Newton Bluecoat C of E Primary School

Design Technology

Key Learning	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Developing, planning and communicating ideas.	•Draw on their own experience to help generate ideas • Suggest ideas and explain what they are going to do • Identify a target group for what they intend to design and make • Model their ideas in card and paper • Develop their design ideas applying findings from their earlier research • Evaluate current products.	•Generate ideas by drawing on their own and other people's experiences • Develop their design ideas through discussion, observation , drawing and modelling • Identify a purpose for what they intend to design and make • Identify simple design criteria • Make simple drawings and label parts • Evaluate current products.	•Generate ideas for an item, considering its purpose and the user/s • Identify a purpose and establish criteria for a successful product. • Plan the order of their work before starting • Explore, develop and communicate design proposals by modelling ideas • Make drawings with labels when designing • Evaluate products and identify criteria that can be used	•Generate ideas, considering the purposes for which they are designing • Make labelled drawings from different views showing specific features • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail • Evaluate products and identify criteria that can be used	•Generate ideas through brainstorming and identify a purpose for their product • Draw up a specification for their design • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail • Use results of investigations, information	•Communicate their ideas through detailed labelled drawings • Develop a design specification • Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways • Plan the order of their work, choosing appropriate materials, tools and techniques • Evaluate products and identify criteria

			for their own designs.	for their own designs.	sources, including ICT when developing design ideas • Evaluate products and identify criteria that can be used for their own designs.	that can be used for their own designs.
Working with tools, equipment, materials and components to make quality products	Make their design using appropriate techniques • With help measure, mark out, cut and shape a range of materials • Use tools eg scissors and a hole punch safely • Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape.	• Begin to select tools and materials; use vocab' to name and describe them • Measure, cut and score with some accuracy • Use hand tools safely and appropriately • Assemble, join and combine materials in order to make a product • Cut, shape and join fabric to make a simple garment. Use basic sewing techniques.	Select tools and techniques for making their product • Measure, mark out, cut, score and assemble components with more accuracy • Work safely and accurately with a range of simple tools • Think about their ideas as they make progress and be willing change things if this helps them improve their work • Measure, tape or pin, cut and join fabric with some accuracy • Use	Select appropriate tools and techniques for making their product • Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques • Join and combine materials and components accurately in temporary and permanent ways • Sew using a range of different stitches, weave and knit • Measure, tape or pin, cut and join fabric with some	Select appropriate materials, tools and techniques • Measure and mark out accurately • Use skills in using different tools and equipment safely and accurately • Cut and join with accuracy to ensure a good-quality finish to the product.	Select appropriate tools, materials, components and techniques • Assemble components make working models • Use tools safely and accurately • Construct products using permanent joining techniques • Make modifications as they go along • Pin, sew and stitch materials together create a product •

			finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT.	accuracy • • Use simple graphical communication techniques.		Achieve a quality product.
Cooking and Nutrition	Select and use appropriate fruit and vegetables, processes and tools •□Use basic food handling, hygienic practices and personal hygiene •□Use simple finishing techniques to improve the appearance of their product	•□Follow safe procedures for food safety and hygiene •□Choose and use appropriate finishing techniques•□Have an understanding of where food comes from.	Demonstrate hygienic food preparation and storage •□To use a range of cooking techniques to prepare and create a range savoury dishes.•□Understand seasonality and understand know where and how a variety of ingredients are grown, reared, caught and processed.	Demonstrate hygienic food preparation and storage •□To use a range of cooking techniques to prepare and create a range savoury dishes.•□Understand seasonality and understand know where and how a variety of ingredients are grown, reared, caught and processed.	•□Weigh and measure accurately (time, dry ingredients, liquids) •□Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens.•□Understand seasonality and understand know where and how a variety of ingredients are grown, reared, caught and processed.	•□Weigh and measure accurately (time, dry ingredients, liquids) •□Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens.•□Understand seasonality and understand know where and how a variety of ingredients are grown, reared, caught and processed.
Evaluating processes and products	Evaluate their product by discussing how well it works in relation to the purpose •□Evaluate their products as they are developed, identifying strengths and possible changes they might	Evaluate against their design criteria •□Evaluate their products as they are developed, identifying strengths and possible changes they might make •□Talk about	Evaluate their product against original design criteria e.g. how well it meets its intended purpose •□Disassemble and evaluate familiar products.	Evaluate their product against original design criteria e.g. how well it meets its intended purpose •□Disassemble and evaluate familiar products.	Evaluate their product against original design criteria e.g. how well it meets its intended purpose •□Disassemble and evaluate familiar products.	Evaluate their products, identifying strengths and areas for development, and carrying out

