# Thursby Primary School

# Whole School Overview – Design & Technology

| Below is an overview of the learning focus for each half term in each class.<br>Class teachers may choose to adapt the learning focus to suit their class but must ensure full coverage. | | | |
|---|---|---|---|
| **2025-2026** | **Autumn** | **Spring** | **Summer** |
| **Class 1**<br>**Nursery and Reception** | **Textiles**<br>**Bookmarks**<br>- Develop threading and weaving skills/<br>- Practise and apply weaving skills to a specific material e.g. paper.<br>- Practise and apply threading skills with specific materials e.g. hessian and wool.<br>- Use threading or sewing to design a product (bookmark).<br>- Create a textiles product (bookmark) following their design.<br>- Reflect with children on how they have | **Structures**<br>**Junk modelling**<br>- Explore and investigate the tools and materials in the junk modelling area.<br>- Investigate cutting different materials.<br>- Learn how to plan and select the correct resources needed to make a model.<br>- Verbally plan and create a junk model.<br>- Share a finished model and talk about the processes in its creation.<br>- Explore different ways to temporarily join materials together. | **Cooking & Nutrition**<br>**Soup**<br>- Explore fruits and vegetables and the differences between them.<br>- Explore a pumpkin and describe is<br>- using the five senses.<br>- Design a fruit and vegetable soup recipe.<br>- Learn how to use a knife safely.<br>- Safely use tools to prepare ingredients.<br>- Design food packaging. |
| **Key Vocabulary** | Thread, weave, pattern, sew, sewing needle, embroider, design, evaluate. | Join, stick, cut, bend, slot, scissors, measure, materials, fix. | Fruit, vegetables, safety, knife, blade, tool, edge, handle, chop, slice, cut, saucepan, blender chopping, board, hob, boil, blend, mix, packaging, recyclable, metal, plastic, reusable. |
| **Class 2**<br>**Year 1 and 2** | **Textiles**<br>**Puppets (our fabric faces)**<br>- Join two pieces of fabric using gluing, pinning and stapling.<br>- Shape textiles using templates.<br>- Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).<br>Pupils will design, make, test and evaluate their product against set design criteria. | **Mechanisms**<br>**Wheels and axles**<br>- Understand that wheels move because they are attached to an axle.<br>- Recognise that wheels and axles are used in everyday life, not just in cars.<br>- Identify and explain vehicle design flaws using the correct vocabulary.<br>- Design a vehicle that includes functioning wheels, axles and axle holders.<br>- Make a moving vehicle with working wheels and axles.<br>- Pupils must understand what needs be changed if there are any operational issues.<br>Pupils will design, make, test and evaluate their product against set design criteria. | **Cooking & Nutrition**<br>**Strive for 5**<br>- Pupils will develop their knowledge of basic healthy eating message with reference to the Eatwell guide.<br>- Pupils will carry out research to help them design a fruit based super crunch snack pot.<br>- Pupils will develop skills to safely use a range of basic food preparation skills.<br>Pupils will design, make, test and evaluate their product against set design criteria. |
| **Key Vocabulary** | Decorate, design, fabric, glue, model, hand puppet, safety pin, staple, stencil, template, staples, glue, safety pins. | Axle, axle holder, chassis, design, evaluation, fix, mechanic, mechanism, model, test, wheel. | Ingredients, flavour, texture, equipment, portion, recipe, evaluate. |

