	-		Mechan	isms		
Year group	Planning Resources	Term	Statutory Requirements from the Programme of Study	Specific Key Vocabulary	Rationale	Key knowledge
Yr Reception Design and make a boat that floats for super hero	Staff shared/ Curriculum/ DT/ Resources	Term 3	Learning to construct with a purpose in mind Use a range of tools	Design brief Evaluate Joining Testing	They will learn about a design brief	I know what is a design I know how to evaluate I know how to test materials
Year  1 Vehicles  Fire engine	Staff shared/ Curriculum/ DT/ Resources Yr 1 Planbee	Term 6	Design purposeful, functional, appealing products for themselves and other users based on design criteria  Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]  Evaluate their ideas and products against design criteria  Explore and use mechanisms [for example, levers,	Chassis Axle vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism	They will learn all about wheels, axles and chassis and how they are combined to make the framework of the vehicle, as well as how to create an eye-catching body.	I know what a wheel, chassis and axle is I know there are two different ways to attach wheels to axles I know what materials and tools will be appropriate I know how to draw a diagram I know how to use tools safely I know how to evaluate my product
			Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products			

example photos			APPLETON CE PRIMARY SCH  Ir 1 Moving Vehicles - APPLET  Bampton Primary School		Pinterest ks1 vehicles axles and whe	
Year 3 Levers and linkages A book with moving parts	Kapow Humpty dumpty moving book lessons	T6	Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]	Motion Linear Oscillating Mechanism Lever Linkage Pivot Slot Bridge	Children will have the chance to explore moving parts in a variety of storybooks and learn how to recreate some of these moving parts using a variety of tools and techniques	I know how to move pictures to tell a story without words I know how to target a market I will use a side by side slider or an up-and-down slider I know how to produce clearly labelled designs I know how to use bridges and guides to restrict the slider I know how to review the success of my product by testing it (reading it to reception children)

Examples			2. Fix a picture to the slider and move it back and forth. You can use a card strip to cover over the cuts.	res STEM Project – Slider M	fechani	
Year 5 Cams Moving toys	Staff shared/ Curriculum/ DT/ Resources Yr 5 Planbee	T4	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.  Select from and use a wider range of tools and equipment to perform practical tasks.  Evaluate their ideas and product against their own design criteria and consider the views of others to improve their work	Axle Cam Follower Slider Handle Frame Structure Linear Rotary	The children learn about a new mechanism: the cam wheel.	I know a cam mechanism will change linear and rotary movement I know how different shaped cams affect movement I know how to strengthen structures I know how to use a range of tools safely and accurately I know how to evaluate the process and product I know that suggesting changes if part of the design process
Examples	1	1	https://swinemoorprimary.org.uk/moving-toys/			

			Struct	ures		
Year group	Planning resources	Term	Statutory Requirements from the Programme of Study (Taken from the National Curriculum)	Key Vocabulary	Rationale	Knowledge
Year Reception Design and make an igloo	Staff shared/ Curriculum/ DT/ Resources	Term 2	Learning to construct with a purpose in mind Use a range of tools They will also learn to record their experiences by, for example, drawing, writing and making a tape or model.	Design brief Join Stable	Children will gain an understanding how the need to test products	I can test my product I can evaluate my product I can use joining techniques to make my structure stable
Year Reception Make a photo frame with pasta	Staff shared/ Curriculum/ DT/ Resources	Term 1	Learning to construct with a purpose in mind Use a range of tools They will also learn to record their experiences by, for example, drawing, writing and making a tape or model. Children will dismantle things and learn about how everyday objects work.	Stable Sturdy Joining	Children will understand how to make a structure stable by dismantling a prototype	I can test my product I can identify which material is suitable
Year 2 Stable structures Car garage	Staff shared/ Curriculum/ DT/ Resources/ Yr 2/ Shell structures Plan Bee	Term 2 Car garage	Design purposeful, functional, appealing products for themselves and other users based on design criteria  Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]  Evaluate their ideas and products against design criteria  Build structures, exploring how they can be made stronger, stiffer and more stable	cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved	The children will gain an understanding of ways in which structures can be made stable.	I know how to design a functional structure I know how to make my product stronger and stiffer I know the properties of plastic, wood and cardboard I know how to follow a design plan I know how to evaluate the success of my product
Example phot	o					

