

DT curriculum overview for LKS2

	Autumn	Spring	Summer
Year 3	DT: The Great Bread bake off	DT: Juggling balls	DT: Mechanical posters
Objectives	<ul style="list-style-type: none"> • Understand how key events and individuals in design and technology have helped shape the world in the context of the history behind the Warburtons. • Investigate and analyse a range of existing products in the context of different breads made by Warburtons • 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 in the context of creating a design criteria for a new type of bread, aimed at particular individuals or groups • Select from and use a wider range of tools and equipment to perform practical tasks for example shaping accurately in the context of shaping salt dough • Generate, develop, model and communicate their ideas through discussion and annotated sketches in the context of creating initial designs for a new bread product, designing a new bread product. • Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques in the context of making a new bread product. • Evaluate their ideas and products against their own Design Criteria. 	<ul style="list-style-type: none"> • To investigate and evaluate a range of existing products in the context of a product analysis of existing juggling balls. • To acquire a broad range of subject knowledge and draw upon disciplines such as mathematics in the context of using graphs to analyse existing juggling balls • To generate, develop, model and communicate ideas through discussion and annotated sketches in the context of designing a circus themed juggling ball. • To select from and use a range of tools and equipment to perform practical tasks accurately in the context of creating a tie dye background for a juggling ball; cutting, shaping and hemming a juggling ball; accurately in the context of shaping and joining a juggling ball. • To select from and use a wider range of materials and components according to their functional properties in the context of choosing the filling for their juggling balls; a functional method for decorating a fabric. • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work in the context of evaluating juggling balls. 	<ul style="list-style-type: none"> • Investigate and analyse a range of existing products, in the context of investigating existing lever and linkage mechanisms. • Understand and use mechanical systems in their products (for example levers and linkages), in the context of making a mechanism which uses levers and linkages. • Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at individuals or groups, in the context of developing design criteria and design ideas for a moving poster to promote recycling. • Generate, develop, model and communicate ideas through discussion, annotated sketches, and prototypes, in the context of generating and developing ideas to make a moving poster; moving poster design to create a prototype. • Select from and use a wider range of tools and equipment to perform practical tasks accurately, in the context of selecting and using the correct tools and equipment make a moving poster; selecting materials to produce a high quality finish on a moving poster. • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work, in the context of evaluating their moving poster.
Outcome	All products created should follow specific criteria- design, make, evaluate To design and make a new bread product	All products created should follow specific criteria- design, make, evaluate To design and make juggling balls	All products created should follow specific criteria- design, make, evaluate To design and make a mechanical Poster
Resources	<p>Resources:</p> <p>Week 1: Scissors</p> <p>Week 2: Different types of Warburtons bread: Milk Roll, Toastie, Seeded Batch, Fruit Loaf with Orange</p> <p>Week 3: salt dough- to be made</p> <p>Week 4: A selection of ingredients:</p> <p>Sweet: raisins, mixed dried fruit, cinnamon, banana, apple, honey, zest from citrus fruit, ginger, chocolate.</p> <p>Savoury: cheese, sundried tomatoes, dried herbs, onion, potato, cumin, curry powder, olives, sweet peppers, garlic seeds</p>	<p>Resources:</p> <p>Examples of juggling balls</p> <p>A selection of different coloured dyes</p> <p>Elastic bands/hair bobbles/string</p> <p>Pipettes/squirting bottles</p> <p>Sealable sandwich bags</p> <p>Tie-dye kit</p> <p>Table coverings, paint shirts, plastic gloves.</p> <p>Prewashed, white cotton fabric pieces cut to roughly 30cm x 15 cm pieces.</p>	<p>Resources:</p> <p>Examples of mechanisms teaching aids</p> <p>Split pins</p> <p>Paper/ card</p> <p>Coloured pens/pencils</p> <p>Magazines/ newspapers</p> <p>Glue</p> <p>Split pins</p> <p>Scissors</p> <p>Modelling clay</p> <p>Pencil</p>

