Holy Family Catholic Primary School

# Design Technology Curriculum 2025-2026

## What do we want for our pupils?

**Intent**

At Holy Family, we value Design Technology as an integral part of our children's right to a broad and balanced curriculum. The teaching of Design Technology is developed to build on children's prior learning and provide opportunities to be creative through curricular and cross-curricular topics. Children are enabled to develop a creative mind-set, become innovative designers and have the opportunity to critically evaluate their own work so they can develop their resilience, confidence and critical thinking skills through working independently and collaboratively with others. The problem solving and critical thinking skills acquired through design technology lessons can be used across the whole school curriculum and taken into life outside the classroom.

**Implementation**

At Holy Family, we teach the National Curriculum 2014 and Expressive Arts and Design- Creating with Materials in the Early Years framework. This is delivered through the Kapow Design Technology scheme that is combined with the Kapow Art and Design scheme Our Design Technology curriculum at Holy Family is tailored to be delivered through the entirety of the school with lessons delivered regularly throughout the timetable when Design Technology is the driver topic, this is in rotation with Art and Design. Lessons are progressive and taught systematically to deliver the content of the National Curriculum while addressing the needs of the children within our school. Topics are planned through long term planning and feed into the medium term planning for each term. This ensures that the skills children learn are built upon each year so that they can be maintained and utilised through cross-curricular links.
Through the teaching of Design Technology, the children at Holy Family will explore a variety of skills associated with textiles, cooking and nutrition, structure, mechanisms, mechanical and electrical systems and control and monitoring. Planning ensures a 'Journey of Learning' that incorporates a skills inquiry where children can learn more about the uses of a product and how it works, an exploration of design where children think critically about their design to a real-world problem and have the opportunity to design their own product and finally, children are provided with the opportunity to implement their design and critically evaluate their final product. Knowledge, skills and vocabulary is taught progressively throughout school in line with other curricular subjects.

## What is our goal?

**Impact**

By the time the children at Holy Family leave our school they should have developed the skills to:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly
- technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range
- of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

## Assessment in Design Technology

**Assessment Questions**

Teachers make regular assessments of each child's progress and record these using O Track.

Formative assessment opportunities are provided through:

- analysis of children's work
- peer assessment
- questioning
- discussions

| Year Group | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| Year 1 | | **Textiles**<br>Puppets | | **Structures**<br>Constructing a Windmill | | **Cooking and Nutrition**<br>Fruits and Vegetables |
| Year 2 | | **Structures**<br>London Bridge | | **Mechanisms**<br>Making a Moving Monster | | **Cooking**<br>Balanced Diet |
| Year 3 | | **Cooking**<br>Eating Seasonally | | **Textiles**<br>Egyptian Collars | | **Mechanical Systems**<br>Pneumatic Toys |
| Year 4 | | **Cooking**<br>Adapting a Recipe | | **Digital Moments**<br>Mindful Moments | | **Electrical Systems**<br>Torches |
| Year 5 | | **Cooking**<br>What Could Be Healthier? | | **Digital World**<br>Monitoring Devices | | **Mechanical Systems**<br>Making a Pop-up Book |
| Year 6 | | **Digital World**<br>Navigating the World | | **Cooking**<br>Come Dine With Me | | **Electrical Systems**<br>Steady Hand Game |

National Curriculum

**Pupils in KS1 will learn to:**

**Design**

- design purposeful, functional, appealing products for themselves and other users based on design criteria.
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

**Make**

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

**Evaluate**

- explore and evaluate a range of existing products  evaluate their ideas and products against design criteria.

**Technical knowledge.**

- build structures, exploring how they can be made stronger, stiffer and more stable  explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

**Cooking**

- use the basic principles of a healthy and varied diet to prepare dishes  understand where food comes from.

National Curriculum

**Pupils in KS2 will learn 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 .
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

**Make**

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- 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**

- investigate and analyse a range of existing products .
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- understand how key events and individuals in design and technology have helped shape the world.

