design criteria, hem, Applique, annotate, evaluate, innovation, functional, recycled, backward stitch, french knot stitch, lazy daisey stitch</p> <p><u>Assessment:</u><br/>Can the children use the stitches taught (lazy daisy, French knot, backward, running stitch)?<br/>Have children combined materials to improve design for strength or visual appeal?<br/>Can children join materials to make products with permanent or temporary fastenings?<br/>Can children describe the qualities of materials and to say why it is the most suitable choice?</p> |

# Mechanisms - Skills

| Reception  | Year 1/2  | Year 3/4  | Year 5/6   |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>To build a model using basic toys – Stickle bricks, Lego, Mobilo</li> <li>To make a solid wall (interlapping bricks)</li> <li>To make a vehicle with moving wheels.</li> <li>To make models with moving parts i.e. split pins.</li> </ul> <p><u>Vocabulary:</u><br/>Push, pull, roll, wheel, join, stick, glue, box, axel, fix</p> <p><u>Assessment:</u><br/>Chn can construct a basic toy with some degree of accuracy i.e. a car.<br/>Chn can mak a solid wall-interlapping bricks<br/>Chn can make a vehicle with moving wheels.</p> | <ul style="list-style-type: none"> <li>Explain that wheels move because they are attached to an axle.</li> <li>Recognise that wheels and axles are used in everyday life, not just in cars.</li> <li>Identify and explain vehicle design flaws using the correct vocabulary.</li> <li>Design a vehicle that includes functioning wheels, axles and axle holders.</li> <li>Make a moving vehicle with working wheels and axles.</li> <li>Explain what must be changed if there are any operational issues</li> </ul> <p><u>Vocabulary:</u><br/>Wheel, axel, fixed, free, design, make, cutting, joining , vice, dowel, body, cab, shaping, Mechanism, pull/push, down, straight,</p> <p><u>Assessment:</u><br/>Chn can make a structure with moving components - wheels.<br/>Chn can follow simple instructions<br/>Can name more than just cars which use wheels and axels.</p> | <ul style="list-style-type: none"> <li>To make instructions for making a basic model that moves.</li> <li>To understand how simple mechanisms work (pnemonics)</li> <li>Draw accurate diagrams with correct labels, arrows and explanations.</li> <li>Correctly identify definitions for key terms.</li> <li>Identify five appropriate design criteria.</li> <li>Communicate two ideas using thumbnail sketches.</li> <li>Communicate and develop one idea using an exploded diagram.</li> <li>Select appropriate equipment and materials to build a working pneumatic system.</li> <li>Assemble their pneumatic system within the housing to create the desired motion.</li> </ul> <p><u>Vocabulary:</u><br/>Loose pivot, fixed pivot, system, input, process, output, linear, rotary, reciprocating, oscillating. Loose/fixed pivot, system, input, process, innovative, appealing, linkage.</p> <p><u>Assessment:</u><br/>Chn can make instructions for making a basic model that moves.</p> | <ul style="list-style-type: none"> <li>To Understand how simple mechanisms work (axels &amp; gears)</li> <li>To add a mechanical element to a model following instructions - KNEX</li> <li>To use computer software to control a model made out of toys.</li> <li>To design their own model which will interact with computer software.</li> <li>To explore mechanical elements such as pneumatics and hydraulics</li> </ul> <p><u>Vocabulary:</u><br/>Reinforce, triangulation, stability, temporary, permanent, pulley, gear, driver, follower, rotation, motor, belt, spindle, circuit, switch, ratio</p> <p><u>Assessment:</u><br/>Chn can use a computer software to move a model<br/>Chn understand how pneumatics and hydraulics work</p> |