			cardboard ramp with raised sides			
Year 4 Shell structure  Design a pavilion	Staff shared/ Curriculum/ DT/ Resources/ Yr 4/ Shell structures Kapow	Term 2	Use research and develop design criteria to inform the design of innovative, functional appealing products that are fit for purpose.  Generate, develop, model and communicate their ideas through discussion, sketches, cross sectional and prototypes and CAD  Evaluate their ideas and products against the design criteria and consider the views of others to improve their work.  Understand how to strengthen, stiffen and reinforce more complex structures.	shell structure net, cube, cuboid, capacity marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy,	How to make structures strong and stiff	I know that a free standing structure stands on its own I know the three main frame structures – cube, cuboid, triangular prism I know how to build a frame that supports weight I know how to reinforce structures using triangles I know how to create a design in accordance with a criteria I know that cladding can be applied for different effects
Example			K Kapow Primary KS2, Y4, DT, Lesson 4: Pavilion			
Year 6 Bridges	Kapow Bridges	T5	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches,	Stiffen Strength Triangulation Stability Join Truss bridge Suspension bridge	Make a structure that is strengthened, balanced and has tension	I know how to reinforce a beam (structure) to improve its strength I know that that supporting shapes can help increase the strength of a bridge, allowing it to hold more weight.

			cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	Beam bridge Arch bridge		I know the differences between beam, arch and truss bridges  I know how to make a frame structure with a focus on triangulation I know the correct techniques to saw safely and accurately
Example				Kapow Primary S2, Y5, DT, Lesson 2: Spaghetti	Truss	
Year 1  Free standing structures  Baby bear's chair	Oak academy Baby bear's chair Kapow Baby Bear's chair	2	To explore the concept and features of structures and the stability of different shapes  To understand that the shape of the structure affects its strength  To make a structure according to design criteria	Function Man- made Mould Natural Stable Stiff Strong Structure Test Weak	Children are made aware that structures have functions	I know how man-made and natural structures differ I know that shape of structures affect it's stability and strength I know structures need to be stiff, strong, stable I know how to make joints I know what materials would be suitable for the product I can evaluate and suggest improvements

Example	http://www.cannonpark.coventry.sch.uk/2020/12/10/a-new-chair-for-baby-bear/

### Food Technology

Year group	Planning resources	Term	Statutory Requirements from the Programme of Study (Taken from the National Curriculum)	Key Vocabulary	Rationale	Knowledge
Year Reception Healthy Food	Staff shared / Curriculum/ DT	Term 4	Design and make healthy choices Food hygiene	Healthy Hygiene	Children can state a preference	I know what healthy means I can state a preference
Year Reception Healthy Food	Staff shared / Curriculum/ DT	Term 6	Design and make healthy choices Food hygiene Food journeys	Healthy Hygiene Claw grip Understand food comes from	Children can safely use utensils	I can use the claw technique safely I can say where some food comes from I can follow hygiene rules
Year 1  Healthy fruit salad	Oak academy  Staff shared / Curriculum/ DT/ Resources/ healthy food/ plan bee	Term 5, Science, plants	Use the basic principles of a healthy and varied diet to prepare dishes. Gather data Use senses to describe Design a menu Prepare a menu Understand where food comes from.	Healthy Hygiene Food groups Fruit Salad Vegetables Skin Flesh Seeds	Children are made aware of a healthy diet and how to chop, peel and grate	I know the names of familiar fruits and vegetables I know how to use a pictogram I know how to use my senses to describe fruit and vegetables I know how to use knives and graters safely I know what makes a healthy plate I know how to follow a design/recipe
Year 3 Soup	Staff Shared/ curriculum/ DT/ Resources/	Term 2	Understand and apply the principles of a healthy and varied diet	Weigh, grams, measure, millimetre, tablespoon, topping, grate,	Children will find out certain foods are in season at different times of year? Why it is	I know how to peel, chop, slice and cube safely I know how to measure ingredients accurately

			Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques		best to eat seasonal food? What is a healthy, varied diet	I know how to fry, sauté safely over a heat I know how to select and use the most appropriate ingredients and equipment I know how to modify to produce exciting and original alternatives I know how to write my own recipe
Year 4 Bread	Staff shared/ curriculum/ DT/ Resources Bread / plan bee lesson plans	Term 4 Science States of matter irreversib le change	Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	bread, recipe, yeast, rise, weigh, adapt, evaluate, •, investigation, ingredients, quantities, shaping, mixing, topping, kneading, proving, baking, cooking method, grilling, yeast, wheat, grain, flour, dough, crust, rise texture, doughy, crisp, chewy, yeasty, stretchy, hygiene,	Use bread making techniques (knead, rise, prove)  Understand issues related to food safety and hygiene	I know the name and origin of a number of bread products I know that bread products are part of a balanced diet I know what ingredients make bread and the nutritional benefits I know how to design a new bread product I know how to bake safely and hygienically I know how to evaluate a finished product fairly
Year 5 Food, what could be healthier? Create a bolognaise sauce	Staff shared/ Curriculum/ DT/ Resources  Kapow https://www.k apowprimary. com/subjects/ design- technology/up per-key-stage- 2/year- 5/food-what-	T5	Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  Understand farm to fork	Cross contamination Welfare Balanced Eatwell Proteins Carbohydrates Nutrients Ethical	Children learn how to adapt a recipe to increase nutritional content	I know how beef is reared and processed and the ethical issues around cattle farming I know what foods make a balanced diet and how to adapt a recipe to make it healthier I know how to change the nutritional value of a recipe and use a nutritional calculator I know how to use equipment safely, including knives, hot pans and hobs I know how to design appealing packaging that reflects my recipe

	could-be- healthier/					I know how to explain the farm to fork process
Year 6 Come Dine with Me  Design a 3 course menu  Create a class recipe book	Kapow Plans on staff shared	T2	Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed		Children design own recipes based on healthy content and seasonality	I know how to research a recipe by ingredient I know that not all courses complement one another I know how to prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. I understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed I understand and apply the principles of a healthy and varied diet. I can describe the process of 'Farm to Fork' for a given ingredient using a storyboard
Yr 2 Healthy wraps	Kapow Plans on staff shared	Т6	use the basic principles of a healthy and varied diet to prepare dishes  understand where food comes from.  prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	Healthy Nutrients Balanced diet Texture Claw grip Bridge grip Design criteria	Children learn how to make a healthy, nutritious drink	I know the 5 main food groups I know what makes a balanced diet I can describe taste, texture, smell I know how to slice using the claw or bridge method I know how to design a label I know where to find the nutritional information on packaging

