



HEYHOUSES C.E. PRIMARY SCHOOL DESIGN TECHNOLOGY CURRICULUM





At Heyhouses we aspire to be all that God has created us to be.

'I can do all thing through Christ who strengthens me.' Philipians 4:13

Our aim and purpose in education is based on firm beliefs and values; that Jesus is our redeemer; that each individual is unique and valued; and that although all different, we are dependent upon one another.

In our school we seek to provide for the spiritual, mental, moral and physical development, growth and well-being of all our children.

— Firm Foundations — Ambitious Learning — Flourishing for life —

Curriculum Intent



Our Design and Technology scheme of work (Primary Design Technology) aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation. We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, and testing and to be reflective learners who evaluate their work and the work of others.

We aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements. Our curriculum enables pupils to meet the end of key stage attainment targets in the National curriculum and the aims also align with those in the National curriculum. EYFS (Reception) units provide opportunities for pupils to work towards the Development Matters statements and the Early Learning Goals.

The Primary Design technology scheme of work aims to deliver the National Curriculum (England) for Design Technology. Units of work focus on the six strands of learning in design technology: Cooking and Nutrition, Materials (Textiles), Structures, Mechanical Systems, Electrical Systems and Program Systems.

Units of work are carefully sequenced to ensure that children reach the end of key stage expectations in design technology. Our [Curriculum Pathway](#) document details how this is achieved.

A key component of learning in design technology is developing children's vocabulary. Design technology has extensive technical vocabulary that children need to know to fully understand the subject. Each teaching session in the scheme of work begins with a vocabulary focus using words from our [design technology vocabulary list](#).

Curriculum Map



	Autumn	Spring	Summer
Year 1	Summer Smoothies	Book Character Puppets	Celebration Cards
Year 2	Rainbow Salad	Model Playground	Great Teddy Race
Year 3	Seasonal Tarts	Cleopatra Cushions	Window
Year 4	Healthy Cereal Bar	Garden Escapes	Table Lamps
Year 5	Street Food Fiesta	Fashion Waistcoat	Robo Wars (Crumble)
Year 6	Class Restaurant	Temple Marble Run	Soft Toy Tamagotchi (Micro:bit)

Curriculum Map



Year 1 Design Technology		
Cooking and nutrition	Materials/Textiles	Mechanical Systems
Summer Smoothies	Book Character Puppets	Celebration Cards

Summer Smoothies	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children should know: • A product is something that is made to do a job or fulfil a need. • A design brief describes the product that is to be made • A product is made for a person known as the client • To keep themselves safe when making things. • Simple procedures for working hygienically with food. • Evaluating a product is about identifying what is good about the product and ways it could be made better. Cooking and Nutrition • Names of a range of different fruit and vegetables • Fruit and vegetables come from different parts of the plant. • That eating fruit and vegetables forms part of a healthy diet. • Ingredients refers to the items in a food mixture or a recipe.	Children should know how to: • Explain what their product is and how it will work. • Follow instructions to make a product from a design. • Taste and evaluate different foods using a taste test. • Evaluate a finished product against their design. Cooking and Nutrition • Describe the taste, texture, and smell of fruit and vegetables Food Preparation Skills: • Cut foods with a vegetable knife using the claw grip. • Cut foods with a vegetable knife using the bridge hold.

Curriculum Map



Book Character Puppets	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Pupils should know: • A product is something that is made to do a job or fulfil a need. • A design brief describes the product that is to be made • A product is made for a person known as the client • Drawing out design ideas is useful to see how the product will look. • About a range of materials and their properties and how they can be used when making a product. • Improving a product whilst making it is an important part of design technology. • Evaluating a product is about identifying what is good about the product and ways it could be made better. Materials • Sheet materials refers to materials that are flat. Textiles • Some joining techniques are permanent and others are temporary. • Temporary joining techniques might be used when pinning fabric to hold it together (so it doesn't move around whilst cutting or sewing) • Permanent joining technique might be used to finish a product so it can be used without falling apart. • A template (or fabric pattern) can be used to cut out the same shape multiple times.	Pupils should know how to: • Use knowledge of existing products to help with generating their own ideas. • Explain what their product is and how it will work. • Generate and communicate ideas using sketches, drawing and digital software. • Select and use tools most appropriate for a practical task. • Measure and mark out different materials when working with them. • Cut and shape a range of materials using different tools and techniques. • Assemble, join, and combine a range of materials using different methods and techniques. • Apply a range of different finishing techniques to their made product. • Reflect on a finished product explaining their likes, dislikes and suggesting improvements. Materials • Cut sheet materials safely using tools provided. Textiles • Thread a needle. • Cut fabrics neatly for sewing. • Pin and cut fabric using a template. • Join fabrics using an evenly spaced running stitch. • Colour and decorate textiles using techniques such as painting, printing and simple stitching.