	make •□Evaluate their product by asking questions about what they have made and how they have gone about it.	their ideas, saying what they like and dislike about them.				appropriate tests • Record their evaluations using drawings with labels • Evaluate against their original criteria and suggest ways that their product could be improved
(topic title & questions)	Autumn 2: Mechanisms: Pop ups ▪ What movement does this lever make? ▪ What happens if I change the length? Position? Size? Shape? Direction? ▪ Which lever will give me the movement I want for my illustration? ▪ How are the fastenings hidden? ▪ Does anything help the lever move smoothly without getting stuck?	Autumn 2: Food: Dips and Dippers or sensational salads ▪ Is the salad attractive? Why / why not? ▪ Have you tasted all these ingredients before? Which do you enjoy? ▪ How many different vegetables or fruits are in this salad? ▪ Do you think the colours are attractive?	Autumn 2: Food – Eat well day ▪ How well do these dishes suit the requirements of a picnic? ▪ What are the essential elements of the eatwell plate? ▪ Which ingredients could you grow? ▪ Where do the ingredients come from? ▪ Which dishes include protein? ▪ What do these different dishes taste like? Smell like? Look like?	Autumn 1: ICT and electrical systems: Torches/ handheld fan ▪ Is the product appropriate for the intended user? ▪ Does the product fulfil its purpose? ▪ Is it functional? Does it have aesthetic appeal? ▪ How does the electrical system function? – make flow charts. ▪ What electrical components are used?	Autumn 2: Food: Food from around the world: Healthy fake-away ▪ What do these different food items taste, smell and look like? ▪ How healthy/unhealthy are the food items? ▪ What is their texture? Could we alter the appearance by finishing the food differently?	Autumn 2: Food: Seasonal food: How did rationing support the Eatwell plate. ▪ Does the meal match the eatwell plate? ▪ Is there a balance of food groups? ▪ Does the meal look attractive? ▪ Would primary school children choose this meal?

	Spring 1: Food: Fruit Kebabs ▪ Where are the seeds? ▪ What colour is this fruit? ▪ Which one is sweeter? ▪ Which one has crunchiness? ▪ Which one is softer? ▪ Which one is juicier? ▪ What is the peel/skin like? ▪ Which parts of the fruit would you not eat? Summer 1: Structures: Robots ▪ What is this? Who uses it? ▪ What is it made of? Why does it use	▪ Are all the ingredients crunchy? ▪ Which ingredients have the strongest flavours? ▪ How have the ingredients been prepared? Where are the ingredients grown? Additional unit: Textiles: Stitching: Christmas card/decorations Spring 1: Mechanisms: Making a moon buggy ▪ What sort of wheels does it have? ▪ How are they fastened to the chassis? ▪ How does the wheel turn?	What is their texture? ▪ What cooking methods are used in the food preparation? Spring 2: Mechanical systems: Levers: Iron man poster ▪ How does the mechanism work? ▪ How many pivot points are there? ▪ Where are the linkages connected? ▪ Which pivots are fixed? ▪ What motion is the result of this mechanism (e.g. linear, rotary, reciprocal)? ▪ How many different movements result from your one input?	Spring 2: Textiles: Purses ▪ Who might use this? ▪ What purpose does it serve? ▪ How does it protect the passport, for example, from being crumpled? ▪ What would you change if this was for you? ▪ What stitches have been used? ▪ What fastenings have been used? ▪ How has the fabric been strengthened or stiffened to help protect the passport? ▪ Why is it decorated like this? ▪ Would you change the decoration? Summer 2 :Food: The Great Bread Bake Off	Spring 2: Mechanical systems: cams/gear/pulleys- Automata animals ▪ How does the mechanism work? ▪ How many gears are there? How do the gears mesh? What is the direction of each gear? ▪ What is the result of this using this mechanism (e.g. change of direction, faster/slower movement). ▪ Which gear moves faster? ▪ Can you see a relationship between the number of teeth on the two gears and their relative speeds?	▪ What could you do to make it more attractive to a child? Spring 1:Structures/ mechanisms- levers and pulleys- Viking long ship ▪ How does the mechanism work? ▪ What type of structure shall I make? What will be its purpose? Who will use it? ▪ Which will be the best shape for my ship? What features will it have? ▪ Which materials will I use to make it? How will I make it strong and waterproof?

