Design Technology Curriculum Intent – Progression in Skills

<table>
<tr><th colspan="6">Design Technology - Primary Curriculum</th></tr>
<tr><td colspan="6">Subject Intent Statement:
Through a variety of creative and practical activities we aim to teach pupils the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They will work in range of relevant contexts such as the school building and grounds, the local community, and the wider environment.</td></tr>
<tr><th>Year 1</th><th>Year 2</th><th>Year 3</th><th>Year 4</th><th>Year 5</th><th>Year 6</th></tr>
<tr><td colspan="2">Key technical knowledge to be covered during this key stage

● Build structures exploring how they can be made stronger, stiffer and more stable.
● Explore and use mechanisms for example levers, sliders, wheels and axles in their products

Cooking and nutrition knowledge
● The basic principles of a healthy and balanced diet
● An understanding of where different foods comes from.</td><td colspan="4">Key technical knowledge to be covered during this key stage

● Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
● Understand and use mechanical systems in their products for example gears, pulleys, cams, levers and linkages.
● Understand and use electrical systems in their products for example series circuits incorporating switches, bulbs, buzzers and motors.
● Apply their knowledge of computing to program, monitor and control their products.

Cooking and nutrition knowledge
● The principles of a healthy, balanced and varied diet.
● Seasonality of food products
● How a variety of ingredients are grown, reared, caught and processed

Knowledge of designers
Understand how key events and individuals in design and technology have helped shape the world</td></tr>
<tr><td>Key Skills Year 1
Subject specific

Design
● Select pictures to help develop ideas
● Use pictures and words to convey what they want to design and make

Make
● Select materials from a limited range that will meet the design criteria
● Select and name the tools needed to work the materials
● Select appropriate technique explaining First, Next, Last
● Explore ideas by rearranging materials
● Explain what they are making and which materials they are using
● Model ideas with kits, reclaimed materials</td><td>Key Skills Year 2
Subject specific

Design
● Select pictures to help develop ideas
● Use pictures and words to convey what they want to design and make
● Select appropriate technique explaining First, Next, Last
● Describe their models and drawings of ideas and intentions

Make
● Select materials from a limited range that will meet the design criteria
● Select and name the tools needed to work the materials
● Explore ideas by rearranging materials</td><td>Key Skills Year 3
Subject specific

Design
● Investigate similar products to the one to be made to give starting points for a design
● Draw/sketch products to help analyse and understand how products are made
● Think ahead about the order of their work and decide upon tools and materials
● Plan a sequence of actions to make a product

Make
● Develop sensory vocabulary/knowledge using, smell, taste, texture and feel</td><td>Key Skills Year 4
Subject specific

Design
● Investigate similar products to the one to be made to give starting points for a design
● Draw/sketch products to help analyse and understand how products are made
● Think ahead about the order of their work and decide upon tools and materials
● Plan a sequence of actions to make a product
● Record the plan by drawing (labelled sketches) or writing
● Develop more than one prototype or adaptation of an initial design
● Propose realistic suggestions as to how they can achieve their design ideas</td><td>Key Skills Year 5
Subject specific

Design
● Investigate similar products to the one to be made to give starting points for a design
● Draw/sketch products to help analyse and understand how products are made
● Think ahead about the order of their work and decide upon tools and materials
● Plan a sequence of actions to make a product
● Record the plan by drawing (labelled sketches) or writing
● Develop more than one prototype or adaptation of an initial design</td><td>Key Skills Year 5
Subject specific

