



DOSTHILL PRIMARY ACADEMY

Design & Technology LTP

Long Term Plan						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn	<p>Structures: Chairs for the three bears</p> <p>Combine materials in simple ways (glue, tape)</p>	<p>Textiles and combining fabric: Design and create a Christmas garland</p> <p>Use a basic running stitch</p>	<p>Textiles: Design and make tribal accessories</p> <p>Join materials. Create accessories for a product (clay beads)</p>	<p>Food technology: Baking bread (link to Romans)</p> <p>Kneading, baking. Adapting cooking times.</p>	<p>Mechanical systems: Forces/Pulleys and gears (Fairgrounds/playground rides)</p> <p>Create a movable part that acts upon another movable part.</p>	<p>Structures: Design and build a frame structure that withstands weight</p> <p>Test multiple methods of reinforcement (e.g. triangulation).</p>
Spring	<p>Mechanisms: Create a model house with 1 functioning part</p> <p>Combine materials to add one moving part.</p>	<p>Mechanisms: Construct a vehicle using wheels, axles, levers and linkages</p> <p>Combine and cut materials to add at least two different moving parts.</p>	<p>Food technology: Design and prepare an energy-boosting smoothie</p> <p>Mashing, whisking, crushing, grating, cutting. Measured ingredients.</p>	<p>Electrical systems: Create a light-up picture</p> <p>Measure and mark out to the nearest cm and mm. Accurately connect a working circuit.</p>	<p>Food technology: Create a bolognese sauce</p> <p>Understanding seasonality. Understand the farm-to-fork process. Make adaptations to a basic recipe.</p>	<p>Electrical systems: Designing and making alarm systems</p> <p>Accurately connect a working circuit. Apply a switch to activate an alarm.</p>
Summer	<p>Food technology: Create a healthy sandwich for a teddy bears' picnic</p> <p>Use simple tools. Cutting and spreading.</p>	<p>Food technology: Design and prepare a fruit salad using exotic fruits</p> <p>Cutting, slicing and peeling. Measuring liquid (capacity).</p>	<p>Mechanisms: Design and make a magnet maze game with moving parts</p> <p>Measure and mark out. Create a mix of fixed and movable elements.</p>	<p>Structures: Create a container with various components (e.g. desk tidy)</p> <p>Apply a method to strengthen the product (e.g. papier-Mache).</p>	<p>Textiles: Design and sew a drawstring bag</p> <p>Join textiles using a greater variety of stitches (running, whip, blanket, ladder).</p>	<p>Food technology: Adapt a Mexican dish (e.g. Tacos) OR Chocolate truffles</p> <p>Calculating ratio, scaling up/down. Consider availability and costings.</p>

Year 1		
Term	Programme of Study	Key skills
Autumn	Structures: Chairs for the three bears	<p>Design: Pupils work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.</p> <p>Make: Pupils begin to use simple finishing techniques to improve the appearance of their product.</p> <p>Evaluate: Pupils explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations. They explore the materials products are made from.</p>
Spring	Mechanisms: Create a model house with 1 functioning part	<p>Design: Pupils explain how their products will look and work through discussions and simple annotated drawings. They plan and test their ideas.</p> <p>Make: Pupils use a range of materials and components. They cut, shape and score materials with some accuracy.</p> <p>Evaluate: Pupils talk about their design ideas and what they are making.</p>
Summer	Cooking: Create a healthy sandwich for a teddy bears' picnic	<p>Design: Pupils use their knowledge of existing products and their own experience to help generate their ideas.</p> <p>Make: With support, pupils can follow a simple plan or recipe. They learn to use hand tools and kitchen equipment safely and appropriately. They also learn to follow hygiene procedures.</p> <p>Evaluate: Pupils can explain positives and things to improve their work.</p>

Year 2		
Term	Programme of Study	Key skills
Autumn	Textiles and combining fabric: Design and create a Christmas garland	<p>Design: Pupils follow a simple design criteria.</p> <p>Make: Pupils demonstrate how to cut, shape and join fabric to make a simple product. They begin to select from a range of hand tools and equipment, such as scissors. They can manipulate fabrics and use a basic running stitch.</p> <p>Evaluate: Pupils evaluate their products and ideas against their simple design criteria.</p>
Spring	Mechanisms: construct an amphibious vehicle using wheels, axles, levers and linkages	<p>Design: Pupils understand and follow a simple design criteria.</p> <p>Make: With help, pupils measure and mark out. They can select from a range of materials and can assemble, join and combine materials.</p> <p>Evaluate: Pupils start to identify strengths and possible changes they might make.</p>
Summer 1	Food technology: Design and prepare a fruit salad	<p>Design: design products that have a purpose and are aimed at an intended use.</p> <p>Make: cut, peel and grate ingredients. Measure and weigh ingredients using measuring cups.</p> <p>Evaluate: evaluate their products and ideas against their simple design criteria.</p>