**Technical knowledge**

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

**Cooking**

- 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.

| Year 1 | Autumn 2— Textiles | Spring 2 — Structure | Summer 2— Cooking |
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| | Puppets | Constructing a Windmill | Fruits and Vegetables |
| | **Pupils will learn to:**<br>**Design**<br>• Use a template to create a design for a puppet.<br><br>**Make**<br>• Cut fabric neatly with scissors.<br>• Use joining methods to decorate a puppet. Sequence steps for construction.<br><br>**Evaluate**<br>• Reflect on a finished product, explaining likes and dislikes.<br><br>**Knowledge**<br>• To know that 'joining technique' means connecting two pieces of material together.<br>• To know that there are various temporary methods of joining fabric by using staples. glue or pins.<br>• To understand that different techniques for joining materials can be used for different purposes. | **Pupils will learn to:**<br>**Design**<br>• Learn the importance of a clear design criteria.<br>• Include individual preferences and requirements in a design.<br><br>**Make**<br>• Make stable structures from card, tape and glue .<br>• Learn how to turn 2D nets into 3D structures.<br>• Follow instructions to cut and assemble the supporting structure of a windmill.<br>• Make functioning turbines and axles which are assembled into a main supporting structure.<br><br>**Evaluate**<br>• Evaluate a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't.<br>• Suggest points for improvements. | **Pupils will learn to:**<br>**Design**<br>• Design smoothie carton packaging by-hand or on ICT software.<br><br>**Make**<br>• Chop fruit and vegetables safely to make a smoothie.<br><br>**Evaluate**<br>• Taste and evaluate different food combinations. Describe appearance, smell and taste.<br>• Suggest information to be included on packaging.<br><br>**Knowledge**<br>• Understand the difference between fruits and vegetables.<br>• To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber).<br>• To know that a blender is a machine which mixes ingredients together into a smooth liquid. |

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| • To understand that a template (or fabric pattern) is used to cut out the same shape multiple times.<br>• To know that drawing a design idea is useful to see how an idea will look. | **Knowledge**<br>• To understand that the shape of materials can be changed to improve the strength and stiffness of structures.<br>• To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses).<br>• To understand that axles are used in structures and mechanisms to make parts turn in a circle.<br>• To begin to understand that different structures are used for different purposes.<br>• To know that a structure is something that has been made and put together. | • To know that a fruit has seeds and a vegetable does not.<br>• To know that fruits grow on trees or vines.<br>• To know that vegetables can grow either above or below ground.<br>• To know that vegetables can come from different parts of the plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber). |
| <u>Vocabulary</u><br>● Decorate ● Design ● Fabric ● Glue ● Model ● Hand puppet ● Safety pin ● Staple ● Stencil ● Template | <u>Vocabulary</u><br>● Client ● Design ● Evaluation ● Net ● Stable ● Strong ● Test ● Weak ● Windmill | <u>Vocabulary</u><br>● Blender ● Carton ● Fruit ● Healthy ● Ingredients ● Peel ● Peeler ● Recipe ● Slice ● Smoothie ● Stencil ● Template ● Vegetable |