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| Class 3<br>Year 3 and 4 | **Textiles**<br>**Cushions**<br>- Use a running-stitch to join two pieces of fabric together.<br>- Design and cut the template for a cushion.<br>- Use running-stitch and appliqué to decorate a cushion face.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Mechanisms**<br>**Slingshot car**<br>- Research a variety of existing products.<br>- Design a shape that reduces air resistance.<br>- Draw a net to create a structure from.<br>- Choose shapes that increase or decrease speed as a result of air resistance.<br>- Personalise designs.<br>- Measure, mark, cut and assemble with increasing accuracy.<br>- Make a model based on a chosen design.<br>- -Evaluate the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Cooking & Nutrition**<br>**A healthy Lunch**<br>- Pupils will develop and apply their knowledge and understanding of food groups and healthy eating with reference to the Eatwell guide.<br>- Pupils will learn and practice food preparation and cooking skills.<br>- Pupils will understand what is meant by seasonality and where some food comes from.<br>- Pupils will design, make, test and evaluate their product against set design criteria. |
|---|---|---|---|
| **Key Vocabulary** | Accurate, applique, running-stitch, cushion, decorate, detail, fabric, patch, seam, stencil, stuffing, target audience, target customer, template. | Aesthetic, air resistance, chassis, design, design criteria, function, graphics, kinetic energy, mechanism, net, structure. | Eatwell guide, ingredients, recipe, composite food, seasonal food, evaluate, research. |

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| Class 4<br>Year 5 and 6 | **Digital world**<br>**Navigating the world**<br>- Design and program a navigation tool to produce a multifunctional device for trekkers using CAD 3D modelling software. Pitch and explain the product to a guest panel.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Textiles**<br>**Roman Shoes**<br>- Research existing products.<br>- Focus on blanket stitch or over stitch.<br>- Select from and use a wider range of materials and components using textiles according to their functional properties and aesthetic qualities.<br>- Add appliqué onto their product.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Structures**<br>**Model Bridges**<br>- Research a variety of existing bridges and focus on their structures (truss, arch and beam bridges)<br>- Explore how to reinforce a beam structure to improve its strength.<br>- Investigate how different shapes affect the strength of a structure and identify different ways to reinforce structures to make them stronger (triangles).<br>- Select appropriate materials and tools and use them safely.<br>- Pupils will design, make, test and evaluate their product against set design criteria. |
|---|---|---|---|
| **Key Vocabulary** | Alert, ambient, Boolean, consumables, decompose, development, device, duplicate, durable, electronic, inventor, light-weight, man-made, manipulate, manoeuvre, microplastics, model, monitor, monitoring device, moulded, plastic, plastic pollution, programming comment, programming loop, reformed, replica, research, sensor, strong, sustainability, synthetic, thermometer, thermoscope, value, variable, versatile, water-resistant, work plane. | Accurate, annotate, appendage, blanket-stitch, cross-stitch, design criteria, detail, evaluation, fabric, sew, shape, roman sandal, template. | Abutment, accurate, arched bridge, beam bridge, coping saw, evaluation, file, mark out, material properties, measure, predict, reinforce, research, sandpaper, set square, suspension bridge, tenon saw, test, truss bridge, wood. |

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| **Class 2**<br>**Year 1 and 2** | **Cooking & Nutrition**<br>**Bag a breakfast**<br>- Pupils will develop knowledge about healthy eating and the origins of foods with relation to the Eatwell guide.<br>- Pupils will prepare ingredients and practice food preparation and cooking skills.<br>- Pupils will be aware that others may have different dietary preferences/needs so dishes may need to be modified.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Mechanisms**<br>**Moving Monster**<br>- Understand linkage mechanisms and how they are used to make a mechanism move (pivot, lever, linkage)<br>- Identify mechanisms in everyday objects.<br>- Explore making different linkages by varying materials they use.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Structures**<br>**Constructing windmill**<br>- Identify some features that would appeal to the client (a mouse) and create a suitable design.<br>- Explain how their design appeals to the mouse.<br>- Make stable structures, which will eventually support the turbine, out of card, tape and glue.<br>- Make functioning turbines and axles that are assembled into the main supporting structure.<br>- Pupils will design, make, test and evaluate their product against set design criteria. |
| **Key Vocabulary** | Eatwell guide, ingredients, flavour, texture, equipment, portion, recipe, evaluate. | Evaluation, input, lever, linear motion, linkage, mechanical, mechanism, motion, oscillating motion, output, pivot, reciprocating motion, rotary motion, survey. | Axle, base, centre, design, evaluation, equal, evaluate, middle, rotate, rotor, rotor blades, sails, same, stable, strong, structure, test, weak, wind, windmill. |