	<p>Week 6: Kitchen equipment: baking trays, weighing scales, sieves, mixing bowls, measuring spoons, measuring jugs, oven gloves, cooling racks. Ingredients for Bread Rolls Recipe.</p>	<p>Elastic bands or hair bobbles and old children's socks - 1 per child Fillings: Dried beans, lentils, rice and sand. Sewing equipment, corrugated card, A4 paper, templates, needles, pins and sewing thread. Fabric paints/pens, fine paint brushes, paint shirts.</p>	<p>Rulers Sticky tape/ masking tape/ sticky pads Paper Card</p>
Year 4	DT: Edible garden	DT: Battery operated light To be completed in spring 1	DT: Let's go fly a kite To be completed in Spring 2
Objectives	<ul style="list-style-type: none"> Understand and know where and how a variety of ingredients are grown in the context of where and how herbs are grown. Understand and apply the principles of a healthy and varied diet in the context of making a balanced meal made from herbs. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques, in the context of making a strawberry smoothie, cooking a dish made with tomatoes. Understand seasonality and know where and how a variety of ingredients are grown in the context of where and how strawberries are grown, growing tomatoes Select from and use a wider range of tools and equipment to perform practical tasks accurately in the context of kitchen tools. 	<ul style="list-style-type: none"> Understand how key events and individuals in design and technology have helped shape the world in the context of looking at technological developments in the way we light our homes Understand and use electrical systems in their products (for example, series circuits, incorporating switches, and bulbs) in the context of understanding how a series and parallel circuit can be used to light a bulb, how switches can be made and used in circuits. 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 in the context of developing design criteria for a light. Generate, develop, model and communicate their ideas through annotated sketches and cross sectional in the context of sketching a design for a light. 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 in the context of choosing materials and components to make the main structure of the light, create a well finished light. Evaluate their ideas and products against design criteria and consider the views of others to improve their work in the context of evaluating a battery operated light. 	<ul style="list-style-type: none"> Understand how key events and individuals in design and technology have helped shape the world in the context of how kites have helped shape the world. Generate, develop, model and communicate their ideas through discussion in the context of discussing existing ideas about kites, through annotated sketches in the context of sketching a design for a kite. Investigate and analyse a range of existing products in the context of investigating the different parts of a kite and their functions, the different shapes of kites. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities in the context of selecting materials and components to make kite shapes out of, measuring and cutting the body of the kite 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 in the context of developing design criteria for a kite. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in the context of strengthening a frame structure to support the kite. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work in the context of testing the kite and then using their own design criteria to evaluate it.
Outcome	<p>All products created should follow specific criteria- design, make, evaluate To make seasonal dishes</p>	<p>All products created should follow specific criteria- design, make, evaluate To design and make a battery operated lamp</p>	<p>All products created should follow specific criteria- design, make, evaluate To design and make a kite to fly</p>
Resources	Resources:	Resources: Bulbs Bulb holders	Resources: If possible have a few different kites to look at

