

Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Designing	<ul style="list-style-type: none"> Design and label a junk model 	<ul style="list-style-type: none"> Generate ideas for a design Design a functioning appealing product for themselves and others based on own design criteria Label drawing and explain a simple plan. Describe how my design will work. 	<ul style="list-style-type: none"> Think of an idea and plan what to do Explain the need for product and what it needs to do Explain why I have chosen certain materials. 	<ul style="list-style-type: none"> Know how to consider the needs of individuals and groups to create different design briefs for projects. Know how to make a step by step plan for a given project. 	<ul style="list-style-type: none"> Know how to use the ideas of experts and existing designs to help design a product. Know how to make a detailed plan for a product and explain it (with specifications). 	<ul style="list-style-type: none"> Know how to gather ideas through a range of research methods and know when to develop alternative plans. Know that materials have functional and aesthetic qualities. Know that 3D textiles can be combined to make a product. Know the importance and can produce a design specification – for a product. Tudor sailor’s gunpowder bag 	<ul style="list-style-type: none"> Know how to identify the needs, wants, preferences, and values of individuals and groups and can use a form of market research to inform their planning. Know how to justify their plans and ideas by considering different cultures, societies and environments in their plans and designs.
Food and nutrition	Cooking skills to be taught from Y1. By the end of KS2 children need to be proficient in: - Peeling, Chopping, Slicing, Grating, Mixing, Spreading, Kneading, Cooking using a heat source, Stirring, Stirring a heated pan						
	<ul style="list-style-type: none"> Know the importance of good health and a healthy diet. Explore objects with hands 	<ul style="list-style-type: none"> Know where food comes from Cut food safely Tasting and describing Select tools for purpose. Select ingredients based on taste <p>Food – Technology - Fruit Salad/Kebabs – Linked to Literacy Handa’s Surprise</p>	<ul style="list-style-type: none"> Measuring ingredients Safe cutting Develop Awareness of Hygiene Describe the ingredients <p>Food – Technology – Healthy Snack / Wraps – Linked to Science Health and Growth</p>	<ul style="list-style-type: none"> Know how to apply the principles of a healthy diet. Can follow a simple recipe for a fruit stew for a Stone Age family. 	<ul style="list-style-type: none"> Know how to apply the principles of a healthy diet – Can follow a recipe for cooking eggs for a Saxon family. Know which tools to select and which equipment is suitable for the task – different ways to cook and egg – scrambled or poached – using a microwave 	<ul style="list-style-type: none"> Know how to peel, chop, slice, Grate, mix and spread ingredients - make guacamole and salsa – Mayan link 	<ul style="list-style-type: none"> Know how to work out ratios in recipes to be able to adapt them for appearance, taste, texture, aroma and different cultures. Know how to use a technique that involves a number of steps – Bake Bread and Butter Pudding – Private Peaceful - WWI
Structures	<ul style="list-style-type: none"> Join materials together Explore objects with hands 	<ul style="list-style-type: none"> Decide which materials are suitable for structure Build structures exploring how they can be made stronger, more stable Select tools for a purpose. Select a range of components and materials <p>Structures – Playgrounds – Linked to Geography – local area</p>	<ul style="list-style-type: none"> Join materials in different ways. Measure materials. Mark, measure and make templates Explore and perfect ways of fixing materials <p>Materials / Textiles – Puppets - linked to Geography – Australian Animals.</p>	<ul style="list-style-type: none"> Know how to work accurately to measure, make cuts and make holes. Know how to select tools and equipment suitable for the task – design and make own pyramid/burial chamber – linked with Egyptians. 	<ul style="list-style-type: none"> Know how to select materials and components suitable for a task Know when to make accurate measurements to nearest CM – Catapult for a Roman soldier. 	<ul style="list-style-type: none"> Know how to make a prototype using accurate measurements to nearest MM Know how to use tools for accurate assembly – design and build a bridge with a mechanism linked to water cycle/rivers topic. 	<ul style="list-style-type: none"> Know how to investigate, plan and build model of new museum in style of Sir Robert Smirke - Linked to Art scheme – Greek inspired architecture.