Design
● Investigate similar products to the one to be made to give starting points for a design
● Draw/sketch products to help analyse and understand how products are made
● Think ahead about the order of their work and decide upon tools and materials
● Plan a sequence of actions to make a product
● Record the plan by drawing (labelled sketches) or writing
● Develop more than one prototype or adaptation of an initial design</td></tr>
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• Describe their models and drawings of ideas and intentions • Use kits/reclaimed materials to develop an idea cribe what they need to do next • Develop a food vocabulary using taste, smell, texture and feel • Group familiar food products e.g. fruit and vegetables • Cut and chop a range of ingredients • Work safely and hygienically • Understand simply the need for a variety of foods in a diet eg, healthy and unhealthy • Measure and weigh food items, using spoons, cups • Colour fabrics using painting out FELT shapes which have been created by drawing round a template onto the fabric • Join fabrics by using glue, staples, tape • Decorate fabrics with buttons, beads, sequins joining using glue • Make vehicles with construction kits which contain free running wheels • Use bricks, blocks and lego to construct • Fold, tear and cut paper and card • Roll paper to create tubes • Cut along lines, straight and curved • Curl paper • Use hole punch • Insert paper fasteners for card linkages • Use staples **Evaluate** • Say what they like and do not like about items they have made and attempt to say why	• Explain what they are making and which materials they are using • Describe what they need to do next • Model ideas with kits, reclaimed materials • Use kits/reclaimed materials to develop an idea • Develop a food vocabulary using taste, smell, texture and feel • Group familiar food products e.g. fruit and vegetables and understand healthy food groups • Cut, peel, grate, chop a range of ingredients • Work safely and hygienically • Understand the need for a variety of foods in a diet • Measure and weigh food items, non-statutory measures e.g. spoons, cups and scales with support • Colour fabrics using printing, fabric paints • Join fabrics by using running stitch, glue, staples, over sewing, tape • Decorate fabrics with buttons, beads, sequins, braids, ribbons after joining • Create hinges • Use simple pop ups • Investigate strengthening sheet materials • Investigate joining temporary, paper clips, fixed staples, and moving split pins • Use a range of materials to create models with wheels and axles e.g. tubes, • dowel, cotton reels • Attach wheels to a chassis using an axle • Join appropriately for different materials and situations e.g. glue, tape.	• Analyse the taste, texture, smell and appearance of a range of foods • Read and follow the instructions more independently • Make healthy eating choices from and understanding of a balanced diet • Work safely and hygienically • Measure and weigh ingredients appropriately more independently • Colour fabrics using printing • Use appropriate decoration techniques (glued or simple stitches) fabrics using running stitch, over sewing • Explore fastenings and recreate some e.g. sew on buttons • Create shell or frame structures, strengthen frames with diagonal struts • Make structures more stable by giving them a wide base • Prototype frame and shell structures with 90-degree joins • Use glue gun with close supervision • Cut slots • Cut internal shapes by folding sheet paper/card etc • Use and explore complex pop ups • Create nets from templates • Use IT to design and create nets and join independently **Evaluate**	• Add notes to drawings to help explanations **Make** • Develop sensory vocabulary/knowledge using, smell, taste, texture and feel • Analyse the taste, texture, smell and appearance of a range of foods • Read and follow instructions • Make healthy eating choices from and understanding of a balanced diet • Join and combine a range of ingredients e.g. snack foods • Work safely and hygienically • Measure and weigh edients appropriately • Use appropriate decoration techniques e.g. appliqué (glued or simple stitches) • Join fabrics using running stitch, over sewing, cross stitch • Thread own needle • Create a simple pattern erstand the need for patterns • Create shell or frame structures, strengthen frames with diagonal struts • Make structures more stable by giving them a wide base • Prototype frame and shell structures • Use glue gun INDEPENDENTLY • Incorporate a circuit with a bulb or buzzer into a model • Cut slots • Cut internal shapes • Use lolly sticks/card to make levers and linkages	• Propose realistic suggestions as to how they can achieve their design ideas • Add notes to drawings to help explanations **Make** • Use MDF to create a functioning product • Manipulate the wood by sanding and filing • Develop sensory vocabulary/knowledge using, smell, taste, texture and feel • Analyse the taste, texture, smell and appearance of a range of foods • Read and follow instructions • Make healthy eating choices from and understanding of a balanced diet • Join and combine a range of ingredients e.g. snack foods • Work safely and hygienically • Measure and weigh edients appropriately • Use appropriate decoration techniques e.g. appliqué (glued or simple stitches) • Join fabrics using running stitch, over sewing, cross stitch • Thread own needle a variety of fabric 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over sewing, cross stitch • Thread own needle a variety of fabric decoration techniques • Create shell or frame structures, strengthen frames with diagonal struts • Make structures more stable by giving them a wide base • Prototype frame and shell structures • Use glue gun INDEPENDENTLY

• Talk about their designs as they develop and identify good and bad points • Discuss how closely their finished products meet their design criteria	• Mark out materials to be cut using a template • Cut strip wood/dowel using hacksaw and bench hook • Use a glue gun with adult nearby to supervise • deconstruct and construct nets in the form of boxes to use in making • Use IT to create and design nets **Evaluate** • Say what they like and do not like about items they have made and attempt to say why • Talk about their designs as they develop and identify good and bad points • Talk about changes made during the making process • Discuss how closely their finished products meet their design criteria •	• Identify the strengths and weaknesses of their design ideas • Decide which design idea to develop • Consider and explain how the finished product could be improved • Discuss how well the finished product meets the design criteria and how well it meets the needs of the user.	• Use linkages to make movement larger or more varied. • Use and explore complex pop ups ate nets from templates **Evaluate** • Identify the strengths and weaknesses of their design ideas • Decide which design idea to develop • Consider and explain how the finished product could be improved • Discuss how well the finished product meets the design criteria and how well it meets the needs of the user.	• Cut slots • Cut internal shapes • Use lolly sticks/card to make levers and linkages • Use linkages to make movement larger or more varied. • Use and explore complex pop ups ate nets from templates **Evaluate** • Identify the strengths and weaknesses of their design ideas • Decide which design idea to develop • Consider and explain how the finished product could be improved • Discuss how well the finished product meets the design criteria and how well it meets the needs of the user.	• Incorporate a circuit with a bulb or buzzer into a model • Cut slots • Cut internal shapes • Use lolly sticks/card to make levers and linkages • Use linkages to make movement larger or more varied. • Use and explore complex pop ups ate nets from templates **Evaluate** • Identify the strengths and weaknesses of their design ideas • Decide which design idea to develop • Consider and explain how the finished product could be improved • Discuss how well the finished product meets the design criteria and how well it meets the needs of the user.
Key Vocabulary **Select, design, rearrange, evaluate, taste, smell, texture, diet, measure, weigh, join, fabric, sequins, felt, buttons, beads, construction, wheels, axle, lever, slider, paper fastener, hole punch, staples, tube, vehicle**	**Key Vocabulary** **Grate, peel, chop, hygienic, running stitch, ribbon, printing, axle, chassis, dowel, nets, braid, hinge, product**	**Key Vocabulary:** **All terms from KS1 plus** **KS2:** **Appearance, decoration, stitch, prototype, shell, frame, over sew, diagonal, strut, pop up, template, mock up**	**Key Vocabulary:** **Product, design criteria, linkages, levers, stability, applique, analyse, function, joining, finishing, shaping, components, mechanisms**	**Key Vocabulary:** **Product, Hygiene and safety. Models, promotional product, design brief, linkages, levers, stability, applique, analyse, function, joining, finishing, shaping, components, mechanisms, decoration, textiles, packaging, designers**	**Key Vocabulary:** **Product, Hygiene and safety. Models, promotional product, design brief, linkages, levers, stability, applique, analyse, function, joining, finishing, shaping, components, mechanisms, decoration, textiles**