

St John Bosco RC Primary School





































With Jesus in our hearts, we love, pray, learn and play.



Design Technology progression of knowledge and skills.

Long term sequence	Block A	Block B	Block C	Block D	Block E	Block F
Year 1	Mechanisms	Structures	Food and Nutrition	Understanding Materials	Textiles	Food and Nutrition
Year 2	Textiles	Food and Nutrition	Mechanisms	Understanding Materials	Food and Nutrition	Structures
Year 3	Textiles	Food and Nutrition	Mechanisms	Food and Nutrition	Systems	Structures
Year 4	Food and Nutrition	Mechanisms	Textiles	Structures	Electrical Systems	Food and Nutrition
Year 5	Food and Nutrition	Systems	Textiles	Mechanisms	Structures	Food and Nutrition
Year 6	Food and Nutrition	Mechanisms	Food and Nutrition	Structures	Electrical Systems	Textiles

Core DT Content

Year	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
1	<p>Core discipline: Mechanisms </p> <p>Key Concept: Sliders and levers</p>	<p>Core discipline: Structures </p> <p>Key Concept: Freestanding structures</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Preparing fruit and vegetables</p>	<p>Core discipline: Understanding materials </p> <p>Key Concept: Selecting materials CUSP link: Materials</p>	<p>Core discipline: Textiles </p> <p>Key Concept: Templates and joining techniques CUSP link: Hot and cold places</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Understanding a recipe</p>
2	<p>Core discipline: Textiles </p> <p>Key Concept: Exploring shape and texture</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Following a recipe CUSP link: Animals, including humans (Keeping healthy)</p>	<p>Core discipline: Mechanisms </p> <p>Key Concept: Axes and wheels</p>	<p>Core discipline: Understanding materials </p> <p>Key Concept: Manipulating materials CUSP link: Use of everyday materials</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Increasing our intake of fruit and vegetables</p>	<p>Core discipline: Structures </p> <p>Key Concept: Freestanding structures with moving parts</p>
3	<p>Core discipline: Textiles </p> <p>Key Concept: Combining materials</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: A balanced and varied diet CUSP link: Animals, including humans</p>	<p>Core discipline: Mechanisms </p> <p>Key Concept: Levers and linkages CUSP link: Forces and magnets</p>	<p>Core discipline: Electrical systems </p> <p>Key Concept: Switches and circuits CUSP link: Light</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Adapting a recipe</p>	<p>Core discipline: Structures </p> <p>Key Concept: Developing strength in structures</p>
4	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Food choices</p>	<p>Core discipline: Mechanisms </p> <p>Key Concept: Hinges</p>	<p>Core discipline: Electrical systems </p> <p>Key Concept: Switches and circuits revisited CUSP link: Electricity</p>	<p>Core discipline: Structures </p> <p>Key Concept: Designing structures</p>	<p>Core discipline: Textiles </p> <p>Key Concept: Fixings and fastenings</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Understanding dietary requirements CUSP link: Animals, including humans (Digestion)</p>
5	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Eating seasonally</p>	<p>Core discipline: Electrical systems </p> <p>Key Concept: Complex switches and circuits</p>	<p>Core discipline: Textiles </p> <p>Key Concept: Making clothes last longer</p>	<p>Core discipline: Mechanisms </p> <p>Key Concept: Pulleys CUSP link: Forces</p>	<p>Core discipline: Structures </p> <p>Key Concept: Developing stability in structures</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Celebrating culture CUSP link: World countries</p>
6	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Eating ethically</p>	<p>Core discipline: Mechanisms </p> <p>Key Concept: Gears</p>	<p>Core discipline: Food and nutrition </p> <p>Key Concept: Eating on a budget</p>	<p>Core discipline: Structures </p> <p>Key Concept: Designing structures revisited</p>	<p>Core discipline: Electrical systems </p> <p>Key Concept: Complex switches and circuits CUSP link: Electricity</p>	<p>Core discipline: Textiles </p> <p>Key Concept: Sustainable materials</p>

Mechanisms

Nursery

Use scissors to cut.