Curriculum Map



Celebration Cards	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Pupils should know: • A product is something that is made to do a job or fulfil a need. • A product is made for a person known as the client • Drawing out design ideas is useful to see how the product will look. • To keep themselves safe when making things. • Evaluating existing products can help them to design and make their own product ideas. Materials • Sheet materials refers to materials that are flat. • Sheet materials can be folded to create three-dimensional shapes. Mechanical Systems • Know that mechanisms cause things to move. • Linear movement is movement in a straight line. • Rotational movement is circular movement. • A lever is something that turns on a pivot.	Pupils should know how to: • Research similar existing products, including online research. • Use knowledge of existing products to help with generating their own ideas. • Explain what their product is and how it will work. • Select and use tools most appropriate for a practical task. • Cut and shape a range of materials using different tools and techniques. • Assemble, join, and combine a range of materials using different methods and techniques. • Reflect on a finished product explaining their likes, dislikes and suggesting improvements. Materials • Measure and mark out to the nearest centimetre. • Cut sheet materials safely using tools provided. • Shape sheet materials through folding, creasing, and curling. • Join materials through gluing and by making slots. Mechanical Systems • Use sliders to create linear motion in mechanical products. • Use levers and a pivot to create rotational movement in products. • Create simple folding mechanisms in pop up books.

Curriculum Map



Year 2 Design Technology		
Cooking and nutrition	Structures	Mechanical Systems
Rainbow Salad	Model Playground	Great Teddy Race

Rainbow Salad	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children should know: - How to research similar existing products, including online research. - How to use knowledge of existing products to help with generating their own ideas. - Simple procedures for working hygienically with food. - How evaluating existing products can help them to design and make their own product ideas. Cooking and Nutrition - How to identify fruit and vegetables and know that they come from different parts of the plant. - What is meant by a healthy and balanced diet. - That eating fruit and vegetables forms part of a healthy diet. - That nutrients are substances in foods that living things need to make energy, grow, and develop. - Where some common foods originate from. - That ingredients refers to the items in a food mixture or recipe.	Children should know how to: - Explain what their product is and how it will work. - Follow instructions to make a product from a design. - Select and use tools most appropriate for a practical task. - Taste and evaluate different foods using a taste test. Cooking and Nutrition - Describe the taste, texture, and smell of a range vegetables. - Describe the information that should be included on a food product label. Food Preparation Skills: - Cut medium resistance foods with a vegetable knife using the claw grip. - Cut medium resistance foods or partly prepared food with a vegetable knife using the bridge hold. - Grate soft foods. - Snip ingredients using scissors. - Squeeze the juice from fruit or vegetables. - Spoon ingredients between different containers with increasing accuracy and minimal spillage. - Peel with a swivel peeler with adult support. - Mix with increasing thoroughness to combine ingredients.

