

## Design Technology Skills linked to SITE

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	<p>Autumn and Winter - Explore the natural world around them making observations and drawing pictures of animals and plants.</p> <p>Understand the important processes and changes in the natural world around them, including seasons and changing states of matter</p> <p>Harvest</p>		<p>Describe what they see, hear, and feel whilst outside.</p> <p>Winter and Spring - Explore the natural world around them, making observations and drawing pictures of animals and plants. Understand the effect of changing seasons on the natural world around them</p> <p>Planting</p>		<p>Spring and Summer - Explore the natural world around them, drawing pictures of animals and plants. Understand the effect of changing seasons on the natural world around them</p> <p>Similarities and differences between the natural world around them and contrasting environments</p> <p>Harvesting</p>	
Year 1	<p><b><u>Textiles: Templates and joining</u></b></p> <p>Design and make a hat for the Queen that won't blow off. Link to 'The Queens's Hat' story. Test materials that will be suitable to make a fancy hat.</p>		<p><b><u>Mechanisms: Sliders and levers</u></b></p> <p>Design and create a moving parts model of the human body. Children to use the laptops to type and print information learnt in science to add to poster. Poster must have moving parts (split pins/flaps/tabs).</p>		<p><b><u>Structures: Freestanding Structures</u></b></p> <p>Design and make a scarecrow to protect the sunflowers/broad beans we have planted.</p>	
Key Vocabulary*	<p>template, mark out, join, decorate, finish, suitable, design brief, make, evaluate, user, purpose, function</p>		<p>slider, lever, pivot, slot, guide card, masking tape, paper fastener, push, up, down, straight, curve, forwards, backwards design, make, evaluate, user, purpose, ideas, design brief, product, function</p>		<p>cut, fold, join, fix structure, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, wood, materials, triangle, square, rectangle, cuboid, cube, cylinder, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	
Year 2	<p><b><u>Structures: Freestanding Structures</u></b></p> <p>To design and make a shelter for a field mouse to survive the winter in the local environment following a plea from local farmer.</p>		<p><b><u>Textiles: Templates and Joining</u></b></p> <p>Design and make a puppet for an animation</p>		<p><b><u>Mechanisms: Wheels and Axels</u></b></p> <p>Design and make a seed dispersal cart for use in the allotment.</p>	
Key Vocabulary*	<p>cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, wood, materials, triangle, square, rectangle, cuboid, cube, cylinder design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>		<p>template, pattern pieces, mark out, join, decorate, finish features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function</p>		<p>vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism, design, make, evaluate, purpose, user, criteria, functional</p>	

Year 3	<p><b><u>Structures: Shell structures</u></b> Create a magnetic toy that teaches children in Class R about the United Kingdom.</p>	<p><b><u>Structures: Shell structures</u></b> Use natural materials to create a Stone Age shelter. Create Palaeolithic / Mesolithic / Neolithic shelters. (Skills – shell structure). Using different types of rocks.</p>	<p><b><u>Mechanisms: Levers and Linkages</u></b> Create a moving picture of a flowering plant life cycle or water system within a plant to explain the concept to a younger year group.</p>	<p><b><u>Structures: Shell structures</u></b> Design and create a lamp shade. Emphasis on material used and shadows created.</p>	<p><b><u>Mechanisms: Levers and Linkages</u></b> Create a 3D wheel of the life cycle of a butterfly.</p>	<p>Revision of Science and application of understanding through a Science / History Project</p> <p><b><u>Textiles: 2D Shape to 3D Product</u></b></p>
Key Vocabulary*	shell structure, three-dimensional (3-D) shape, net, width, breadth, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, decision, evaluating, design brief, design criteria		mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, user, purpose, function prototype, design criteria, design brief	<b>(see Autumn)</b> Expand on previous project vocabulary based around specific design brief.	<b>(see Spring 1)</b> Expand on previous project vocabulary based around specific design brief.	fabric, fastening, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, purpose, design, model, evaluate, prototype, annotated sketch, function, investigate, label, drawing,
Year 4	<p><b><u>Structures: Shell structures</u></b> Create a musical instrument/piece of music linked to a country</p>	<p><b><u>Electrical Systems- Simple circuits and switches</u></b>  Christmas lights</p>	<p><b><u>Mechanisms: Levers and Linkages</u></b> Create an interactive food chain/model of digestive system</p>	Designing a chocolate bar with different states of matter	<p><b><u>Mechanical systems: Cam Toy</u></b> Make a 3D quiz about animal classification.</p>	<p>Revision of Science and application of understanding through a Science / History Project</p> <p><b><u>Textiles: 2D Shape to 3D Product</u></b></p>
Key Vocabulary*	shell structure, three-dimensional (3-D) shape, net, width, breadth, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, decision, evaluating, design brief, design criteria, innovative, prototype	series circuit, fault, connection, switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip control, program, system, input device, output device	mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output, linear, rotary, oscillating, reciprocating, innovative, appealing,		<b>(see Spring 1) Including:</b> cam, axel, rotating	fabric, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics

Year 5	<u><b>Mechanical Systems: Pulleys</b></u> Make a space buggy	<u><b>Textiles: Combining different fabric shapes</b></u>  Parachutes	<u><b>Structures: Frame Structures</b></u> Make a weather system to observe evaporation, condensation and precipitation cycle	<u><b>Textiles: Combining different fabric shapes</b></u> Make a pair of Greek sandals	<u><b>Textiles: Combining different fabric shapes</b></u>  Felt book with sewn life cycle of a plant – designed for KS1.	Revision of Science and application of understanding through a Science / History Project  <u><b>Electrical Systems: Switches and Circuits</b></u>
Key Vocabulary*	pulley, drive belt, rotation, spindle, driver, ratio, axle, motor circuit, switch, circuit diagram, annotated drawings, mechanical system, electrical system, input, process, output design decisions, functionality, innovation, authentic, user, purpose, design specification	seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, pins, needles, thread, pinking shears, fastenings, iron transfer, paper design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype	frame structure, stiffen, strengthen, reinforce, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional	<u><b>(see Au 2)</b></u>  Vocab to include specific material and fastenings to match the design brief.	<u><b>(see Au 2)</b></u>  Vocab to include specific material and fastenings to match the design brief.	series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control
Year 6	<u><b>Electrical Systems: More complex circuits and switches</b></u>  Build an electric coding machine – morse code, buzzer, light that can be camouflaged, hidden	<u><b>Structures: Frame Structures</b></u> Build a spying device like a periscope	<u><b>Mechanical Systems: Pulleys</b></u> Design and build a device to collect water samples/living things in the pond – boat with rubber band/electric motor pulling a net, pulley system, lever system		Revision of Science and application of understanding through a Science / History Project  <u><b>Mechanical Systems: Gears</b></u>	
Key Vocabulary*	series circuit, parallel circuit, switches and components, input device, output device, system, monitor, control, program, flowchart	frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional	pulley, drive belt, rotation, spindle, driver, follower, ratio, transmit, axle, motor circuit, switch, circuit diagram, annotated drawings, mechanical system, electrical system, input, process, output design decisions, functionality, innovation, authentic, user, purpose, design specification		drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor circuit, switch, circuit diagram, exploded diagrams, mechanical system, electrical system, input, process, output design decisions, functionality, innovation, authentic	

\*The key vocabulary provided can be expanded to match specific project briefs when discussed with pupils.

**STAND ALONE DT PROJECT – NOT LINKED TO SCIENCE**