Reception

Use scissors to cut around templates, straight lines, curves and around shapes

Join materials using split pins

	Key Concept & Famous People	Knowledge	Skills	Vocab
Y1 Block A How can you make a picture move?	Sliders and levers <i>Little Red Riding Hood</i> Deans of London (1855)	Common uses of sliders Different methods to create card sliders Can explain what rigid means Can explain how to make paper more rigid and why it is important for the slider to be made rigid Can explain what a bridge is and its purpose Can select a suitable mechanism for a specific design and explain reasoning	Design and make a slider product Evaluate the success of their outcomes and recommend improvements Can demonstrate a push and a pull force Can use a template to cut strips of paper Can use the 'up and under' weaving method Can create a design based on a theme, for a specific person or purpose, that incorporates a movable image	Mechanism, slider, slot, bridge, push, pull , drag, rigid Wobble, slide, glide, jerk, flow, floppy, firm
Y2 Block C Are bigger wheels always better?	Axels and wheels Karl Friedrich Benz (1844 – 1929) Inventor of the	How wheels and axles work together How the size and position of wheels	Create a simple wheel mechanism Use wheel mechanisms to propel a simple vehicle Can apply knowledge about the positioning and size of wheels and axles to a vehicle design	Wheel, axle, axle holder, chassis, rotate, position, centre. Uneven, wobbly, rickety, rocky, steady, advantages, movement, wheeled.

Mechanisms

	automobile wheel	affects how they move	Can suggest ways to improve a model vehicle's construction and performance	
Y3 Block C How can you do a lot of work with little effort?	Lever and their applications Archimedes (287 BC – 212BC)	Types of levers and linkages Key terminology relating to levers and linkages How levers and linkages can change the direction of movement	Design and make simplistic lever and linkage products Children make a toy operated by levers. Evaluate the success of their outcomes and recommend improvements.	Lever, linkage, mechanism, force, load, effort. Substantial, weightless, light, weighty, hefty, catapult, fulcrum.
Y4 Block B How many ways are there to open a door?	Hinges London's <i>Tower Bridge</i> uses huge hinges to lift up the road to allow boats to pass on the Thames	Types of hinges and the related terminology Common uses for hinges	Children make a box with model hinges. Make a variety of model hinges Make and evaluate hinged products using modelling materials	Hinge, knuckle, leaf, pin, barrel, butt hinge, concealed hinge, net. Rotating, linked
Y5 Block D How can you lift a car onto a roof?	Pulleys George Washington Gale Ferris Jnr. (1859 – 1896) The London Eye	Types of gears and terminology relating to gears Common uses of pulleys and gears How pulleys and gears can change the direction of movement	Design and make products that use pulleys and gears to lift loads Children will make a pulley which will raise a toy car. Evaluate the success of their outcomes This block requires Children to use glue guns, hand saws and bench hooks, scissors, elastic bands and craft knives.	Gear, pulley, mechanism, gear train, driver gear, idler. Revolve, rotation, zigzag, pivot, gyrate, vertical, circular, horizontal, swivel, linear, angular.

Y6 Block B	Gears	Types of pulley systems and gears.	Design and make a Ferris Wheel powered by gears.	Pulley, moveable pulley, fixed pulley, block and tackle, rack and pinion, driver gear, driven gear.
How do pulleys and gears let you see the world?	London Eye designed by the husband-and-wife team of Julia Barfield and David Marks	Common uses of pulleys and gears How pulleys and gears can change the direction of movement	Evaluate the success of their outcomes and recommend improvements. This block requires Children to use glue guns, hand saws and bench hooks, scissors, craft knives and cutting mats.	Brisk, fleeting, rapid, leisurely, measured, sluggish, stagnant.

Structures

Nursery

Using blocks and construction 'kits' to create small worlds

Using materials and outdoor resources to create dens/houses/tents etc

Using junk modelling materials to create structures

Children will be taught how to cut and join materials using scissors, glue and tape.