| Year 2 | Autumn 2— Structures | Spring 2 — Mechanisms | Summer 2— Cooking |
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| | London Bridge | Making a Moving Monster | Balanced Diet |
| | **Pupils will learn to:**<br><br>**Design**<br>• Generate and communicate ideas using sketching and modelling.<br>• Learn about different types of structures, found in the natural world and in everyday objects.<br><br>**Make**<br>• Make a structure according to design criteria. Create joints and structures from paper/card and tape.<br>• Build a strong and stiff structure by folding paper.<br><br>**Evaluate**<br>• Explore the features of structures.<br>• Compare the stability of different shapes.<br>• Test the strength of own structures.<br>• Identify the weakest part of a structure.<br>• Evaluate the strength, stiffness and stability of own structure.<br><br>**Knowledge**<br>• To know that shapes and structures with wide, flat bases or legs are the most stable. | **Pupils will learn to:**<br><br>**Design**<br>• Create a class design criteria for a moving monster.<br>• Design a moving monster for a specific audience in accordance with a design criteria.<br><br>**Make**<br>• Make linkages using card for levers and split pins for pivots.<br>• Experiment with linkages adjusting the widths, lengths and thicknesses of card used.<br>• Cut and assemble components neatly<br><br>**Evaluate**<br>• Evaluate own designs against design criteria.<br>• Use peer feedback to modify a final design.<br><br>**Knowledge**<br>• To know that mechanisms are a collection of moving parts that work together as a machine to produce movement.<br>• To know that there is always an input and output in a mechanism. | **Pupils will learn to:**<br><br>**Design**<br>• Design a healthy wrap based on a food combination which work well together.<br><br>**Make**<br>• Slicing food safely using the bridge or claw grip.<br>• Construct a wrap that meets a design brief.<br><br>**Evaluate**<br>• Describe the taste, texture and smell of fruit and vegetables.<br>• Taste testing food combinations and final products. Describe the information that should be included on a label.<br>• Evaluate which grip was most effective.<br><br>**Knowledge**<br>• To know that ‘diet’ means the food and drink that a person or animal usually eats.<br>• To understand what makes a balanced diet.<br>• To know where to find the nutritional information on packaging. |

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| • To understand that the shape of a structure affects its strength.<br>• To know that materials can be manipulated to improve strength and stiffness.<br>• To know that a structure is something which has been formed or made from parts.<br>• To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move.<br>• To know that a 'strong' structure is one which does not break easily.<br>• To know that a 'stiff' structure or material is one which does not bend easily | • To know that an input is the energy that is used to start something working.<br>• To know that an output is the movement that happens as a result of the input.<br>• To know that a lever is something that turns on a pivot.<br>• To know that a linkage mechanism is made up of a series of levers. | • To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar.<br>• To understand that I should eat a range of different foods from each food group, and roughly how much of each food group.<br>• To know that nutrients are substances in food that all living things need to make energy, grow and develop.<br>• To know that 'ingredients' means the items in a mixture or recipe.<br>• To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy.<br>• To know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'. |
| <u>Vocabulary</u><br>● Function ● Man-made ● Mould ● Natural ● Stable ● Stiff ● Strong ● Structure ● Test ● Weak | <u>Vocabulary</u><br>● Evaluation ● Input ● Lever ● Linear motion ● Linkage ● Mechanical ● Mechanism ● Motion ● Oscillating motion ● Output ● Pivot ● Reciprocating motion ● Rotary motion ● Survey | <u>Vocabulary</u><br>● Alternative ● Diet ● Balanced diet ● Evaluation ● Expensive ● Healthy ● Ingredients ● Nutrients ● Packaging ● Refrigerator ● Sugar ● Substitute |

| Year 3 | Autumn 2— Cooking | Spring 2— Textiles | Summer 2— Mechanical |
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| | Eating Seasonally | Egyptian Collar | Pneumatic Toys |
| | **Pupils will learn to:**<br><br>**Design**<br>• Create a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.<br><br>**Make**<br>• Know how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination.<br>• Follow the instructions within a recipe.<br><br>**Evaluate**<br>• Establish and use design criteria to help test and review dishes.<br>• Describe the benefits of seasonal fruits and vegetables and the impact on the environment. Suggest points for improvement when making a seasonal tart.<br><br>**Knowledge**<br>To know that not all fruits and vegetables can be grown in the UK.<br>To know that climate affects food growth. | **Pupils will learn to:**<br><br>**Design**<br>• Design and make a template from an existing cushion and applying individual design criteria.<br><br>**Make**<br>• Follow design criteria to create a cushion or Egyptian collar.<br>• Select and cut fabrics with ease using fabric scissors.<br>• Thread needles with greater independence.<br>• Tie knots with greater independence.<br>• Sew cross stitch to join fabric.<br>• Decorate fabric using appliqué.<br>• Complete design ideas with stuffing and sewing the edges (Cushions) or embellishing the collars based on design ideas (Egyptian collars).<br><br>**Evaluate**<br>• Evaluate an end product and thinking of other ways in which to create similar items. | **Pupils will learn to:**<br><br>**Design**<br>• Design a toy which uses a pneumatic system. Develop design criteria from a design brief. Generate ideas using thumbnail sketches and exploded diagrams.<br>• Learn that different types of drawings are used in design to explain ideas clearly<br><br>**Make**<br>• Create a pneumatic system to create a desired motion.<br>• Build secure housing for a pneumatic system.<br>• Use syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy.<br>• Select materials due to their functional and aesthetic characteristics.<br>• Manipulate materials to create different effects by cutting, creasing, folding and weaving. |