	<p>Week 1: Medium sized containers, e.g. ice cream tubs/large yoghurt pots. Make a couple of holes in the bottom for drainage and keep the lids for drip trays. Herbs in pots: chives, mint, parsley, tarragon, rosemary and basil. Packs of basil, parsley and mint seeds. Potting soil, trowels, gloves for gardening Lollipop sticks per pair, PVA glue/water mix, white and green paint, paintbrushes and black pens.</p> <p>Week 2: Kitchen Equipment: garlic crusher, kitchen, scissors, pestle and mortar, measuring spoons, ramekin bowls, chopping board, safe knives, frying pan, saucepan. Ingredients: garlic, fresh basil, parmesan cheese, pine nuts, extra virgin olive oil, lemon, whole wheat precooked pasta.</p> <p>Week 3: Magnifying glasses, strawberry plants, 2 punnets of strawberries, safe knives, grow bags or pots, trowels, plastic/ gardening gloves.</p> <p>Week 4: Kitchen tools: Potato masher, small glass, safe knife, chopping board, large glass/ ceramic bowl, whisk. Food: Milk, strawberry yogurt, ripe bananas, large ripe strawberries</p> <p>Week 5: Different varieties of tomatoes for tasting. Compost, tomato seeds, trowels, plastic/ gardening gloves</p> <p>Week 6: Ingredients and equipment from Tomato Bruschetta and Tomato Sauce Recipes</p>	<p>Batteries Battery holders Insulated wire with crocodile clips on the end Materials for Switches (Foil, Coins, Wires, Bulbs, Split pins, Paper clips, Plastic, Cardboard, Scissors, Pegs, Ball bearings, Bulbs, Bulb holders, Batteries, Battery holders, Wires) Examples of different types of lights Materials and equipment (bulbs, bulb holders, a range of shapes and sizes of batteries and battery holders, paperclips, split pins, a range of cardboard cylinders, a range of other small cardboard boxes, a range of small plastic bottles, stiff/ corrugated card, plastic, sticky/masking tape, PVA glue, thin wooden strips, bubble wrap) Tools: scissors, rulers, pencils Materials and Equipment (Bulbs, bulb holders, thin insulated wire with and without crocodile clips at either end, short springs or stiff bare wire for making springs, foil, clear film, tracing paper, coloured paper, coloured stickers, string, straws, small buttons, pencils, felt tips) Tools: Wire cutters/strippers, small screwdrivers, scissors, rulers</p>	<p>Kite making materials (e.g. newspaper, tissue paper, dustbin liners, plastic bags, wrapping paper and wallpaper, card, wooden skewers, ribbon, kite string, sticky tape, pencils, scissors, rulers, hole punch) Large rulers or tape measures Materials for the body of the kite (e.g. newspaper, tissue paper, white dustbin liners, plastic bags, wrapping paper, wallpaper, card, coloured pens) Materials for the frame structure (e.g. art straws, dowel, plastic straws, bamboo skewers, Junior hacksaws, bench hooks, sand paper, scissors string, elastic bands, masking tape, plastic tubing) Materials for the line and tail (e.g. masking tape, fishing line, string, cotton, ribbon, plastic bags, flagging tape, tissue paper, newspaper, old cloth, card, sticks) Sticky notes</p>
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Key stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

Design

- ♣ 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 **Year 3 Aut, Sum Year 4 Spr 1, Spr 2**
- ♣ generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Year 3 Aut, Spr, Sum Year 4 Spr 1, Spr 2**

Make

- ♣ select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately **Year 3 Spr, Sum Year 4 Aut,**
- ♣ 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 **Year 3 Spr Year 4 Spr1, Spr 2**

Evaluate

- ♣ investigate and analyse a range of existing products **Year 3 Aut, Spr, Sum Year 4 Spr 2**
- ♣ evaluate their ideas and products against their own design criteria and consider the views of others to improve their work **Year 3 Aut, Spr, Sum Year 4 Spr 1, Spr 2**
- ♣ understand how key events and individuals in design and technology have helped shape the world **Year 3 Aut Year 4 Spr1, Spr 2**

Technical knowledge

- ♣ apply their understanding of how to strengthen, stiffen and reinforce more complex structures **Year 4 Spr 2**
- ♣ understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] **Year 3 Sum**
- ♣ understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] **Year 4 Spr 1**
- ♣ apply their understanding of computing to program, monitor and control their products.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

- ♣ understand and apply the principles of a healthy and varied diet **Year 4 Aut**
- ♣ prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques **Year 3 Aut Year 4 Aut**
- ♣ understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **Year 4 Aut**

Target tracker progression statements

LKS2	Year 3	Year 4
Cooking and nutrition	Talk about the different food groups and name food from each group	Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active
	Understand that food has to be grown, farmed or caught in Europe and the wider world	Understand seasonality and the advantages of eating seasonal and locally produced food
	Use a wider variety of ingredients and techniques to prepare and combine ingredients safely	Read and follow recipes which involve several processes, skills and techniques
Processes	Use knowledge of existing products to design his/her own functional product	Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience
	Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes	Create designs using exploded diagrams
	Safely measure, mark out, cut, assemble and join with some accuracy	Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks
	Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them	Use his/her knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them
	Investigate and analyse existing products and those he/she has made, considering a wide range of factors	Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user
	Strengthen frames using diagonal struts	Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas
	Understand how mechanical systems such as levers and linkages or pneumatic systems create movement	
		Understand and use electrical systems in products