Reception

Using blocks, construction 'kits' and lego to create small worlds

Using materials and outdoor resources to create dens/houses/tents etc independently thinking of ways to attach/join materials

Using junk modelling materials to create structures using glue, tape and different types of joins (folds, ties, braces, flange, tabs, slots)

Creating and joining using variety of materials – split pins, treasury tags, tape, glue

Structures

Key concept and Famous people

Knowledge

Skills

Vocab

Y1 Block B

Free standing structures.

A free standing structure is a structure that stands on its own foundation or base without attachment to anything else.

Building structures that are free standing using a range of materials.

Use different methods to join materials eg slots, feet, tab, flange, L-brace, wrap

Tower, topple, lean, foundation, balance, perpendicular

Low, giant, towering, squat, lofty, stable, unstable, base, rise, collapse.

How can you stop a tower from falling over?

The Leaning Tower of Pisa (started in 1173 and completed in 1372)

Y2 Block F

Free standing structures with moving parts.

Paper becomes stronger when it is folded.

Fold paper to increase strength and stability.

Test and record how much weight paper can hold.

Paper (noun), crease (noun), corrugated, pillar, storey, load (noun)

How strong is a piece of paper?

Architect: Dame Zaha
Mohammad Hadid

Riverside Museum,
Glasgow

A load is the amount of weight a structure must carry

Children will design and make a paper tower that is at least 50cm, tall and can bear a 1kg weight.

Level, furrowed, smooth, creased, pleated, even, flush

	(potential visit to War Museum Salford)		Children will use scissors and weights.	
Y3 Block F What makes a bridge strong?	Developing strength in structures Sir John Wolfe Barry (1836-1918) Sir Horace JHones (1819-1887) Tower Bridge	Bridges are structures that allow people and vehicles to cross over an open space. Towers, piers and arches provide strength to a bridge.	Design and build a beam bridge that can hold the weight of 100 pennies. Identify and name parts of a bridge. Children will use scissors and house bricks.	Gap, deck, pier, suspension, arch, bascule (pronounced bas-kyool) Stable (adjective), stability, unyielding, flimsy, reinforced, solid, feeble.
Y4 Block D Which shapes will give a structure stability?	Designing structures Roma Agrawal (1983 -) The Shard	Triangles provide stability in structure. Structural engineers work with architects to ensure structures withstand forces.	Make triangles to form and join trusses. Identify the forces that affect structures. Use a range of materials to investigate the strength of 3D shapes. Children will collaborate on a geodesic dome structure.	Structural engineer, geodesic, gravity, truss, compression, tension. Rigid, stiff, firm, stability, structure.
Y5 Block E How are frames strengthened, reinforced and made rigid?	Developing stability in structures. Abraham Darby III (1750 – 1789) Iron Bridge 1779	Engineers use a range of methods to strengthen and reinforce structures.	Identify and describe ways that frames are strengthened and reinforced. Identify joins and supports. Create a model shelter. Children will use, hacksaws, wood, PVA glue and bench blocks.	Frame, I-beam, struts, brace, mitre, gussets Bolster, undermine, diminish, reinforce, impair, toughen, boost, fortify, reinforcing, modifications.
Y6 Block D How strong is a piece of spaghetti?	Designing structures revisited James Maxell and William Charles Tuke Blackpool Tower	Structures can be supported with guy lines and flying buttresses. The shorter the piece of spaghetti, the stronger it will be.	Construct a flying buttress to support a tower. Use appropriate lengths of spaghetti to increase strength and stability.	Guyed mat, flying buttress, load, aesthetic, edifice, constraints. Wobbly, teetering, wavering, unsteady, shaky, precarious,



Children will use what they have learnt to construct a tower that is at least one metre tall. insecure, unstable, modifications.