Curriculum Map



Model Playground	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Pupils should know: • A product is something that is made to do a job or fulfil a need. • A design brief describes the product that is to be made • Drawing out design ideas is useful to see how the product will look. • Using model and construction kits can help to develop their ideas and designs. • About a range of materials and their properties and how they can be used when making a product. • Evaluating a product is about identifying what is good about the product and ways it could be made better. Materials • That sheet materials refers to materials that are flat. • That sheet materials can be folded to create three-dimensional shapes. Structures • Know the different types of structures that are found in the natural world and in the man-made world. • Know that different structures are used for different purposes. • Know how to use shape to increase the strength and stiffness of a structure. • How a large base can make a structure stable. Mechanical Systems • Linear movement is movement in a straight line. • Rotational movement is circular movement.	Pupils should know how to: • Research similar existing products, including online research. • Use knowledge of existing products to help with generating their own ideas. Drawing Skills • Generate and communicate ideas using sketches, drawing and digital software. • Create clearly labelled drawings to explain how their product works. • Select and use tools most appropriate for a practical task. • Measure and mark out different materials when working with them. • Cut and shape a range of materials using different tools and techniques. • Assemble, join, and combine a range of materials using different methods and techniques. • Explore and identify how products have been created, including the materials that have been used to make the product. • Reflect on a finished product explaining their likes, dislikes and suggesting improvements. Materials • Cut sheet materials safely using tools provided. • Measure and mark out to the nearest centimetre. • Shape sheet materials through folding, creasing and curling. • Join materials through gluing and by making slots. • Combine materials to increase their strength and stability. Structures • Join different materials to create a structure. • Create a simple rectangular framework with corner struts for added strength. • Use techniques to make structures that are stronger and stable

Curriculum Map



Great Teddy Race	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Pupils should know: • A product is something that is made to do a job or fulfil a need. • A design brief describes the product that is to be made • Drawing out design ideas is useful to see how the product will look. • Using model and construction kits can help to develop their ideas and designs. • To keep themselves safe when making things. • Improving a product whilst making it is an important part of design technology. • Evaluating existing products can help them to design and make their own product ideas. • Evaluating a product is about identifying what is good about the product and ways it could be made better. Structures • Different structures are used for different purposes. Mechanical Systems • Know that mechanisms cause things to move. • Linear movement is movement in a straight line. • Rotational movement is circular movement. • A wheel needs to be attached to an axle to rotate.	Pupils should know how to: Designing Skills • Use knowledge of existing products to help with generating their own ideas. • Explain what their product is and how it will work. Drawing Skills • Generate and communicate ideas using sketches, drawing and digital software. • Create clearly labelled drawings to explain how their product works. • Select and use tools most appropriate for a practical task. • Measure and mark out different materials when working with them. • Cut and shape a range of materials using different tools and techniques. • Assemble, join, and combine a range of materials using different methods and techniques. • Apply a range of different finishing techniques to their made product. • Reflect on a finished product explaining their likes, dislikes and suggesting improvements. Structures • Join different materials to create a structure. • Create a simple rectangular framework with corner struts for added strength. Mechanical Systems • Add wheels and axles to a frame or chassis to create a moving vehicle.

Curriculum Map



Year 3 Design Technology		
Cooking and nutrition	Materials/Textiles	Mechanical Systems
Seasonal Tarts	Cleopatra Cushions	Window

Seasonal Tarts	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children will know: - The difference between a design brief and design specifications. - Design specifications describe how a product should be made, how it works or what it should do. - There can be a range of people and places that can be clients for a product. - Rules and procedures for keeping themselves safe when making products. - That a list of the main stages of turning a design into a product will aid the making process. - That evaluating the whole project is an important part of design technology. - About a range of inspirational designs and designers throughout history and use this knowledge to support their own work as designers. Cooking and Nutrition - Different foods are grown around the world and that some food is dependent on the seasons. - The principles of a healthy and varied diet, particularly the importance of fruit and vegetables. - The importance of food preparation routines that are safe and hygienic.	Children will know how to: Designing Skills - Generate ideas for a product, considering its purpose and who the client is. - Use design specifications as a guide to the making process. - Follow instructions to ensure that they work safely. - Select suitable tools, equipment, materials, and components for the task. - Measure, mark out, cut and shape materials with increasing accuracy. - Evaluate a product against specific design specifications. Cooking and Nutrition - Prepare food in a safe and hygienic way using appropriate utensils. - Create a healthy recipe considering the taste, texture, smell, and appearance of the dish. - Create visually appealing products by shaping and moulding food. - Measure ingredients accurately - Follow a recipe to assemble or cook ingredients. Food Preparation Skills: - Use a table knife to cut equal dough portions. - Fold ingredients together carefully - Use measuring jugs, spoons, and scales to measure ingredients with increasing accuracy. - Use a range of food preparation techniques when following recipes.