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| • To know that vegetables and fruit grow in certain seasons.<br>• To know that cooking instructions are known as a 'recipe'.<br>• To know that imported food is food which has been brought into the country.<br>• To know that exported food is food which has been sent to another country.<br>• To understand that imported foods travel from far away and this can negatively impact the environment.<br>• To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre.<br>• To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health.<br>• To know safety rules for using, storing and cleaning a knife safely.<br>• To know that similar coloured fruits and vegetables often have similar nutritional benefits. | **Knowledge**<br>• To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces.<br>• To know that when two edges of fabric have been joined together it is called a seam.<br>• To know that it is important to leave space on the fabric for the seam.<br>• To understand that some products are turned inside out after sewing so the stitching is hidden. | **Evaluate**<br>• Use the views of others to improve designs.<br>• Test and modify the outcome, suggesting improvements.<br>• Understand the purpose of exploded-diagrams through the eyes of a designer and their client.<br><br>**Knowledge**<br>• To understand how pneumatic systems work.<br>• To understand that pneumatic systems can be used as part of a mechanism.<br>• To know that pneumatic systems operate by drawing in, releasing and compressing air. |
| <u>Vocabulary</u><br>● Climate ● Dry climate ● Exported ● Imported ● Mediterranean climate ● Nationality ● Nutrients ● Polar climate ● Recipe ● Seasonal food ● Seasons ● Temperate climate ● Tropical climate | <u>Vocabulary</u><br>● Accurate ● Applique ● Cross-stitch ● Cushion ● Decorate ● Detail ● Fabric ● Patch ● Running-stitch ● Seam ● Stencil ● Stuffing ● Target audience ● Target customer ● Template | <u>Vocabulary</u><br>● Exploded-diagram ● Function ● Input ● Lever ● Linkage ● Mechanism ● Motion ● Net ● Output ● Pivot ● Pneumatic system ● Thumbnail sketch |

| Year 4 | Autumn 2— Cooking | Spring 2— Digital Moments | Summer 2— Electrical Systems |
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| Adapting a Recipe | | Mindful Moments | Torches |
| **Pupils will learn to:**<br><br>**Design**<br>• Design a biscuit within a given budget, drawing upon previous taste testing judgements.<br><br>**Make**<br>• Follow a baking recipe, from start to finish, including the preparation of ingredients.<br>• Cook safely, following basic hygiene rules.<br>• Adapt a recipe to improve it or change it to meet new criteria (e.g. from savoury to sweet).<br><br>**Evaluate**<br>• Evaluate a recipe, considering: taste, smell, texture and appearance.<br>• Describe the impact of the budget on the selection of ingredients.<br>• Evaluate and compare a range of food products. Suggest modifications to a recipe (e.g. This biscuit has too many raisins, and it is falling apart, so next time I will use less raisins). | | **Pupils will learn to:**<br>**Design**<br>• Write design criteria for a programmed timer (Micro:bit).<br>• Explore different mindfulness strategies.<br>• Apply the results of my research to further inform my design criteria.<br>• Develop a prototype case for my mindful moment timer.<br>• Use and manipulate shapes and clipart by using computer-aided design (CAD), to produce a logo. Follow a list of design requirements<br><br>**Make**<br>• Develop a prototype case for a mindful moment timer.<br>• Create 3D structures using modelling materials. Program a micro:bit in the Microsoft micro:bit editor, to time a set number of seconds/minutes upon button press.<br>•<br>**Evaluate**<br>• Investigate and analyse a range of timers by identifying and comparing their advantages and disadvantages. | **Pupils will learn to:**<br><br>**Design**<br>• Design a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.<br><br>**Make**<br>• Make a torch with a working electrical circuit and switch.<br>• Use appropriate equipment to cut and attach materials.<br>• Assembling a torch according to the design and success criteria.<br><br>**Evaluate**<br>• Evaluate electrical products.<br>• Test and evaluate the success of a final product. |