Food and Nutrition

Nursery

Naming different types of fruit and vegetables

Exploring and tasting different types of fruit and veg (growing topic)

Baking/ decorating biscuits and making simple cakes

Reception

Distinguishing between different types of fruit and vegetables

Exploring and tasting more different types of fruit and veg (growing topic) and describing the experience using senses

Baking

Food and Nutrition

	Dishes	Knowledge	Skills	Vocab
Y1 Block C	Rainbow Wraps	Why colourful food can be healthier.	Peel, chop and grate a selection of vegetables.	Senses, vitamins, minerals, sensory, ribboning, caramelize, marinade (verb)
How does food affect your senses?	Crudites Vegetable Kebabs	How different food can affect your senses	Modify food to suit their senses. Using peelers, knives, oven and hob.	Soft, sour, minty, bright, perfumed, crumbly, pungent, deafening, bitter, smokey, muffled, spicy, wet.
Y1 Block F	Vegetable dips Pitta pockets Breaded vegetables.	The importance of including a range of vegetables in a diet.	Peel, grate, season and breadcrumb a range of vegetables. Developing knife skills	Function, variety, texture, vitamins, nutritious, pane Delicious, pleasant, tasteless, disgusting, prefer, scrumptious.
Why are vegetables the best?				

Y2 Block B	Jam jar salad	Why vegetables are so important to our health.	Prepare a range of salad vegetables.	Free-range, processed, coagulate, vitamins, protein, wholemeal
What does healthy mean?	Tortilla quiche Pitta crisps	What processed foods are.	Shape and season a bread snack. Using peelers, hob and oven safely.	Coloured, multi-coloured, purpose, cultural, layered, vitamins
Y2 Block E	Overnight oats	The difference between fresh food and ultra-processed foods.	Shape and form ingredients.	Ingredients, fibre, protein, processed, vitamins, starch.
How healthy is your food?	Potato Rosti Quesadilla		Use a range of culinary techniques incl ribboning, coating food.	Pinch, nip, squeeze, crush, grip.
Y3 Block B	Fruity yoghurt	What is meant by the term balanced.	Flavour foods to increase their sensory qualities.	Seasonal, balance, preserve, stew, pressure, seasoning.
What do we mean by a balanced diet?	DIY Popcorn Homemade chips	Why fresh foods are better. Know how seasonality affects our diet. Name different methods of preserving fruit.	Suggesting ways recipes can be adapted.	Bang, chatter, reek, whiff, aroma, sharp, bristly, click, snap, stench, coarse.
Y3 Block D	Noodle salad	How food can help their body and mind.	Peel and grate a range of vegetables	Nutrition, fibre, minerals, seasoning, claw, bridge.
How does food affect your body and mind?	Stuffed peppers Roasted cauliflower and dip	How to prepare and cook a range of vegetables. Nutrition is the process by which living things receive the food they need to grow and be healthy. Name different methods of altering the flavours of food eg caramelising	Add flavour and texture to foods. Knife skills including claw and bridge	Sliver, chunk, slice, block, hunk, sour, sweet, acidic, zesty, unsavoury, briny, sharp, salty, sugary

Y4 Block A What's Pizza really in your food?		That processed foods have many ingredients.	Make, roll and shape bread dough	Ingredients, processed, bread, gluten, knead (verb), ferment (verb).
	Mini bread rolls	That processed foods can contribute to obesity and type 2 diabetes.	Make a soup.	
	Soup	That making their own bread reduces their carbon footprint as it has fewer ingredients.	Comparing nutritional value and taste of fresh food and processed food.	
		Processed foods have added ingredients to prolong shelf life.		
Y4 Block F Is cheap food always worse for you?	Root vegetable rosti	What additives, salt and sugar do to food.	Peel, grate and chop vegetables	Cheap, fusion, texture, shallow-fry, shortening, fragrant.
	Mexican pasties	That healthy, tasty food doesn't have to be expensive.	Make economical, tasty and healthy food	
	Chickpea curry	Safety related to hob cooking methods.	Can describe consistency and appearance of food changes caused by cooking.	
			Cooking methods – frying and simmering	Glacial, cool, chilly, freezing, arctic, frosty, processes.
Y5 Block A Why are our diets so different?	Flatbread and garlic butter	Some foods and key ingredients from other cultures	Make, roll and cook a flatbread.	Culture, presentation, variety, smoreebrod, flatbread, mezze, fibre, knead, unleavened.
	Smorrebrod	How other cultures' food can be nutritious	Prepare a range of vegetables	
	Mezze bowl		Present foods to a high standards.	
			Use a pestle and mortar	
			Oven baking	Stunning, attractive, pleasant, lovely, gorgeous, inviting, tempting, agreeable, combinations.
Y5 Block F What can you learn from other cultures' diets?	Summer rolls	How foods can be used as medicines/	Roll and shape ingredients.	Culture, migration, spices, medicinal, fragrant, stir-fry (noun), stir-fry (verb)
	Stir fry	How eating food from different countries can help us to be healthy.	Slice and ribbon a range of vegetables.	
	Bombay potatoes		Stir fry vegetables.	