Curriculum Map



Cleopatra Cushions	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Pupils should know: - The difference between a design brief and design specifications. - There can be a range of people and places that can be clients for a product. - How computer-aided design software can help in the design process. - The properties of materials that they are working with and how these determine the tools and techniques that they use. - Design specifications are a list of success criteria for the product. - The client can be used to evaluate the success of a product. Materials - That products are made of materials that are chosen because of their properties. Textiles - That 'joining technique' means connecting two pieces of fabrics together and the methods that are permanent or temporary. - A range of joining techniques to connect two pieces of fabrics together such as sewing and gluing. - Joining two edges of fabrics together creates a seam. - A range of sewing techniques (such as a running stitch for making seams and cross stitch for decoration) - Appliqué is a way of decorating textiles by adding smaller pieces of fabric to create a picture or a pattern.	Pupils should know how to: - Generate ideas for a product, considering its purpose and who the client is. - Design a product that meets client's needs and the design brief. - List the design features that will appeal to the client. - Use computer software to show what their final product will look like. - Select suitable tools, equipment, materials, and components for the task. - Explain their choices of materials, techniques and tools when making a product. - Measure, mark out, cut and shape materials with increasing accuracy. - Select and apply a finishing technique to create a quality product. - Evaluate their product using a range of sources including client review, peer review, design brief and the design criteria. Materials - Measure, mark-out, cut and shape a wide range of materials. - Cut internal shapes and joining slots in sheet materials. - Join and combine materials and components using a variety of methods. - Manipulate different materials to create different effects by cutting, creasing, and folding. Textiles - Measure, mark out and cut fabric using a paper template (pattern) - Join fabrics together using a range of different sewing techniques (such as running stitch and cross stitch) including allowing for a seam. - Create a 3D fabric product by combining fabric pieces and using a seam allowance. - Apply a range of decorative techniques, including embroidery stitches, to different fabric materials.

Curriculum Map



Windows	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Pupils should know: - The difference between a design brief and design specifications. - Design specifications describe how a product should be made, how it works or what it should do. - How making models of their intended product can help in the design process. - There can be a range of people and places that can be clients for a product. - Rules and procedures for keeping themselves safe when making products. - The properties of materials that they are working with and how these determine the tools and techniques that they use. - That a list of the main stages of turning a design into a product will aid the making process. - When evaluating products, it is important to use the design brief and the design specifications as a guide. - Peer review of their product is useful in identifying ways in which it could be improved. Materials - That products are made of materials that are chosen because of their properties. Structures - Whether a structure is a frame structure or a shell structure - Suitable techniques to strengthen materials. - Suitable techniques of making structures more stable Mechanical Systems - Levers and linkages work together to create different movements in products such as mechanical books.	Pupils should know how to: - Generate ideas for a product, considering its purpose and who the client is. - Use design specifications as a guide to the making process. - Follow instructions to ensure that they work safely. - Select suitable tools, equipment, materials, and components for the task. - Explain their choices of materials, techniques and tools when making product. - Measure, mark out, cut and shape materials with increasing accuracy. - Select and apply a finishing technique to create a quality product. - Identify the characteristics of a design which makes the product useful and successful. - Test for the strength and stability of different structures - List the ways in which a finished product meets the design specifications. - Evaluate their product using a range of sources including client review, peer review, design brief and the design criteria. - Use consumer surveys to evaluate their finished product. Materials - Measure, mark-out, cut and shape a wide range of materials. - Cut internal shapes and joining slots in sheet materials. - Join and combine materials and components using a variety of methods. - Manipulate different materials to create different effects by cutting, creasing, and folding. Structures - Choose suitable materials, techniques, and tools to construct or repair products. - Apply a range of practical skills and techniques to create stable and strong frame structures. Mechanical Systems - Create different types of movement in products using a range of mechanical systems, including levers and linkages.