# Structures - Skills

| Reception   | Year 1/2  | Year 3/4   | Year 5/6  |
|---|---|--|---|
| <ul style="list-style-type: none"> <li>Choose the resources needed for the activity.</li> <li>Handle simple hand tools and equipment effectively.</li> <li>Safely use and explore a variety of materials,</li> <li>Make stable structures from card, tape and glue.</li> <li>Follow instructions to cut and assemble the supporting structure of a windmill, lighthouse or</li> <li>Make a structure according to given design criteria.</li> <li>Create joints and structures from paper or card and tape or glue.</li> <li>Select appropriate materials to make my outcome based on the given task.</li> <li>Use junk modelling materials to create outcomes.</li> </ul> <p><u>Vocabulary:</u> Cut, join, fix, scissors, glue, strong, material</p> <p><u>Assessment:</u><br/>Chn can assemble basic structures using junk modelling<br/>Children can choose different ways to fix their model.</p> | <p><u>Freestanding Structures:</u></p> <ul style="list-style-type: none"> <li>Generate and communicate ideas using sketching and modelling.</li> <li>Learn about different types of structures found in the natural world and in everyday objects.</li> <li>Make a structure according to given design criteria.</li> <li>Create joints and structures from paper or card and tape or glue.</li> </ul> <p><u>Vocabulary:</u><br/>Structure, base, underneath, thicker, thinner, corner, point, straight, curved, rectangle, cube, cuboid, cylinder</p> <p><u>Assessment:</u><br/>Chn can begin to think about a design before they make it.<br/>Children can use materials appropriately thinking about adding strength to a structure.</p> | <p><u>Shell Structure</u></p> <ul style="list-style-type: none"> <li>Create a range of different shaped frame structures.</li> <li>Make a variety of free standing frame structures of different shapes and sizes.</li> <li>Select appropriate materials to build a strong structure.</li> <li>Reinforce corners to strengthen a structure.</li> <li>Learn to create different textural effects with materials.</li> <li>Use a hot glue gun safely to create their structure.</li> </ul> <p><u>Vocabulary:</u><br/>Assemble, prism, vertex, breadth, capacity, scoring, adhesives, reduce, reuse, recycle, corrugating, ribbing, laminating</p> <p><u>Assessment:</u><br/>Chn can reinforce a structure to make it stronger.<br/>Chn can think about the properties needed to make a structure and select an appropriate material.</p> | <p><u>Frame Structures:</u></p> <ul style="list-style-type: none"> <li>Make a range of different shaped beam bridges.</li> <li>Use triangles to create truss bridges that span a given distance and support a load.</li> <li>Build a wooden bridge structure independently measuring and marking wood accurately.</li> <li>Select appropriate tools and equipment for particular tasks.</li> <li>Identify where a structure needs reinforcement and use card corners for support.</li> <li>Improve a design plan based on peer evaluation.</li> <li>Test and adapt a design to improve it as it is developed.</li> <li>Identify what makes a successful structure.</li> </ul> <p><u>Vocabulary:</u><br/>Reinforce, triangulation, truss, arch, beam, strength, strong, load</p> <p><u>Assessment:</u><br/>Chn understand and can name different types of bridge.<br/>Chn understand how to make a structure stronger by using trusses.<br/>Chn can evaluate their work and make then stronger</p> |

# Woodwork - Skills

| Reception  | Year 1/2   | Year 3/4   | Year 5/6   |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>To handle tools safely.</li> <li>To join materials using a variety of resources.</li> <li>To use pieces of sandpaper and wood, a hammer and pegs.</li> </ul> <p><u>Vocabulary:</u><br/>Cut, join, fix, weak, strong, material, straight, curve</p> <p><u>Assessment:</u><br/>Chn can understand the need for safety and supervision around tools i.e. hammers.<br/>Understand that materials can be joined together using glue and nails.</p> | <ul style="list-style-type: none"> <li>To measure out and mark out materials needed for a structure.</li> <li>To finish off work so it looks neat and tidy.</li> <li>To Assemble, joins and combines materials and components- hammer &amp; nails</li> </ul> <p><u>Vocabulary:</u><br/>Cut, fold, join, fix, weak, strong, Structure, base, underneath, thicker, thinner, corner, point, straight, curved,</p> <p><u>Assessment:</u><br/>Chn can understand the need for safety and supervision around tools i.e. hammers.<br/>Understand that materials can be joined together using glue and nails.<br/>Understand that materials can be joined together to have aesthetic properties for a product.<br/>Plan a simple design</p> <p><b>Task: Nail Art</b></p> | <ul style="list-style-type: none"> <li>To join materials using permanent and temporary fixings.</li> <li>To combine a number of components in my product.</li> <li>To use a vice (permanently attached to the workbench) to hold the wood in place.</li> <li>To saw under high levels of supervision.</li> </ul> <p><u>Vocabulary:</u><br/>Shell Structures: Shell, structure, net, marking out, material, joining, three dimensional, stiff, Assemble, prism, vertex, capacity, adhesives,</p> <p><u>Assessment:</u><br/>Chn can understand the need for safety and supervision around tools i.e. hammers.<br/>Understand that materials can be joined together using glue and nails.<br/>Understand that materials can be joined together to have aesthetic properties for a product.<br/>Be able to measure and cut accurately.<br/>Understand that products can be created for a purpose.</p> <p><b>Task: Make a wooden lamp</b></p> | <ul style="list-style-type: none"> <li>To choose and use different techniques to join materials together i.e. glue, nails, screws etc for a particular purpose</li> <li>To use a saw independently with a vice.</li> <li>Continue year 3/4 activities thinking of additional elements: Refinement, decorative combinations and respect for tools and materials.</li> </ul> <p><u>Vocabulary:</u><br/>Shell Structures: Shell, structure, net, marking out, material, joining, three dimensional, stiff, Assemble, prism, vertex, capacity, adhesives,</p> <p><u>Assessment:</u><br/>Chn can understand the need for safety and supervision around tools i.e. hammers.<br/>Understand that materials can be joined together using glue, screws, nails and dowls.<br/>Understand that materials can be joined together to have aesthetic properties for a product.<br/>Be able to measure and cut accurately.<br/>Understand that products can be created for a purpose.</p> <p><b>Task: Make a wooden robot</b></p> |

