



Design and Technology – Long Term Plan



	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1		<u>Shade and Shelter</u> Focus Area: Structures <i>Exploring the purpose of shelters and their materials. Designing and building a play den as a group.</i> Key Vocabulary: shelter, structure, temporary, permanent, transparent, opaque, materials, properties Educational Visit: Walk to Oxleas Woods Links: Everyday materials (Science)		<u>Taxi!</u> Focus Area: Mechanisms <i>Exploring wheels, axles and chassis and how they work together to make a vehicle move</i> Key Vocabulary: wheels, axles, chassis, pegs, masking tape, vehicle Educational Visit: Visit from a black cab Links: London (Geography)		<u>Chop, Slice and Dice</u> Focus Area: Cooking and Nutrition <i>Exploring the sources of food and the preparatory skills needed to make a supermarket sandwich</i> Key Vocabulary: source, plants, animals, meat, fruit, vegetables, dairy, peeling, tearing, slicing, chopping, mashing, grating, tool Links: Plants (Science)
Year 2		<u>Remarkable Recipes</u> Focus Area: Cooking and Nutrition <i>Understanding why some food is cooked and reading simple recipes before making a new school meal</i> Key Vocabulary: diet, vegetarian, preparation, recipe, edible, equipment, ingredients Links: Human survival (Science)		<u>Beach Hut</u> Focus Area: Structures <i>Making and strengthening structures, exploring different ways to join materials.</i> Key Vocabulary: apex, roof, cladding, stilts, stable, strong, scoring Educational Visit: Beach visit Links: Coastal towns (Geography) Materials (Science)		<u>Cut, Stitch and Join</u> Focus Area: Textiles <i>Experimenting with using a running stitch and adding embellishments to make a sewn bag tag.</i> Key Vocabulary: products, prints, running stitch, thread, needle, fabric, embellishment, applique, motif, textile, sequin Key Designer: Cath Kidston

Year 3		<u>Making It Move</u> Focus Area: Mechanisms <i>Exploring cam mechanisms and designing, making and evaluating a child's automaton toy.</i> Key Vocabulary: mechanism, slider, lever, cam, linkages, follower, rotate, automata Links: Forces (Science)	<u>Cook Well, Eatwell</u> Focus Area: Cooking and Nutrition <i>Exploring the different food groups and different methods of cooking.</i> Key Vocabulary: balanced diet, carbohydrates, protein, dairy, fats, minerals, vitamins, boiling, steaming, frying, baking, roasting, grilling Links: Humans and Healthy Eating (Science)			<u>Greenhouses</u> Focus Area: Structures <i>Exploring the purpose, structure and features of greenhouses and using tools safely to design and construct a mini greenhouse</i> Key Vocabulary: greenhouse, materials, frame, butt joints, glue gun, rigid, translucent Key Designers: Sir Joseph Paxton and Sir Nicholas Grimshaw Links: Light and Shadows /Plants (Science)
Year 4	<u>Functional and Fancy Fabrics</u> Focus Area: Textiles <i>Exploring techniques for decorating fabric, including hemming and embroidery</i> Key Vocabulary: cotton, wool, lace, nylon, polyester, hemming, embellishment, back stitch, synthetic, motif, symmetry Key Designer: William Morris Educational Visit: Red House Links: Printing (Art)	<u>Electrical Circuits and Conductors</u> Focus Area: Electrical Systems <i>Exploring programmable devices and designing and making a nightlight</i> Key Vocabulary: electricity, circuit, component, programmable technologies, devices, micro:bit, LED, renewable Links: Electricity (Science) Programming (Computing)			<u>Fresh Food, Good Food</u> Focus Area: Cooking and Nutrition <i>Exploring food preservation and preparing, packaging and evaluating a healthy snack</i> Key Vocabulary: decay, microorganisms, preservation, drying, salting, pickling, canning, refrigerating, freezing, packaging, sustainable, net Links: Digestive System (Science) 3D shapes (Maths)	<u>Tomb Builders</u> Focus Area: Mechanisms <i>Exploring simple machines, and how they helped ancient builders to lift and move heavy loads.</i> Key Vocabulary: wheel, axle, lever, pivot, fulcrum, inclined plane, pulley, screw, wedge, force, friction Links: Ancient Egyptians (History) Forces (Science – Year 3)

Year 5		<u>Moving Mechanisms</u> Focus Area: Mechanisms <i>Exploring pneumatic systems and designing, making and evaluating a pneumatic machine that performs a useful function.</i> Key Vocabulary: air pressure, pneumatics, energy, compressed, piston, valve, actuator, particle Links: Forces (Science)	<u>Eat the Seasons</u> Focus Area: Cooking and Nutrition <i>Exploring the benefits of seasonal eating, including food preparation and cooking techniques</i> Key Vocabulary: seasonality, harvest, freshness, nutrition, hygiene, nutrients, dicing, sautéing, antibacterial, carbon footprint Educational Visit: Woodlands Farm Links: Farming (Geography)			<u>Architecture</u> Focus Area: Structures <i>Exploring how architectural style and technology has developed over time.</i> Key Vocabulary: classical, gothic, renaissance, baroque, industrial, modernist, postmodern, sustainable, columns, doric, ionic, Corinthian, pediment, CAD Links: Ancient Greece (History – Year 3) Computer-Aided Design (Computing)
Year 6		<u>Food for Life</u> Focus Area: Cooking and Nutrition <i>Exploring processed food and learning about the benefits of whole foods.</i> Key Vocabulary: processed food, additives, food labels, whole foods, yeast, shelf life, daily intake Links: Circulatory System (Science)	<u>Engineer</u> Focus Area: Structures <i>Identifying features of bridges and creating a bridge prototype.</i> Key Vocabulary: compression, tension, beam, arch, truss, suspension, concertina, distort, engineer Key Engineer: Isambard Kingdom Brunel		<u>Make Do and Mend</u> Focus Area: Textiles <i>Exploring a range of simple sewing stitches, including ways of recycling and repurposing old clothes and materials</i> Key Vocabulary: rationing, campaign, deconstruction, running stitch, whip stitch, blanket stitch, repair, darn, repurpose Links: Second World War (History)	<u>Electrical Circuits and Components</u> Focus Area: Electrical Systems <i>Exploring programmable devices, sensors and monitoring to make programmable home devices.</i> Key Vocabulary: components, current, voltage, cells, sensors, monitor, program, micro:bit, LED, environmental variable Links: Electricity (Science) Programming (Computing)