Curriculum Map



Year 4 Design Technology		
Cooking and nutrition	Structures	Electrical systems
Healthy Cereal Bar	Garden Escapes	Table Lamps

Healthy Cereal Bar	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children should know: - The difference between a design brief and design specifications. - Design specifications describe how a product should be made, how it works or what it should do. - Rules and procedures for keeping themselves safe when making products. - That a list of the main stages of turning a design into a product will aid the making process. - Design specifications are a list of success criteria for the product. - When evaluating products, it is important to use the design brief and the design specifications as a guide. - To use a range of information sources to identify areas in which their product could be improved. - About a range of inspirational designs and designers throughout history and use this knowledge to support their own work as designers. Cooking and Nutrition - Food is either grown, reared, or caught for food. - Different foods are grown around the world and that some food is dependent on the seasons. - The different food groups in the Eatwell Guide and how they feature as part of a healthy balanced diet. - That nutrients are substances in foods that living things need to make energy, grow, and develop. - The principles of a healthy and varied diet, particularly the importance of fruit and vegetables. - The importance of food preparation routines that are safe and hygienic.	Children should know how to: - Conduct research, including consumer surveys to find out needs and wants of the client - Generate ideas for a product, considering its purpose and who the client is. - Design a product that meets client's needs and the design brief. - Follow instructions to ensure that they work safely. - Select suitable tools, equipment, materials, and components for the task. - Evaluate their product using a range of sources including client review, peer review, design brief and the design criteria. Cooking and Nutrition - Prepare food in a safe and hygienic way using appropriate utensils. - Create a healthy recipe considering the taste, texture, smell, and appearance of the dish. - Create visually appealing products by shaping and moulding food. - Measure ingredients accurately - Follow a recipe to assemble or cook ingredients. - Shape food with accuracy for a desired effect. Food Preparation Skills: - Fold ingredients together carefully - Use measuring jugs, spoons and scales to measure ingredients with increasing accuracy. - Use a range of food preparation techniques when following recipes.

Curriculum Map



Garden Escapes	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children will know: - The difference between a design brief and design specifications. - Design specifications describe how a product should be made, how it works or what it should do. - How computer-aided design software can help in the design process. - Rules and procedures for keeping themselves safe when making products. - The properties of materials that they are working with and how these determine the tools and techniques that they use. - That a list of the main stages of turning a design into a product will aid the making process. - When evaluating products, it is important to use the design brief and the design specifications as guide. - To use a range of information sources to identify areas in which their product could be improved. Materials - That products are made of materials that are chosen because of their properties. Structures - Whether a structure is a frame structure or a shell structure. - Suitable techniques to strengthen materials. - Suitable techniques of making structures more stable.	Children will know how to: Designing Skills - Conduct research, including consumer surveys to find out needs and wants of the client. - Generate ideas for a product, considering its purpose and who the client is. - Design a product that meets client's needs and the design brief. - Use design specifications as a guide to the making process. - List the design features that will appeal to the client. Drawing Skills - Communicate and draw out their designs using three-dimensional techniques such as 'crating' and isometric drawing. - Use computer software to show what their final product will look like. - Follow instructions to ensure that they work safely. - Select suitable tools, equipment, materials, and components for the task. - Explain their choices of materials, techniques and tools when making a product. - Measure, mark out, cut and shape materials with increasing accuracy. - Select and apply a finishing technique to create a quality product. - Identify and implement ways of improving a product whilst making it. - Identify the characteristics of a design which makes the product useful and successful. - List the ways in which a finished product meets the design specifications. - Evaluate their product using a range of sources including client review, peer review, design brief and the design criteria. Materials - Measure, mark-out, cut and shape a wide range of materials. - Cut internal shapes and joining slots in sheet materials. - Join and combine materials and components using a variety of methods. - Manipulate different materials to create different effects by cutting, creasing, and folding. Structures - Choose suitable materials, techniques, and tools to construct or repair products. - Apply a range of techniques to create shell structures using paper and card. - Apply a range of practical skills and techniques to create stable and strong frame structures.