	metal/wood/plastic? ▪ Is it rough or smooth? ▪ Is it stiff or bendy? ▪ Why does it stand up not fall down? ▪ How does it work? Plus questions related to detail e.g. Why does it have steps? Does it have any safety features? Optional additional unit: Textiles- year 1 : Fabric faces	▪ Is the axle fixed or free turning? ▪ Is the wheel fixed or loose on the axle? ▪ What would this vehicle be able to carry? ▪ What sort of terrain could it travel on? ▪ How strong do you think it might be? Summer 1: Textiles: Use a template: Glove puppet ▪ Who might use this? ▪ Would it fit you? ▪ What purpose does it serve? ▪ Does it look like a character from a rhyme or story? ▪ How do you wear it?	▪ Is this mechanism sufficiently robust for a KS1 child? ▪ Does it work smoothly? ▪ Is the mechanism/mechanical system hidden? Summer 2: Structures: Shell structures: kites ▪ Who might use this? ▪ What is it made from? ▪ How are the pieces joined together? ▪ Are there any splinters / sharp edges? ▪ How has it been strengthened? Is it stable? ▪ Does it allow air in / water out?	▪ What do these different food items taste, smell and look like? (predominantly savoury). ▪ What is an instructions/recipes. ▪ How can I make healthy eating choices – use the *Eatwell plate*. ▪ How can I join and combine a range of ingredients. ▪ What is seasonality and where do vegetables and fruit come from? Optional additional unit: Structures	Summer 1: Textiles: Felt amazon phone cases ▪ Who might use this? ▪ Would it fit you? ▪ What purpose does it serve? ▪ How does it make sure the equipment isn't lost? ▪ What equipment might this carry? ▪ Does size matter? ▪ What stitches have been used? Fastenings? What stitches have been used to secure the holders? ▪ What sort of thread has been used? Optional additional unit: Structures	▪ What tools and materials will I need? ▪ What order will I work in? Will I work with someone? ▪ What constraints I am working to? Fairgound/ Theme park rides Combination of pulleys/ gears/ levers and computing (crumble?) ▪ How stable / strong is the structure? ▪ How has it been reinforced/stabilised? ▪ What mathematical shapes have been used in the design?	**Commented [SB1]:**

		▪ How could you make it move? ▪ What stitches have been used? ▪ What sort of material has been used? ▪ How has the puppet been decorated/features added? Optional additional unit: Structures	Optional additional unit: Textiles			▪ How have the elements of the structure been joined? ▪ What materials have been used in the construction? Why? Optional additional unit: Textiles
Vocabulary	<u>Food</u> Vocab related to food using taste, smell, texture and feel. Names of equipment and utensils. Names of fruit and vegetables. Names of parts of fruit and veg e.g. peel. Verbs relating to preparation methods used e.g. peel.	<u>Food</u> Vocab related to food using taste, smell, texture and feel. Names of equipment and utensils. Names of fruit and vegetables. Names of parts of fruit and veg e.g. peel. Verbs relating to preparation methods used e.g. peel.	<u>Food</u> Vocab related to food- more advanced vocab related to texture, taste and appearance. Names of equipment Utensils Verbs for preparation Techniques Names of food products Language related to food sourcing and production-	<u>Food</u> Vocab related to food- more advanced vocab related to texture, taste and appearance. Names of equipment Utensils Verbs for preparation Techniques Names of food products Language related to food sourcing and production-	<u>Food</u> Technical vocab related to food ingredients (names e.g. baking powder, names of herbs etc.) Names of equipment and utensils Scientific vocabulary related to health and diet. Verbs relating to preparation methods used	<u>Food</u> Technical vocab related to food ingredients (names e.g. baking powder, names of herbs etc.) Names of equipment and utensils Scientific vocabulary related to health and diet. Verbs relating to preparation methods used