Year 3		
Term	Programme of Study	Key skills
Autumn	<p style="text-align: center;">Textiles: Design and make tribal accessories</p>	<p>Design: Pupils use their knowledge of a broad range of existing products to help generate their ideas.</p> <p>Make: Pupils develop and follow a simple design criteria. They use a wide range of materials and components. They demonstrate how to measure, cut, shape and join fabric. Pupils join textiles with an appropriate sewing technique (whip stitch, blanket stitch).</p> <p>Evaluate: Pupils consider their design criteria as they make progress. They show they are willing to alter their plans.</p>
Spring	<p style="text-align: center;">Food technology: Design and prepare an energy-boosting smoothie</p>	<p>Design: Pupils explore ingredients and suggest reasons for choosing them.</p> <p>Make: Pupils use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking. They begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as graphics (for packaging).</p> <p>Evaluate: Pupils explore what ingredients the final products are made from and suggest reasons for this.</p>
Summer	<p style="text-align: center;">Mechanisms: Design and make a magnet maze game with moving parts</p>	<p>Design: Pupils design innovative and appealing products. They use annotated sketches and cross-sectional drawings to develop and communicate their ideas. Pupils use computer-aided design to develop and communicate their idea. They develop and follow simple design criteria.</p> <p>Make: Pupils assemble, join and combine materials and components with some degree of accuracy. They begin to select and use different and appropriate finishing techniques.</p> <p>Evaluate: Pupils evaluate against their original design criteria.</p>

Year 4		
Term	Programme of Study	Key skills
Autumn	Structures: Create a container with various components (e.g. desk tidy)	<p>Design: Pupils identify the design features of their products that will appeal to intended customers. When designing, they will explore different initial ideas before coming up with a final design. Pupils use their knowledge of a broad range of existing products to help generate their ideas.</p> <p>Make: Pupils carefully select from a range of tools and equipment and place the main stages of making in a systematic order.</p> <p>Evaluate: Pupils consider their design criteria and alter their plans.</p>
Spring	Food technology: Baking bread (link to Romans)	<p>Design: Pupils work in a broader range of relevant contexts, for example the food industry. They explore ingredients and suggest reasons for what products are made of.</p> <p>Make: Pupils work with growing confidence and select from a wide range of tools and equipment. Pupils can explain their choices and use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking.</p> <p>Evaluate: Pupils evaluate their product against their original design criteria.</p>
Summer	Electrical systems: Create a light-up picture	<p>Design: Pupils explain how particular parts of their products will work when planning. They start to explain their choice of materials and components including function and aesthetics. Pupils test ideas out through using prototypes.</p> <p>Make: Pupils measure and mark out to the nearest cm and millimetre. They cut, shape and score materials with some degree of accuracy.</p> <p>Evaluate: Pupils explore and evaluate against existing products and explain the purpose of the product. They explore what materials the final products are made from and suggest reasons for this.</p>

Year 5		
Term	Programme of Study	Key skills
Autumn	<p>Mechanical systems: Forces/Pulleys and gears (Fairgrounds/playgrounds – using gears and pulleys to create and changes movement)</p>	<p>Design: Pupils explain how particular parts of their products work. Make: Pupils select from a range of materials and components according to their functional properties. They assemble, join and combine materials and components with accuracy. Evaluate: Pupils critically evaluate the quality of design.</p>
Spring	<p>Food technology: Create a salad based on products used in Ancient Greece. Design its packaging</p>	<p>Design: Pupils learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures. They understand about seasonality and how this may affect the food availability. Pupils plan recipes according to seasonality. Make: Pupils independently follow a recipe. Evaluate: Pupils explain the health benefits from the substances, such as protein. They adapt and refine recipes.</p>
Summer	<p>Textiles: Design and sew a drawstring bag</p>	<p>Design: Pupils use research to inform and develop detailed design criteria aimed at a target market. Make: Pupils join textiles using a greater variety of stitches (running, whip, blanket and ladder). Evaluate: Pupils evaluate their ideas and products against the original design criteria and make changes as needed.</p>

Year 6		
Term	Programme of Study	Key skills
Autumn	<p>Electrical systems: Designing and making alarm systems</p>	<p>Design: Pupils explain how particular parts of their product works. Make: Pupils create step-by-step plans as a guide to making. Evaluate: They critically evaluate the quality of design and evaluate the fitness for purpose.</p>
Spring	<p>Structures: Design and build a frame structure that withstands weight</p>	<p>Design: Pupils use annotated sketches, cross-sectional drawings and diagrams to develop and communicate their ideas. Make: Pupils select from a range of materials and components according to their functional properties. They assemble, join and combine materials and components with accuracy. Pupils refine their finish using techniques to improve the appearance of their product. Evaluate: Pupils evaluate against the original design criteria, making changes as needed.</p>
Summer	<p>Food technology: Adapt a Mexican dish (e.g. Tacos)</p>	<p>Design: Pupils understand that food is processed into ingredients that can be eaten or used in cooking. They consider the availability and costings of resources when planning out designs. Make: Pupils demonstrate how to prepare and cook a variety of predominantly savoury dishes. They measure accurately and calculate ratios of ingredients to scale up or down from a recipe. Pupils alter methods, cooking times and/or temperatures Evaluate: Pupils are able to complete detailed competitor analysis of other products on the market then compare them to their own product.</p>