Curriculum Map



Table Lamps	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children will know: - The difference between a design brief and design specifications. - Design specifications describe how a product should be made, how it works or what it should do. - How making models of their intended product can help in the design process. - There can be a range of people and places that can be clients for a product. - How computer-aided design software can help in the design process. - Rules and procedures for keeping themselves safe when making products. - The properties of materials that they are working with and how these determine the tools and techniques that they use. - What different components of a system do and how these can be incorporated into their product to make them work. - Design specifications are a list of success criteria for the product. - When evaluating products, it is important to use the design brief and the design specifications as a guide. - Stories about iconic designs and designers that have helped to shape the world in which we live. Materials - That products are made of materials that are chosen because of their properties. Structures - Whether a structure is a frame structure or a shell structure - Suitable techniques to strengthen materials. - Suitable techniques of making structures more stable Electrical Systems - Components of an electric product such as a switch, battery, motors, and buzzer. - The importance of a complete circuit when using a series circuit. - Electrical circuits are used in products to make them work.	Children will know how to: - Generate ideas for a product, considering its purpose and who the client is. - Design a product that meets client's needs and the design brief. - Use design specifications as a guide to the making process. - List the design features that will appeal to the client. - Communicate and draw out their designs using three-dimensional techniques such as 'crating' and isometric drawing. - Use computer software to show what their final product will look like. - Select suitable tools, equipment, materials, and components for the task. - Explain their choices of materials, techniques and tools when making a product. - Measure, mark out, cut and shape materials with increasing accuracy. - Identify the characteristics of a design which makes the product useful and successful. - List the ways in which a finished product meets the design specifications. Materials - Measure, mark-out, cut and shape a wide range of materials. - Join and combine materials and components using a variety of methods. Structures - Choose suitable materials, techniques, and tools to construct or repair products. - Apply a range of techniques to create shell structures using paper. - Apply a range of practical skills and techniques to create stable and strong frame structures. Electrical Systems - Build simple circuits, including bulbs and switches, into their products. - Use tools and equipment to attach components when creating a simple circuit. - Create products that include simple circuits to make them work. - Troubleshoot a simple circuit to identify components that may be faulty.

Curriculum Map



Year 5 Design Technology		
Cooking and nutrition	Materials/Textiles	Program Systems
Street Food Fiesta	Fashion Waistcoat	Robo Wars (Crumble)

Street Food Fiesta	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children will know: - Different types of drawing can be used to help with designing and communicating ideas about a product. - Surveys, interviews and questionnaires are used to find out the needs and wants of clients. - Step-by-step action plans should be created and followed when making complex products. - A range of different finishing techniques and choose ones that are suitable to create a quality product. - To continually reflect on and evaluate their work throughout the stages of designing and making. - As part of the evaluation process, the designer can consider the cost (time and money) of making the finished product. - That evaluating the whole project is an important part of design technology. - About a range of inspirational designs and designers throughout history and use this knowledge to support their own work as designers. Cooking and Nutrition - The importance of correct storage and handling of ingredients using knowledge of micro-organisms to promote hygiene and prevent cross-contamination. - Processed food is food that has undergone multiple changes in a food factory. - People have different food diets for health, religious, cultural, and personal reasons. - Some people are intolerant and/or allergic to certain food substances and that precautions are needed to keep them safe.	Children will know how to: - Carry out different surveys and questionnaires for research and to help with the design process. - Write step by step instructions and recipes to make a product they have designed. - List the materials and tools that will be needed to make a product they have designed. - Work responsibly using guidelines to ensure they keep themselves and others safe. - Write an action plan for the making process including lists of tools, equipment and materials needed. - Accurately assemble, join and combine materials and components to ensure a quality finish to a product. - Apply a range of decorative and finishing techniques following the product design. - Identify strengths and areas for development in their own ideas and products. - List ways of improving a product considering the views of others and intended users. Cooking and Nutrition - Follow a recipe accurately. - Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. - Demonstrate a range of baking and cooking techniques. - Create and refine recipes, including ingredients, methods, cooking times and temperatures. - Choose and adapt recipes for dietary reasons. Food Preparation Skills - Cut higher resistance foods using the claw grip or the bridge grip - Use different weighing scales with increasing accuracy. - Use a measuring jug independently and accurately. - Cook using a range of different methods.

