

Y5 & 6 DT CURRICULUM



Year A

AUTUMN: “OFF WITH HER HEAD!”		SPRING: “MAYAN MYSTERY”		SUMMER: “FABULOUS FAIRGROUNDS”			
SHELTERS – medieval tent		MUSICAL INSTRUMENTS - (e.g. panpipes)		FAIRGROUND MODELS - using circuits		FAIRGROUND FOOD Pizza	
OVERVIEW In this unit, pupils learn about structures and the techniques to reinforce and strengthen . They are shown the strength of tubes as a construction material and textiles as a suitable cover. The outcome is to design and construct a framework shelter (such as used at a jousting festival).		OVERVIEW In this unit, pupils learn about the construction of different instruments, including those from Mayan times and South America. They learn how different sounds can be created and altered. They design and make a working instrument using a combination of materials.		OVERVIEW In this unit, pupils learn how to use belts and pulleys to make a moving model of a fairground ride. Pupils will learn how to control these using an electric motor .		OVERVIEW In this unit, pupils learn basic food preparation techniques to create pizza. They develop their designing skills by using their experience to develop ideas. They combine components according to taste, appearance and/or texture to create a healthier version of the fast food favourite.	
PRIOR LEARNING – Pupils will have: <ul style="list-style-type: none">Learn how to mark-out, cut and join materialsPractised ways of showing their design ideas on paper		PRIOR LEARNING – Pupils will have: <ul style="list-style-type: none">Learnt how to show their design ideasJoined and cut materials in different waysLearnt different finishing techniques		PRIOR LEARNING – Pupils will have: <ul style="list-style-type: none">Learnt about electrical circuits and electrical componentsMade models with rotating parts (e.g. wheeled vehicles)		PRIOR LEARNING – Pupils will have: <ul style="list-style-type: none">Learnt food products have several componentsLearnt a balance of food are needed in a healthy dietA good understanding of food hygiene	
VOCABULARY DESIGNING: modelling, scale models, fair-test MAKING: rolling, strengthening, reinforcing KNOWLEDGE & UNDERSTANDING: triangulation, diagonal, stable, strength, framework, material, tube, rigid, section, water resistance, strut, beam, bracket, horizontal, vertical, tension, compression, bending, twisting		VOCABULARY DESIGNING: investigate, survey, plan, research, texture, intention, structure, outcome MAKING: mouldable, adhesive, PVA, wood glue, shaping, cutting KNOWLEDGE & UNDERSTANDING: sound, note, pitch, duration, dynamics, tempo, timbre, range of sounds, instrument names and component parts, strengthen, reinforce		VOCABULARY DESIGNING: model, mock-up, select, modify, improve, criteria MAKING: framework, construct, temporary / permanent joins KNOWLEDGE & UNDERSTANDING: rotation, spindle, axle, drive-belt, pulley, electric motor, speed, horizontal, vertical, switch, gears, mechanism, control		VOCABULARY DESIGNING: texture, taste, appearance, healthy, preference, criteria, cost, data, questionnaire MAKING: cut, mix, spread, slice, blend, grate, chop KNOWLEDGE & UNDERSTANDING: ingredients, food groups, hygiene, healthy eating, topping	
END of UNIT EXPECTATIONS		END of UNIT EXPECTATIONS		END of UNIT EXPECTATIONS		END of UNIT EXPECTATIONS	
Pupils will have investigated different shelters; made, used and recognized the importance of tubes in frameworks; used triangulation to reinforce frameworks; developed several design ideas; incorporated a textile cover in their model. <i>Y6 EXT: Pupils will show a thorough understanding of materials used and methods construction; set out step-by-step method; used a wide range of materials and techniques; modified their shelter design as they went along.</i>		Pupils will have recognized sound can be made in different ways; generated a number of ideas; modelled parts of their design and produced annotated diagrams; used ICT for research and design; measured, marked out and joined with accuracy. <i>Y6 EXT: Pupils will have made detailed step-by-step plans and listed tools and materials; understood how the choice of materials will affect the quality of the finished product; appreciate how important high-quality making is important to the quality of the sound made.</i>		Pupils will have generated ideas to choose from; used belts and pulleys to harness the rotation from the motor to make a moving model; evaluated and modified their design. <i>Y6 EXT: Pupils will have analysed possible designs against design criteria; displayed an awareness of problems / constraints; produced a model which can rotate at different speeds and is finished to a high-standard; communicated ideas clearly; implemented improvements.</i>		Pupils will have used information from an evaluation activity to select and prepare a range of pizza toppings; have an understanding of the balanced plate model of healthy eating and applied this in their pizza design. <i>Y6 EXT: Pupils will have competently prepared a range of ingredients they have selected based on information they have gathered; offered suggestions and modifications and improvements to their original idea.</i>	