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| **Knowledge**<br>• To know that the amount of an ingredient in a recipe is known as the 'quantity.'<br>• To know that it is important to use oven gloves when removing hot food from an oven.<br>• To know the following cooking techniques: sieving, creaming, rubbing method, cooling.<br>• To understand the importance of budgeting while planning ingredients for biscuits | • Evaluate a Micro:bit program against points on a design criteria and amending them to include any changes made.<br>• Document and evaluate a project.<br>• Understand what a logo is and why they are important in the world of design and business. Test a program for bugs (errors in the code).<br>• Find and fix the bugs (debug) in a code.<br>• Use an exhibition to gather feedback.<br>• Gather feedback from the user to make suggested improvements to a product.<br>**Knowledge**<br>• To understand what variables are in programming. To know some of the features of a Micro:bit.<br>• To know that an algorithm is a set of instructions to be followed by the computer.<br>• To know that it is important to check my code for errors (bugs).<br>• To know that a simulator can be used as a way of checking your code works before installing it onto an electronic device. | **Knowledge**<br>• To understand that electrical conductors are materials which electricity can pass through.<br>• To understand that electrical insulators are materials which electricity cannot pass through.<br>• To know that a battery contains stored electricity that can be used to power products.<br>• To know that an electrical circuit must be complete for electricity to flow.<br>• To know that a switch can be used to complete and break an electrical circuit. |
| <u>Vocabulary</u><br>● Adapt ● Budget ● Cooling rack ● Creaming ● Equipment ● Evaluation ● Flavour ● Ingredients ● Method ● Net ● Packaging ● Prototype ● Quantity ● Recipe ● Rubbing ● Sieving ● Target audience ● Unit of measurement ● Utilities | <u>Vocabulary</u><br>● Advantage ● Annotate ● Assemble ● Aesthetic ● Block ● Brand identity ● Brand ● Bug ● CAD ● Clipart ● Coding ● Criteria ● Debug ● Design ● Develop ● Disadvantage ● Display ● Ergonomic ● Evaluate ● Exhibition ● Feedback ● Form ● Function ● Join ● Logo ● Loop ● Mindfulness ● Model ● Net ● Product ● Program ● Prototype ● Research ● Script ● Sketchpad ● Test ● Timer ● User ● Variable | <u>Vocabulary</u><br>● Battery ● Bulb ● Buzzer ● Cell ● Component ● Conductor ● Copper ● Design criteria ● Electrical item ● Electricity ● Electronic item ● Function ● Insulator ● Series circuit ● Switch ● Test ● Torch ● Wire |