Y6 Block A Can street foods save us?	Burrito	What street foods are	Make a burrito	Leisurely, hastily, swiftly, rapidly, sluggishly, instantaneously
	Pitta bread and houmous	How snacks can be nutritious foods to eat.	Make and roll bread dough	Street food, culture, snack, nutrient, prove, fry.
	Samosas	The history of street foods in Mexico and the impact of Americanisation. Use appropriate vocabulary to explain techniques, describe flavours and textures and make evaluative comments.	Make a savoury pastry Can begin to explain how specific nutrients affect the body.	Chunky, lumpy, grainy, creamy, gritty, velvety, kneading, consistency.
Y6 Block C Does food affect the way you feel?	Pasta with tomato sauce	The difference between slow and quick release carbohydrates.	Dice, slice, peel, grate and cook a range of vegetables.	Carbohydrates, staple, nutrient, saute, translucent, dice
	Noodle soup	How food can improve their mood and energy levels.	Make a sauce and a stock.	
	A sensory sala	Which foods can be used for health benefits eg ginger for sickness, garlic for aches and pains and chillies to aid the immune system.	Use height and colour to improve the visual appeal of food.	Acidic, tangy, tart, sharp, pungent, sour, stock

Understanding Materials

Understanding materials

Nursery

Naming different materials (paper, cardboard, fabric, foil)

Exploring magnets

Combining materials for different reasons – junk modelling

Make simple props for role play

Joining materials to create irreversible changes – eg for playdough

Reception

Naming different materials (plastic, metal, glass)

Exploring magnets

Combining and joining materials for different reasons – junk modelling

Sorting materials according to different criteria – size, colour, shape, material etc

Joining materials to create irreversible changes – eg for playdough and adding colour /texture /scent

Making more complex props for role play – eg hats, masks etc

	Key concepts and Famous people	Knowledge	Skills	Vocab
Y1 Block D Can you build with bread?	Frank Lloyd Wright (1867-1959) Fallingwater sculpture (1935)	What is an architect. Building materials have different properties which enable them to be used for different purposes. That some materials can be changed by adding heat or water. How to stay safe when using a toaster	Identify, sort and select materials that can then be used in construction. Combine materials. Using a toaster	Construction, properties, architect, modify, cement (noun), solidify Properties, material, bendy, stiff, firm, moldable, rigid, flexible, modify

Y2 Block D Can you waterproof a hat?

Arthur Wellesley – First Duke of Wellington. (1769 – 1852)

Materials can be modified to become waterproof.

Origami comes from the Japanese words: ori – folding and kami – paper

What a waterproof coating is.

Make paper waterproof.

Folding and creasing paper to make a hat.

Manipulate, flexible, barrier, waterproof, resist, absorbent.

Damp, drenched, moist, saturated, soaking, soggy, brief (noun)

Textiles

Nursery

Threading

Weaving

Using dressing up clothes and materials for 'props' and den making

Reception

Threading and sewing using 'kits'

Weaving and tying

Using dressing up clothes and materials for 'props' and den making

Using adjectives to describe materials (rough, soft, sparkly)