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| Class 3<br>Year 3 and 4 | **Electrical systems**<br>**Torches**<br>- Identify electrical products and explain why they are useful.<br>- Help to make a working switch.<br>- Identify the features of a torch and how it works.<br>- Describe what makes a torch successful.<br>- Create suitable designs that fit the success criteria and their own design criteria.<br>- Create a functioning torch with a switch according to their design criteria.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Structures**<br>**Earthquake resistant pavilion**<br>- Produce a range of free-standing frame structures of different shapes and sizes.<br>- Design a pavilion that is strong, stable and aesthetically pleasing.<br>- Produce a product that is earthquake resistant.<br>- Select appropriate materials and construction techniques to create a stable, free-standing frame structure.<br>- Select appropriate materials and techniques to add cladding to their earthquake resistant pavilion.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Digital world**<br>**Wearable Technology**<br>- Give a brief explanation of the digital revolution and/or remember key examples.<br>- Suggest a feature from the virtual micro:bit that is suitable for the product.<br>- Write a program that initiates a flashing LED panel, or another pattern, on the virtual micro:bit when a button is pressed.<br>- Identify errors, if testing is unsuccessful, by comparing their code to a correct example.<br>- Explain the basic functionality of their finished program.<br>- Suggest key features for a way to attach the product to the user, with some consideration for the overall theme and the user.<br>- Create annotated diagrams to help illustrate how their product is worn.<br>- Describe what is meant by 'point of sale display' with an example.<br>- Follow basic design requirements using computer-aided design, drawing at least one shape with a text box and bright colours, following a demonstration.<br>- Evaluate their design using a focus group. |
|---|---|---|---|
| **Key Vocabulary** | Battery, bulb, buzzer, cell, component, conductor, copper, design criteria, electrical item, electricity, electronic item, function, insulator, series circuit, switch, test, torch, wire. | Aesthetic, cladding, design criteria, evaluation, frame structure, function, inspiration, pavilion, reinforce, stable, structure, target audience, target customer, texture, theme. | Analogue, analyse, annotate, badge, CAD, control, design criteria, develop, digital, digital revolution, digital world, display, electronic, fastening, feature, feedback, form, function, initiate, layers, loops, micro:bit, monitor, net, point of sale, product, product concept, program, sense, simulator, smart, technology, test, user. |

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| Class 4<br>Year 5 and 6 | **Electrical Systems**<br>**Steady Hand Game**<br>- Research and analyse a range of existing products and understand how they work.<br>- Understand and use electrical systems in their products – steady hand game, with a cross curricular focus.<br>- Create a design criteria for their product.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Mechanical Systems**<br>**Automata toys**<br>- Research and analyse a range of existing products and understand how they work.<br>- Using woodworking materials and skills, pupils construct a window display using an automata mechanism; measuring and cutting their materials, assembling the frame, choosing cams, designing the characters that sit on the followers and also finishing with a foreground and background.<br>- Pupils will design, make, test and evaluate their product against set design criteria. | **Cooking & Nutrition**<br>**Eatwell**<br>- Pupils will learn and increase their knowledge of a healthy and varied diet through current healthy eating messages with reference to the Eatwell guide.<br>- Pupils will use this knowledge to research and design a pizza with toppings.<br>- Pupils will follow kitchen hygiene rules and practise food preparation skills when preparing the food.<br>- Pupils will design, make, test and evaluate their product against set design criteria. |
|---|---|---|---|
| **Key Vocabulary** | Assemble, battery, battery pack, benefit, bulb, bulb holder, buzzer, circuit, circuit symbol, component, conductor, copper, design, design criteria, evaluation, fine motor skills, fit for purpose, form, function, gross motor skills, insulator, LED, user. | Accurate, automata, axle, bench hook, cam, cam profile, component, cross-sectional diagram, diagram, dowel, evaluate, exploded-diagram, follower, form, frame, function, housing, mechanism, storefront, visual. | Eatwell guide, ingredients, recipe, composite food, research. |