## Product Design - Skills






| Reception   | Year 1/2  | Year 3/4   | Year 5/6   |
|---|---|--|--|
| <p>Begin to use the language of designing and making, e.g. join, build and shape. - Learning about planning and adapting initial ideas to make them better.</p> <p><u>Vocabulary:</u></p> | <ul style="list-style-type: none"> <li>To name some famous inventors and say what they invented</li> <li>To understand that products have a purpose</li> <li>To understand that products can have limitations.</li> <li>Explore what products are, what they are made from, who they are for, how they are used and where they might be used.</li> <li>Talk about likes and dislikes of existing products. Give reasons.</li> <li>Design a product based on own ideas and what they have learnt about a product.</li> <li>Develop and communicate ideas by talking and drawing and using ICT where appropriate.</li> <li>Say how their products will work and how they're suitable for intended users.</li> <li>Evaluate the product-what can they do better/what would they change?</li> </ul> | <ul style="list-style-type: none"> <li>To name some famous inventors and say what they invented</li> <li>To understand that products have a purpose</li> <li>To design a product for a particular purpose.</li> <li>To understand that products can have limitations and say why</li> <li>Explain likes and dislikes in their own design.</li> </ul> | <ul style="list-style-type: none"> <li>To name some famous inventors and say what they invented</li> <li>To consider the value of a product, its strength and weakness.</li> <li>To understand what market research is and why it is needed.</li> <li>Design a product based on availability of resources and function.</li> <li>Why marketing is important</li> </ul> |