Textiles

	Key concept and famous people	Knowledge	Skills	Vocab
Y1 Block E How can two squares of fabric keep you warm?	Joining techniques Making a pouch,	Fabric can be joined together using a running stitch. The types and names of tools needed for sewing.	Creating a running stitch. Select tools for sewing. Thread a needle.	Binca, sewing, felt, running stitch, attach, pouch, needle, thread. Slender, thin, fine, chunky, wide, slim, features, sewing, reattach.
Y2 Block A How can you repurpose an item of clothing?	Exploring shape and texture. Frank Havrah "Kaffe" Fassett (1973-) Patchwork	How to cut out shapes which have been created using a template. How to use a range of basic sewing skills	Use a template to transfer a pattern. Cut out and join fabric shapes using a template. Make a pouch and decorate.	Patchwork, overstitch, repurpose, template, applique, quilt Miniscule, small, little, tiny, microscopic
Y3 Block A How can you make a box out of cloth?	Combining materials Gisela Stromeyer	Fabric can be stiffened Stiffened fabric can hold a form	Select and apply solutions to stiffen fabric	Starch, PVA glue, gelatin, stiffen, interfacing, cloth

	Fabric Sculptures	Statues and Sculptures can be made from other materials	Make a box out using stiffened fabric.	Supple, solid, firm, flimsy, flexible, brittle
		Naming substances which can stiffen fabric	Cut a range of shapes accurately using a template.	
Y4 Block C How do you keep a tea towel from slipping off a hook?	Fixings and fastenings. George De Mestral (1907-1990) Velcro	Fastenings have different function. A shank provides a small amount of space between a button and a fabric. Name a range of fasteners and their component parts. Advantages and disadvantages of different fastenings.	Select appropriate fastenings and attach them to fabric. Make a shank for a button. Sew a button on to a fabric.	Shank, burr, hook and loop, buckle (noun), fastener, raw edges. Fixed, tied, effective.
Y5 Block C Which fabric is ideal for creating a functional and hardwearing lunch bag?	Making clothes last longer. Levi Strauss (1829 – 1902)	How to waterproof cotton fabric. Which fabrics are both functional and hardwearing.	Use beeswax to waterproof cotton fabric. Repurpose a pair of jeans. Use hot wax and an oven.	Durability, repurpose, functional, beeswax, swatch, insulate. Tough, indestructible, robust, sturdy, flimsy, rigid, open-weave, synthetic, translucent.
Y6 Block F How can we reduce, recycle and repurpose?	Sustainable materials Isatou Ceesay (1972-) Africa's queen of recycling.	Plastic waste can be recycled and repurposed into practical, useful items.	Make a crochet hook out of a chopstick. Use plastic bags and snack packets to create practical items.	Recycle, repurpose, reduce, chain, seal (verb), skein, yarn, crochet. Deteriorate, diminish, decompose, dwindle, disintegrate.

Systems

Systems

		Knowledge	Skills	Vocab
Y3 Block E How are things powered?	<p>Energy sources</p> <p>William Kamkwamba (1987-)</p> <p>Windup, solar powered torches</p>	<p>Different types of energy. Including examples of manmade energy and natural energy.</p> <p>Why designers need to carefully consider energy sources.</p>	<p>Identify how things are powered.</p> <p>Suggest appropriate energy sources for design problems.</p> <p>Demonstrate how energy can be controlled.</p>	<p>Energy, turbine, source (noun), source (verb), intermittent, renewable (noun), renewable (adjective)</p> <p>Vigorous, lively, active, dynamic, sprightly, existed, chemical energy.</p>
Y4 Block E How useful are switches?	<p>Switches and circuits</p> <p>Samuel Bagno – Inventor of the motion sensor, 1950</p>	<p>A switch is an interruption of a circuit.</p> <p>Types of switches widely used in a range of products.</p>	<p>Incorporate different types of switches into circuits to perform a function.</p> <p>Identify appliances that use switches for efficiency, or for safety and those which have switches for other functions other than turning on and off.</p> <p>Explain using annotated drawings the function of different switches on a device.</p>	<p>Switch, circuit, component, current, interruption, unbroken, conductor, multi-purpose</p> <p>Continuous, effective, ineffective</p>
Y5 Block B	<p>Complex switches and circuits.</p> <p>Emily Brooke Inventor of the <i>Laserlight</i> bike light projector</p>	<p>Technology can be used to program and control a product.</p> <p>Understand the importance of road safety</p> <p>Select materials based on their properties</p>	<p>Use fixings and fastenings.</p> <p>Write and test a simple program using coding knowledge</p>	<p>Properties, fastener, algorithm, fluorescent, reflective, attachment point, debug, programming.</p>

Y6 Block E Can switches perform more than one function?