| Year 5 | Autumn 2— Cooking | Spring 2— Digital World | Summer 2— Mechanical Systems |
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| **What Could be Healthier?** | | **Monitoring Devices** | **Making a Popup Book** |
| **Pupils will learn to:**<br><br>**Design**<br>• Adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.<br>• Write an amended method for a recipe to incorporate the relevant changes to ingredients. Design appealing packaging to reflect a recipe.<br><br>**Make**<br>• Cut and prepare vegetables safely.<br>• Use equipment safely, including knives, hot pans and hobs.<br>• Know how to avoid cross-contamination.<br>• Follow a step by step method carefully to make a recipe.<br><br>**Evaluate**<br>• Identify the nutritional differences between different products and recipes.<br>• Identify and describe healthy benefits of food groups. | | **Pupils will learn to:**<br><br>**Design**<br>• Research (books, internet) for a particular (user's) animal's needs.<br>• Develop design criteria based on research. Generate multiple housing ideas using building bricks.<br>• Understand what a virtual model is and the pros and cons of traditional and CAD modelling.<br>• Place and manoeuvre 3D objects, using CAD.<br>• Change the properties of, or combining one or more 3D objects, using CAD<br><br>**Make**<br>• Understand the functional and aesthetic properties of plastics.<br>• Program to monitor the ambient temperature and coding an (audible or visual) alert when the temperature rises above or falls below a specified range.<br><br>**Evaluate**<br>• State an event or fact from the last 100 years of plastic history. | **Pupils will learn to:**<br><br>**Design**<br>• Design a pop-up book which uses a mixture of structures and mechanisms.<br>• Name each mechanism, input and output accurately.<br>• Storyboard ideas for a book.<br><br>**Make**<br>• Follow a design brief to make a pop up book, neatly and with focus on accuracy.<br>• Make mechanisms and/or structures using sliders, pivots and folds to produce movement.<br>• Use layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.<br><br>**Evaluate**<br>• Evaluate the work of others and receiving feedback on own work.<br>• Suggest points for improvement. |

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| **Knowledge**<br>• To understand where meat comes from - learning that beef is from cattle and how beef is reared and processed, including key welfare issues.<br>• To know that I can adapt a recipe to make it healthier by substituting ingredients.<br>• To know that I can use a nutritional calculator to see how healthy a food option is.<br>• To understand that 'cross-contamination' means bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects. | • Explain how plastic is affecting planet Earth and suggesting ways to make more sustainable choices.<br>• Explain key functions in my program (audible alert, visuals).<br>• Explain how my product would be useful for an animal carer including programmed features.<br><br>**Knowledge**<br>• To know that a 'device' means equipment created for a certain purpose or job and that monitoring devices observe and record.<br>• To know that a sensor is a tool or device that is designed to monitor, detect and respond to changes for a purpose.<br>• To understand that conditional statements (and, or, if booleans) in programming are a set of rules which are followed if certain | **Knowledge**<br>• To know that mechanisms control movement.<br>• To understand that mechanisms can be used to change one kind of motion into another.<br>• To understand how to use sliders, pivots and folds to create paper-based mechanisms. |
| <u>Vocabulary</u><br>● Beef ● Cross-contamination ● Diet ● Ethical issues ● Farm ● Healthy ● Ingredients ● Method ● Nutrients ● Packaging ● Reared ● Recipe ● Research ● Substitute ● Supermarket ● Vegan ● Vegetarian ● Welfare | <u>Vocabulary</u><br>● Alert ● Ambient ● Boolean ● Consumables ● Decompose ● Development ● Device ● Duplicate ● Durable ● Electronic ● Inventor ● Lightweight ● 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 | <u>Vocabulary</u><br>● Aesthetic ● Computer-aided design (CAD) ● Caption ● Design ● Design brief ● Design criteria ● Exploded-diagram ● Function ● Input ● Linkage ● Mechanism ● Motion ● Output ● Pivot ● Prototype ● Slider ● Structure ● Template |