# Cooking – Skills

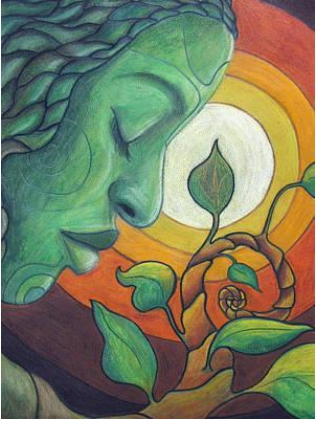
| Reception  | Year ½  | Year 3/4   | Year 5/6   |
|--|---|--|--|
| <p>Weighing - pouring or spooning ingredients into scales.<br/>Using measuring spoons<br/>Washing fruit and vegetables<br/>Cutting soft ingredients using a strong plastic knife<br/>Breadding and flouring<br/>Mixing – spoon or hands<br/>Tearing and squashing - tearing herbs and lettuce or squashing fruit<br/>Sieving<br/>Rolling, shaping and cutting dough<br/>Spreading</p> <p><u>Vocabulary:</u><br/>Mix, stir, chop, peel, cut, wash, kneed, ingredients, weigh, measure, bake, pouring, mixing, sieving</p> <p><u>Assessment:</u><br/>Do chn understand basic hygiene around keeping healthy?<br/>Can chn name basic cooking utensils?<br/>Do pupils understand that food can be grown?</p> | <p>Cutting using a small knife<br/>Cutting with scissors - snip herbs<br/>Grating<br/>Measuring<br/>Rubbing in - rubbing in flour and butter with fingertips is called for in many recipes<br/>Using a peeler<br/>Peel oranges or hard-boiled eggs</p> <p><u>Vocabulary:</u><br/>Preparing Fruit &amp; Vegetables: Fruit, vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthydiet, choosing, ingredients, planning, tasting, arranging</p> <p><u>Assessment:</u><br/>Where does food come from?<br/>How can food be grown?<br/>How many portions of fruit and veg should you eat a day?<br/>Can you name some different food groups (carbohydrates, protein, fats etc)</p> | <p>Following a simple recipe<br/>Finding ingredients in the cupboards and fridge<br/>Slice, grate, mix, spread, knead and bake.<br/>Using heat on a hob and microwave<br/>Making bread<br/>Beating, folding, kneading - show children how to beat cake mixture with a wooden spoon or fold in egg whites without knocking out too much air<br/>Greasing and lining a cake tin or tray</p> <p><u>Vocabulary:</u><br/>Healthy &amp; Varied Diet: Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested</p> <p><u>Assessment:</u><br/>What types of food could we find in these countries? (have a map).<br/>Create a healthy dinner on an Eatwell plate)<br/>Why do we need a healthy diet?</p> | <p>Planning and preparing a family meal<br/>Following a simple recipe with several elements (making a Mexican stew, making a side i.e. sweetcorn salsa, making a tomato salsa or bread to go with the main dish)<br/>Using a blender (blend salsa or guacamole)<br/>Using heat on a hob, oven and microwave<br/>Opening cans</p> <p><u>Vocabulary:</u><br/>Celebrating Culture &amp; Seasonality: Ingredients, knead, blend, beat, combine, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour,</p> <p><u>Assessment:</u><br/>What are air miles and how do they affect our planet?<br/>What can we do to reduce the air miles of our food?<br/>What is the role of fiber in our diet?<br/>Which food could you get vitamin C from?<br/>Name one other way to keep healthy other than the food we eat?</p> |


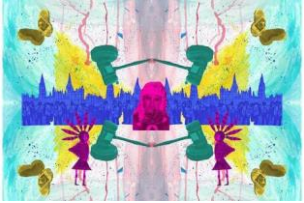
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## Christian Values in DT

| Love  | Compassion  | Respect   | Faith  | Belonging   |
|---|---|---|--|---|
|    |    |    |   |                                |
| <p><b>Creating</b> – creating products without fear of right or wrong- experimenting with a range of different tools, techniques and materials. Understanding that we will make mistakes and what we make won't be perfect.</p> | <p><b>Inspiration</b> - looking to others to help us improve and help others.</p>   | <p><b>Respect</b> – respecting and celebrating both our work and that of our peers.</p>   | <p><b>Persevering</b> – keep trying and practising to perfect skills in all areas of art and design. No skill is achievable instantly.</p> | <p><b>Team work</b> – working together to plan develop and create products for a purpose.</p>                     |
| <p><b>Imagination</b> – Using innovation to look at things in unusual ways.</p>   | <p><b>Generalisation</b> – Thinking about products and what they are used for- are there products that really help make lives better?</p> | <p><b>Open mindedness</b> – being open to appreciating the work of others and the similarities and differences in techniques.</p> | <p><b>Making mistakes</b> – enjoy things that go wrong and learn from them.</p>  | <p><b>Community links</b> – inviting parents in to help with larger projects. Show casing work.</p>               |
| <p><b>Cross curricular links</b> – links with science and PSHE i.e healthy eating. Woodwork yr ¾ cross curricular link with the Christmas Story.</p>  | <p><b>Compassion</b> – Understanding that we all have our own experiences, talents and opinions when it comes to DT.</p>                  | <p><b>Tolerance</b> – understanding and respect for others.</p>   | <p><b>Self -confidence</b> – mastering and celebrating a skill or using a tool safely.</p>   | <p><b>Expanding horizons</b> – developing appreciation and understanding of traditions i.e. sewing, woodwork.</p> |