Complex switches and circuits.

Albert Sadacca (1901-1980)
Inventor of Christmas tree lights.

More than one switch can be used to change the functionality of a product.

Use switches to adapt a product in response to a design brief.

Children work in groups to design and make a torch or fan with a specified (different) function.

Switch, parallel circuit, series circuit, component.
Functionality, multi-function, brief, simultaneous.

Concurrently, simultaneously, sequentially, successively, synchronously.

Key Concepts and significant people for each year group.

	Nursery	Reception	Y1	Y2	Y3	Y4	Y5	Y6
Mechanisms			Little Red Riding Hood – Deans of London 1855	Karl Friedrich Benz (1844 – 1929) Inventor of the automobile wheel	Block C - Levers and their applications Archimedes (287 BC – 212BC)	Block B - Hinges London's <i>Tower Bridge</i> uses huge hinges to lift up the road to allow boats to pass on the Thames	Block D - Pulleys George Washington Gale Ferris Jnr. (1859 – 1896) The London Eye (2000)	Block B - Gears London Eye designed by the husband-and-wife team of Julia Barfield and David Marks
Structures			The Leaning Tower of Pisa (started in 1173 and completed in 1372)	Free standing structures with moving parts. Architect: Dame Zaha Mohammad Hadid Riverside Museum, Glasgow	Block F - Developing strength in structures. Sir John Wolfe Barry (1836-1918) Sir Horace JHones (1819-1887) Tower Bridge	Block D - Designing structures Roma Agrawal (1983 -) The Shard	Block E - Developing stability in structures. Abraham Darby III (1750 – 1789) Iron Bridge 1779	Block D - Designing structures revisited James Maxell and William Charles Tuke Blackpool Tower
Food and Nutrition			Block C - Rainbow wraps, crudites, vegetable kebabs. Block F – Dips, pitta pockets, breaded vegetables.	Block B Jam jar salad, Tortilla quiche, Pitta crisps Block E - Overnight oats, Potato Rosti, Quesadilla	Block B - Fruity yoghurt, DIY Popcorn, Homemade chips Block D - Noodle salad, Stuffed peppers, Roasted cauliflower and dip	Block A – Pizza, Mini bread rolls, Soup Block F - Root vegetable rosti, Mexican pasties, Chickpea curry	Block A - Flatbread and garlic butter, Smorrebrod, Mezze bowl Block F - Summer rolls, Stir fry, Bombay potatoes	Block A – Burrito, Pitta bread and houmous, Samosas Block C - Pasta with tomato sauce, Noodle soup, A sensory sala

Understanding Materials			Frank Lloyd Wright (1867-1959) Fallingwater sculpture (1935)	Arthur Wellesley –First Duke of Wellington (1769 –1852)	n/a	n/a	n/a	n/a
Textiles			Joining materials. Making a pouch.	Block A Exploring shape and texture. Frank Havrah “Kaffe” Fassett (1973-) Patchwork	Block A - Combining materials Gisela Stromeyer Fabric Sculptures	Block C - Fixings and fastenings. George De Mestral (1907-1990) Velcro	Block C - Making clothes last longer. Levi Strauss (1829 – 1902)	Block F - Sustainable materials Isatou Ceesay (1972-) Africa’s queen of recycling.
Systems	n/a	n/a	n/a	n/a	Block E - Energy sources William Kamkwamba (1987-) Windup, solar powered torches	Block E - Switches and circuits Samuel Bagno – Inventor of the motion sensor, 1950	Block B - Emily Brooke Inventor of the <i>Laserlight</i> bike light projector	Block E Complex switches and circuits. Albert Sadacca (1901-1980) Inventor of Christmas tree lights