	Textiles Names of fabrics (e.g. felt) Names of components (e.g. buttons, sequins, wool, thread) Names of tools used Names of stitches learned. Pattern Finish Structures Strong/weak Stiffer Stable Structure Names of materials Names of tools used Shape vocabulary Base, top Edge, side, surface, face Corner, point, straight, curved. <u>Mechanisms</u> Vehicle Axle	<u>Textiles</u> Names of fabrics (e.g. felt) Names of components (e.g. buttons, sequins, wool, thread) Names of tools used Names of stitches learned. Pattern Finish Structures Strong/weak Stiffer Stable Structure Names of materials Names of tools used Shape vocabulary Base, top Edge, side, surface, face Corner, point, straight, curved. <u>Mechanisms</u>	process, seasonal, reared, harvested, grown, caught, hygiene, variety. <u>Textiles</u> Names of fabrics (e.g. hessian, binca) Names of components (e.g. zip, Velcro) Names of tools used Names of stitches learned Template Pattern Seam Seam allowance Finish Applique Decorative Functional <u>Structures</u> Shell 3D Mathematical 3D Terms/names Measure Mark Scoring, cutting, shaping.	process, seasonal, reared, harvested, grown, caught, hygiene, variety. <u>Textiles</u> Names of fabrics (e.g. hessian, binca) Names of components (e.g. zip, Velcro) Names of tools used Names of stitches learned Template Pattern Seam Seam allowance Finish Applique Decorative Functional <u>Structures</u> Shell 3D Mathematical 3D Terms/names Measure Mark Scoring, cutting, shaping.	e.g. whisk, fold, beat, mash, grate. <u>Textiles</u> Names of fabrics used or investigated Names of components used Names of tools used Names of stitches learned Selvage Raw edge Woven Felted Knitted Bonded Gusset Seam allowance Hem <u>Structures</u> Stiffen Reinforce Stabilise Frame structure Shape vocabulary Apex, base, face, edge	e.g. whisk, fold, beat, mash, grate. <u>Textiles</u> Names of fabrics used or investigated Names of components used Names of tools used Names of stitches learned Selvage Raw edge Woven Felted Knitted Bonded Gusset Seam allowance Hem <u>Structures</u> Stiffen Reinforce Stabilise Frame structure Shape vocabulary

	Wheel Chassis Dowel Tube Names of tools used Names of materials Direction Lever/ slider / pivot Slot/ guide Straight/ curved Forwards/ backwards Push/ pull Up/ down <u>General</u> Design Evaluate Criteria Product Purpose Function User Choose Plan Mock up Template Measure Join Decorate	Vehicle Axle Wheel Chassis Dowel Tube Names of tools used Names of materials Direction Lever/ slider / pivot Slot/ guide Straight/ curved Forwards/ backwards Push/ pull Up/ down <u>General</u> Design Evaluate Criteria Product Purpose Function User Choose Plan Mock up Template Measure	Joining, assembling, adhesive Strengthen, ribbing, corrugated, laminated. Names of materials Names of tools used. <u>Mechanical & Electrical Systems & ICT</u> Mechanism, lever, linkage. Linear, rotary, oscilating, reciprocating. Circuit, battery, series connection Insulation, conductor Crocodile clip Control, program System Input, output Names of the tools used Names of materials. <u>General</u>	Joining, assembling, adhesive Strengthen, ribbing, corrugated, laminated. Names of materials Names of tools used. <u>Mechanical & Electrical Systems & ICT</u> Mechanism, lever, linkage. Linear, rotary, oscilating, reciprocating. Circuit, battery, series connection Insulation, conductor Crocodile clip Control, program System Input, output Names of the tools used Names of materials. <u>General</u> Design criteria Design brief Annotation	Vertical Vertices Perpendicular Right angles Triangular Names of materials Names of tools used. <u>Mechanical systems</u> Gear, cog, ratio, pulley, belt, drive, axle, cam. Circuit, switch, circuit diagram, symbol input, output. Names of tools used Names of materials Device Program Monitor Control Flowchart <u>General</u> Design Brief	Apex, base, face, edge Vertical Vertices Perpendicular Right angles Triangular Names of materials Names of tools used. <u>Mechanical systems</u> Gear, cog, ratio, pulley, belt, drive, axle, cam. Circuit, switch, circuit diagram, symbol input, output. Names of tools used Names of materials Device Program Monitor Control Flowchart

		Join Decorate	Design criteria Design brief Annotation Sketch Prototype Innovation Graphics, font, lettering, text, logo Finish Evaluation	Sketch Prototype Innovation Graphics, font, lettering, text, logo Finish Evaluation	Design specification Function Innovation Authenticity Design decisions System Annotated drawing Exploded diagram (Diagrams which show how a product can be assembled and how the separate parts fit together)	<u>General</u> Design Brief Design specification Function Innovation Authenticity Design decisions System Annotated drawing Exploded diagram (Diagrams which show how a product can be assembled and how the separate parts fit together)

One week in November we have Christmas enrichment activities. This enables the children to practically use the skills they have learnt through the DT curriculum to make a card, calendar and tree decoration.

Tesco- farm to fork

Warburtons

Pizza Express