Year group	Planning / resources	Curriculu m link	Statutory Requirements from the Programme of Study (Taken from the National Curriculum)	Key Vocabulary	Rationale	Knowledge
Year 2 Owl puppet	Staff shared Curriculum DT Resources Yr 2 Projects on a page Planbee	Term 5 – Hand puppets. Link to writing The Owl who was scared of the Dark	Design purposeful, functional, appealing products for themselves and other users based on design criteria  Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics  Evaluate their ideas and products against design criteria	User, purpose, design criteria, model, evaluating, coins, pattern/templates, strength, weaknesses, accurate, finishing fabric, fastening, compartment, zip, press stud, clasp, hook and eye, button, buckle, seam, reinforce,	Use simple sewing techniques to make a puppet and decorate it.  Design and make a puppet using a simple sewing technique that meets their design criteria	I know how to make a template for my fabric I can develop my product by adding components I know how to use a running sheet, over stitch, I can use a needle and thread to secure features such as buttons I know how to use sharp tools safely I know how to evaluate my product and others and suggest improvements
Examples			å Sherington Primary Sc Year 2 DT project - Animal			
Yr 4 Money Container Make a purse	Staff shared/ Curriculum/ DT/ Resources/ Plan Bee	Term 1	Children investigate a range of textile products/ purses that have a selection of stitches, joins, fabrics, finishing techniques, fastenings and purposes, linked to the product they will design, make and evaluate	fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance	Children know how to make a functional product	I know how to identify common features of a product I know how to use a running stitch, back stitch, over sewing stitch I know how to design a template to practice different components I know what fasteners are appropriate for my product I know how to test and evaluate mine and my partner's product I know how to overcome problems in a design brief
Example						

Yr 5	Staff shared/	Term 2	Earl Spencer Primary School Blog Earl Spencer Primary School Blog  Children can pin and tack fabric pieces			I know the history of a product
Funky furnishings	Curriculum/ DT/ Resources/ Plan Bee		together. They can join fabrics by over sewing, back stitch, blanket stitch and are introduced to machine sewing. Children are able to make quality products with increasing accuracy and independence.			I know how to identify function and aesthetics I know how to join two pieces of fabric using hidden and visible stitches I know how to use stitching for decorative purposes I know how to sew a button/bead/ribbon onto fabric accurately I know how to sew a secure fastener
Example			Bawtry Mayflower Primary School Bawtry Mayflower Primary School	* St Blaise Primary Sc Year 6 Memory Cushio		Testerier .
			Programming	g and electronics		
Year group	Planning Resources	Term	Statutory Requirements from the Programme of Study (Taken from the National Curriculum)	Key Vocabulary	Rationale	Knowledge

Year 6 3 D CAD design	https://classro om.thenation al.academy/u nits/3d- computer- aided-design- 0301 Oak academy	Term 3	Develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose aimed at particular individuals or groups.  Generate, develop and communicate their ideas through discussion and annotated sketches  Evaluate their ideas and products against design criteria and consider the views of others to improve their work  Understand and use electrical systems in their products	Computer aided design Computer aided manufacture Ergonomics Augmented Face and plane Extrude Modify Repeat, copy, flip Innovative Prototype	How innovative products are constructed	I know what product analysis is I know that primary and secondary research can improve design How to use a questionnaire to benefit the design process I know some famous architects  I know how to write a specification for my shelter I know how to use Tinkercad to aid my design
Link			https://www.youtube.com/watch?v=cvjfPOkya-	L 48&list=PL-gvuKacA7TvK372mt	 	
Year 3	Oak academy	Term 3	Google - how to create the Serpentine Pavilion Creating suitable designs that fit the success	tutorial using Tinkercad Design	Children will analyse	I can identify the purpose for my
Design a night	and DT association		criteria and their own design criteria.  Applying the outcome of the evaluation task	Design criteria	and evaluate electrical products.	product I can follow a design criteria
light	Design a night light		to improve their design and adding special features specifically designed for their 'client'.	Circuit		I know how to use CAD to design my product
	https://classro		, ,	Component		I know that electrical systems have an input, process and
	om.thenation al.academy/u			Input		output
	nits/electronic			Recyclable		I know how to construct a battery
	<u>s-simple-</u> <u>circuits-and-</u>			Switch		operated circuit with bulbs and switches
	switches-2540					I know how to cut and join a variety of construction materials

Photos	https://www.bbc.co.uk/programmes/p02hpl99
Links	https://www.voutube.com/watch?v=IDoFDColab0
	https://www.youtube.com/watch?v=IRo5BGclgb0