<p>Mechanisms</p>	<ul style="list-style-type: none"> • Operating simple mechanisms. • Explore objects with hands • Make an object move by pushing / pulling 	<ul style="list-style-type: none"> • Make a product which moves e.g. sliders, wheels, pivots/levers • Select tools for a purpose. • Select a range of components and materials <p>Mechanisms – Levers and Sliders – Moving Pictures -Linked to Literacy Traditional tales</p>	<ul style="list-style-type: none"> • Joining wheels and axles to allow movement. <p>Mechanisms – Wheels and Axles – Fire Engines - Link to Great Fire of London</p>	<ul style="list-style-type: none"> • Can understand and use mechanical systems. • Know how to make a product which uses forces for launching – Design and build a new launcher for the Redcar lifeboat – linked to forces (Science) and Local history topic - Redcar 	<ul style="list-style-type: none"> • Know how to use mechanical systems. • Know how to make a product which uses electrical components – hand held fan, a game show buzzer or a house alarm sensor – linked to electricity in Science 	<ul style="list-style-type: none"> • Know how to make a prototype using accurate measurements to nearest MM • Know how to use tools for accurate assembly – design and build a bridge with a mechanism linked to water cycle/rivers topic. (As found in the structure concept section.) 	<ul style="list-style-type: none"> • Know how to apply their understanding of computer programming to program, monitor and control a product – robot to patrol an area. • Know how to use a technique/algorithm that involves a number of inputs.
<p>Evaluating</p>	<ul style="list-style-type: none"> • Say whether a model is similar to the design. • Say if my model does the job I wanted it to. 	<ul style="list-style-type: none"> • Explain if product was successful. • Ask other people what they think of my product. 	<ul style="list-style-type: none"> • Make simple judgements – what went well, what didn't go well. • Say whether the product fulfilled the design criteria. • Suggests how products can be improved. 	<ul style="list-style-type: none"> • Know how to identify the strengths and weaknesses of ideas. • Know when to evaluate existing products – What works better than others? 	<ul style="list-style-type: none"> • Know how to consider the views of others including any intended users to improve the work/product. • Know how and when to evaluate their design for purpose and appearance and suggest improvements. 	<ul style="list-style-type: none"> • Know how to critically evaluate the quality of their design, manufacture and whether or not it fulfils the original design brief. 	<ul style="list-style-type: none"> • Know how to compare ideas to an original design brief. • Know how to investigate innovation and sustainability. • Know how to test and fully evaluate the product against clear criteria and then make refinements to the product.
<p>General knowledge</p>	<ul style="list-style-type: none"> • Technology is in home and school. 	<ul style="list-style-type: none"> • Famous buildings 	<ul style="list-style-type: none"> • International foods – what and where from 	<ul style="list-style-type: none"> • Know the names of 2 famous Chefs – James Martin, Delia Smith • Know how to crack an egg. 		<ul style="list-style-type: none"> • Know the names of types of bridges – swing, suspension, pivot, fixed, clapper. • Know the names of famous bridge designers <ul style="list-style-type: none"> ➢ William Henry Hunter - Transporter Bridge (Middlesbrough), ➢ Isambard Kingdom Brunel – Clifton Suspension Bridge (Bristol) • Know the names of famous bridges - Humber Bridge (Hull), Tyne Bridge (Newcastle), Golden Gate Bridge, San Francisco 	<ul style="list-style-type: none"> • Know about the architect Sir Robert Smirke and some of his buildings – British Museum, The Royal Mint, and The British Library. • Know who invented various forms of transport ... <ul style="list-style-type: none"> ➢ Bike ➢ Car ➢ Plane ➢ Train – Linked to Year 5 Victorians
<p>Specific Concepts</p>	<p>Explore</p>	<ul style="list-style-type: none"> • What is a design? Design 	<ul style="list-style-type: none"> • What is technology? Develop 	<ul style="list-style-type: none"> • Know that a mechanism model design can be for different people -by refining. 	<ul style="list-style-type: none"> • Know that designs can be made from a range of materials – linked to innovation. 	<ul style="list-style-type: none"> • Know that a design will alter depending on the different resources • Available – adaptation 	<ul style="list-style-type: none"> • Know how and when to apply DT in new and wider context - application

Vocabulary	Join Label Decorate	Design Structure Material Equipment Evaluate Construct Investigate	Mechanism Properties Function Method Template Technique Sequence Strengthen	Identify Resource Outcome Refine Assemble Reinforce Disassemble	Alternative Communicate Project Guideline Specification Prototype Research Analyse	Category Precise Dynamic Uniform Qualitative Critical	Environment Sustainable Proportion Input Innovate Fluctuate Virtual
Mathematical application			Choose and use appropriate standard units to estimate and measure length/height in any direction; mass; capacity to the nearest appropriate unit, using rulers, scales and measuring vessels.	Measure, compare, add and subtract: length/height in any direction; mass; capacity; volume Measure the perimeter of simple 2-D shapes.	Convert between different units of measure. Measure and calculate the perimeter of a rectilinear figure in centimetres. Find the area of rectilinear shapes by counting squares. Identify acute and obtuse angles.	Draw given angles, and measure them in degrees.	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.