| Year 6 | Autumn 2— Digital World | Spring 2— Cooking | Summer 2— Electrical Systems |
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| Navigating the World | | Come Dine With Me | Steady Hand Game |
| **Pupils will learn to:**<br><br>**Design**<br>• Write a design brief from information submitted by a client.<br>• Develop design criteria to fulfil the client's request. Consider and suggest additional functions for my navigation tool.<br>• Develop a product idea through annotated sketches.<br>• Place and manoeuvre 3D objects, using CAD. Changing the properties of, or combining one or more 3D objects, using CAD.<br>**Make**<br>• Consider materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). Explain material choices and why they were chosen as part of a product concept.<br>• Program an N,E, S, W cardinal compass.<br><br>**Evaluate**<br>• Explain how a program fits the design criteria and how it would be useful as part of a navigation tool. Develop an awareness of sustainable design. Identify key industries that utilise 3D CAD modelling and explaining why. | | **Pupils will learn to:**<br><br>**Design**<br>• Write a recipe, explaining the key steps, method and ingredients.<br>• Include facts and drawings from research undertaken.<br><br>**Make**<br>• Follow a recipe, including using the correct quantities of each ingredient.<br>• Adapt a recipe based on research.<br>• Work to a given timescale.<br>• Work safely and hygienically with independence.<br><br>**Evaluate**<br>• Evaluate a recipe, considering: taste, smell, texture and origin of the food group.<br>• Taste test and score final products.<br>• Suggest and write up points of improvements when scoring others' dishes, and when evaluating their own throughout the planning, preparation and cooking process.<br>• Evaluate health and safety in production to minimise cross contamination. | **Pupils will learn to:**<br><br>**Design**<br>• Design a steady hand game - identifying and naming the components required.<br>• Draw a design from three different perspectives.<br>• Generate ideas through sketching and discussion.<br>• Model ideas through prototypes.<br>• Understand the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'.<br><br>**Make**<br>• Construct a stable base for a game.<br>• Accurately cut, fold and assemble a net.<br>• Decorate the base of the game to a high quality finish.<br>• Make and test a circuit.<br>• Incorporate a circuit into a base. |

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| • Describe how the product concept fits the client's request and how it will benefit the customers. Explain the key functions in my program, including any additions.<br>• Explain how a program fits the design criteria and how it would be useful as part of a navigation tool.<br>• Explain the key functions and features of my navigation tool to the client as part of a product concept pitch.<br>• Demonstrate a functional program as part of a product concept pitch.<br><br>**Knowledge**<br>• To know that accelerometers can detect movement.<br>• To understand that sensors can be useful in products as they mean the product can function without human input. | **Knowledge**<br>• To know that 'flavour' is how a food or drink tastes.<br>• To know that many countries have 'national dishes' which are recipes associated with that country.<br>• To know that 'processed food' means food that has been put through multiple changes in a factory.<br>• To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides.<br>• To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork). | **Evaluate**<br>• Test own and others finished games, identifying what went well and making suggestions for improvement.<br>• Gather images and information about existing children's toys.<br>• Analyse a selection of existing children's toys.<br><br>**Knowledge**<br>• To know that batteries contain acid, which can be dangerous if they leak.<br>• To know the names of the components in a basic series circuit, including a buzzer. |
| <u>Vocabulary</u><br>● 3D CAD ● Application (apps) ● Biodegradable ● Boolean ● Cardinal compass ● Client ● Compass ● Concept ● Convince ● Corrode ● Duplicate ● Environmentally friendly ● Equipment ● Feature ● Finite ● Function ● Functional ● GPS tracker ● If statement ● Infinite ● Investment ● Lightweight ● Loop ● Manufacture ● Materials (wood, metal, plastic etc.) ● Mouldable ● Navigation ● Non-recyclable ● Product lifecycle ● Product lifespan ● Program ● Recyclable ● Smart ● Sustainable ● Sustainable design ● Unsustainable design ● | <u>Vocabulary</u><br>● Accompaniment ● Collaboration ● Cookbook ● Cross-contamination ● Equipment ● Farm ● Flavour ● Illustration ● Imperative-verb ● Ingredients ● Method ● Nationality ● Preparation ● Processed ● Reared ● Recipe ● Research ● Storyboard ● Target audience ● Top tips ● Unit of measurement | <u>Vocabulary</u><br>● 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 |