## SMSC in DT

|   |   |
|---|---|
| <p><b>Spiritual Development</b></p>  | <p><b>Children:</b></p> <ul style="list-style-type: none"> <li>● Demonstrate they are <b>reflecting on their experiences</b> and learning from reflection. They express their opinions about their own and their peer's work.</li> <li>● Pupils understand that skills in DT can require endurance and that to truly create something time and practice needs to be given.</li> <li>● To accept that things the children make may not be perfect- they are perfectly imperfect!</li> <li>● Show they <b>understand human feelings and emotions</b> and how these affect others e.g. enjoyment, disappointment, feelings of 'awe' and 'wonder' in their own and other's creations.</li> <li>● develop <b>aesthetic appreciation of products</b>.</li> <li>● <b>Respect others</b> e.g. feedback from peers, or teachers is listened to and considered sensibly. Children are able to accept that in DT often by making mistakes that learning begins.</li> <li>● <b>Accommodate differences</b> and enable others to succeed – children are supportive of each other when working either individually or collaboratively on a project, such as a hall display.</li> <li>● <b>Ask questions, offer ideas and make connections</b> for example when planning and designing a product.</li> <li>● <b>Display creativity and imagination</b> in developing a design – our pupils are encouraged to take risks and use their imagination when creating their work.</li> <li>● <b>Review</b> what they and others have done and say what they might change in their current work or develop in their future work.</li> </ul> |
| <p><b>Moral Development</b></p>   | <p><b>Children</b></p> <ul style="list-style-type: none"> <li>● They incorporate mutual respect and the consideration for others' work.</li> <li>● Pupils are encouraged to show <b>compassion</b> when assessing the work of others. Understanding how their comments can build up or destroy another's <b>self-belief</b>.</li> </ul>   |
| <p><b>Social Development</b></p>  | <p><b>Children:</b></p> <ul style="list-style-type: none"> <li>● Work <b>cooperatively</b> with partners and in a structured and unstructured groups to produce meaningful pieces of artwork.</li> <li>● <b>Participate</b> in art experiences such as a <b>visit from a local artist, collaborative art with Chatsworth Estate</b>.</li> <li>● <b>Demonstrate personal qualities</b> such as thoughtfulness, honesty, respect for difference, moral principles, independence,</li> </ul>   |

|  |   |
|--|---|
|  | <p>inter-dependence</p> <ul style="list-style-type: none"> <li>● <b>Demonstrate leadership skills</b> by acting as an “art expert” in class</li> <li>● <b>Investigate</b> the possibilities of a range of materials and processes e.g in printing with a variety of materials, collage, perspective, painting using different brushes and textures of paint</li> </ul>  |
| <p><b>Cultural Development</b></p>  | <p><b>Children:</b></p> <ul style="list-style-type: none"> <li>● <b>Engage with a range of themes, images and artefacts from different contexts, e.g. making curry, architecture from different countries , sewing and cross stitch etc</b></li> <li>● <b>Understand the role of craftsperson and designer in a range of cultures, times and contexts.</b></li> <li>● <b>Will investigate visual, tactile and other sensory qualities</b> of their own and others work., e.g.</li> <li>● Students will develop their knowledge and understanding of how designers think and develop their ideas.</li> </ul>   |
|  <p><b>British Values</b></p>       | <p>At the Peak Tor Federation we recognise that our Design Technology curriculum plays an important role in promoting British Values. We have planned our curriculum to ensure that through DT our pupils can learn about the powerful messages art can convey and the impact it can have on others.</p> <ul style="list-style-type: none"> <li>● <b>Tolerance</b> is promoted through listening to each other’s ideas, creative responses and understanding of different cultures and styles within DT. Children are encouraged to question and explore whilst maintaining tolerance and respect for the views of others.</li> <li>● We teach <b>democracy</b> by being aware and considering the views and values of others, particularly when working collaboratively. We may take votes and hold discussions when making decisions about our work, and collaborative projects.</li> <li>● <b>Rule of law-</b> We understand the school rules and guidelines and recognise their importance in keeping ourselves and our peers safe. During projects and activities, we access our tools and materials making sure we are following class rules. We know and understand the consequences of not following this rules.</li> <li>● <b>Mutual respect &amp; tolerance</b> – Pupils are taught to show respect for other opinions.</li> <li>● <b>Individual Liberty</b> - Pupils are given a chance to show their individuality through our projects.</li> <li>● Children have the opportunity to work independently and as a team to build resilience and self-esteem through tasks, sharing ideas and resources i.e. building bridges.</li> <li>● Peer-assessment is embedded in the DT curriculum which encourages pupils to support each other.</li> </ul> |