Year B

AUTUMN: “EUREKA!”	SPRING: “FOOD, GLORIOUS FOOD!”	SUMMER: “AMAZING AFRICA”	
ROMAN / GREEK INVENTIONS	CONTROLLABLE VEHICLES – Farm tractor	BREAD – from basic food product to luxury item	MOVING TOYS – Upcycling from rubbish
OVERVIEW In this unit, pupils will develop their understanding of important historic technological inventions and how they used mechanical systems in their products (e.g. gears, pulleys, cams, levers and linkages).	OVERVIEW In this unit, pupils develop their understanding of how products can be driven by electricity . They learn how to use motors within their models. They will produce a framework structure and develop it with cladding and finishing techniques.	OVERVIEW In this unit, pupils investigate existing products and explore the functions / properties of ingredients . They draw on this knowledge to design and make their own bread product . They compare simple breads to luxury products.	OVERVIEW In this unit, pupils learn about controlling movement with a cam mechanism . They develop their designing skills by using information sources to generate ideas. They gain an understanding of the working characteristics of the materials and components and how they can be combined.
PRIOR LEARNING – Pupils will have: Basic knowledge and experience of simple mechanisms - including gears, pulleys, cams, levers and linkages.	PRIOR LEARNING – Pupils will have: <ul style="list-style-type: none"> Produced labelled drawings Used tools and safely and accurately Made simple electrical circuits in science Built a simple framework Fixed wheels and axles to a chassis 	PRIOR LEARNING – Pupils will have: <ul style="list-style-type: none"> An awareness of food hygiene and safety Experience of investigating existing products Experience of evaluating food products according to appearance, texture and taste Weighing and measuring skills 	PRIOR LEARNING – Pupils will have: <ul style="list-style-type: none"> Learnt how to use tools safely Learnt the working characteristics of sheet materials Made models with construction kits
VOCABULARY DESIGNING: sequence, annotated diagram, sketch, decision, prototype, model, communicate MAKING: shape, assemble, accurate, saw, mark-out KNOWLEDGE & UNDERSTANDING: cam, mechanism, movement, linear motion, rotary motion, pivot, off-centre, axle, force, framework, shaft, guide	VOCABULARY DESIGNING: design, criteria, exploded diagram, labelled drawing, improve, modify MAKING: cutting jig, cladding, finishing technique, assembling, components KNOWLEDGE & UNDERSTANDING: circuit, series and parallel, control, motor, chassis, switches, speed, pulley, wheel, axle	VOCABULARY DESIGNING: evaluating, investigating, preferences, profile, specification, criteria, test MAKING: ingredients, quantities, shaping, mixing, topping, kneading, proving, baking, glazing KNOWLEDGE & UNDERSTANDING: yeast, wheat, grain, flour, dough, crust, rise, texture, doughy, crisp, chewy, yeasty, stretchy, elastic	VOCABULARY DESIGNING: sequence, annotated diagram, sketch, decision, prototype, model, communicate MAKING: shape, assemble, accurate, saw, mark-out KNOWLEDGE & UNDERSTANDING: cam, mechanism, movement, linear motion, rotary motion, pivot, off-centre, axle, force, framework, shaft, guide
END of UNIT EXPECTATIONS	END of UNIT EXPECTATIONS	END of UNIT EXPECTATIONS	END of UNIT EXPECTATIONS
Pupils will have had the opportunity to work in a group to make a Roman Groma and used it to develop their understanding of how Romans built straight roads. Pupils will have had the opportunity to work in a group to make a working Archimedes' Screw and used it to develop their understanding of the importance of this invention and how / why it is still used today.	Pupils will have gained an understanding of how electricity is used to drive products; have gathered information about switches; designed and made a working toy vehicle accurately. Y6 EXT: <i>Pupils will have designed and made a well-finished working model incorporating a motor in which they can control the speed and direction of movement; have an understanding of the use of electricity in controlling movements of familiar products; produced a quality product.</i>	Pupils will have used their experience of food ingredients and cooking methods to generate ideas; produced an order of work and chosen equipment appropriately; made and evaluated their bread product against their design criteria. Y6 EXT: <i>Pupils will have drawn up a specification for a new bread product; drawn of the K&U of properties of foods to select appropriate ingredients; worked accurately to make bread products of the right sensory property; implemented improvements as their design developed.</i>	Pupils will have used their knowledge of the movement made by the cam in the design of their toy; produced sketches and plans; identified tools and materials; measured, marked out and cut accurately. Y6 EXT: <i>Pupils will have sketched ideas using their knowledge of mechanisms and have tested these ideas through prototypes; made a model which is accurate, functions well and is well-finished; considered other ideas for a cam-based toy (e.g. not cased in a box)</i>