Curriculum Map



Fashion Waistcoat	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Pupils should know: - Creating a prototype of a design is useful for checking ideas and seeing how well they work. - Different types of drawing can be used to help with designing and communicating ideas about a product. - How labels and annotated drawings can be used to explain and communicate how a product is made and how it will work. - Choosing materials, tools and equipment is dependent upon the skills and techniques to be used. - Step-by-step action plans should be created and followed when making complex products. - A range of different finishing techniques and choose ones that are suitable to create a quality product. - To continually reflect on and evaluate their work throughout the stages of designing and making. - That evaluating the whole project is an important part of design technology. - About a range of inspirational designs and designers throughout history and use this knowledge to support their own work as designers. Materials - The different properties of materials and how they are considered when designing and making a product. Textiles - Blanket stitch is used to strengthen edges and when joining to fabrics. - The importance of using a template (pattern) to accurately mark out a design on a fabric.	Pupils should know how to: - List the materials and tools that will be needed to make a product they have designed. Drawing Skills - Communicate their ideas using cross-sectional drawings and cut-away drawings. - Use computer-aided design software to develop and communicate their ideas. - Work responsibly using guidelines to ensure they keep themselves and others safe. - Write an action plan for the making process including lists of tools, equipment and materials needed. - Accurately assemble, join and combine materials and components to ensure a quality finish to a product. - Apply a range of decorative and finishing techniques following the product design. - List ways of improving a product considering the views of others and intended users. Materials - Measure and cut materials with precision and refine the finish with appropriate tools. Textiles - Join textiles with a combination of stitching techniques (such as blanket stitch, back stitch for seams and running stitch to attach decoration). - Create products by joining several fabric pieces that employ a seam allowance. - Use the qualities of materials to create suitable visual and tactile effects in the decoration of masks and textile products.

Curriculum Map



Robo Wars (Crumble)	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Pupils should know: Designing - That creating a prototype of a design is useful for checking ideas and seeing how well they work. - That different types of drawing can be used to help with designing and communicating ideas about a product that is being planned. - How labels and annotated drawings can be used to explain and communicate how their product will be made and how it will work. Making - To choose materials, tools and equipment that are dependent upon the skills and techniques to be used. - A range of different finishing techniques and choose ones that are suitable to create a quality product. Evaluation - To continually reflect on and evaluate their work throughout the stages of design, make and evaluate. - About a range of inspirational designs and designers throughout history and use this knowledge to support their own work as designers. Structures - The different properties of some common materials and how these properties are used when designing and making structures. - How to make frame structures that can support mechanical systems within a product. - Ways of reinforcing structures, including using triangulation techniques. Mechanical Systems - That there are a range of different mechanical systems that are used to produce rotational movement and the ways in which the speed and direction of movement can be altered. Electrical and Program Systems - How a motor can be incorporated into a product to create movement. - That program systems have an input and an output. - That microcontrollers are small computer processors that turn inputs into outputs and are controlled through computer code.	Pupils should know how to: Designing - List the materials and tools that will be needed to make a product they have designed. Drawing Skills - Communicate their ideas using cross-sectional drawings and cut-away drawings. Making - Work responsibly using guidelines to ensure they keep themselves and others safe. - How to accurately assemble, join and combine materials and components to ensure a quality finish to a product. - Apply a range of decorative and finishing techniques following the product design. Evaluation - List ways of improving a product considering the views of others and intended users. - Evaluate a product against specific design specifications. Materials & Structures - Cut materials with precision and refine the finish with appropriate tools. - Consider the different properties of materials, when choosing appropriate tools. - Apply a range of practical skills and techniques to create stable frame structures. Mechanical Systems - Combine a structure with a mechanism to create a product with motion/movement. Electrical and Program Systems - Write procedures and/or computer code to control and monitor models or products. - Make a product that includes an interface that allows the user to control and monitor the device including lights, sounds and motion. - Create a product with a mechanical system that can operate at varying speeds and with changes in direction.

Curriculum Map



Year 6 Design Technology		
Cooking and nutrition	Structures	Program Systems / Textiles
Class Restaurant	Temple Marble Run	Soft Toy Tamagotchi (Micro:bit)

Class Restaurant	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children will know: - How surveys, interviews and questionnaires are used to find out the needs and wants of potential clients. - That step-by-step action plans should be created and followed when making complex products. - A range of different finishing techniques and choose ones that are suitable to create a quality product. - As part of the evaluation process, the designer can consider the cost (time and money) of making the finished product. - That evaluating the whole project is an important part of design technology. - About a range of inspirational designers throughout history and use this knowledge to support their own work as designers. Cooking and Nutrition - The importance of correct storage and handling of ingredients using knowledge of micro-organisms to promote hygiene and prevent cross-contamination. - How to make bread, and the role of yeast in bread-making. - How to adapt and refine an existing recipe to create a new recipe. - That people have different food diets for health, religious, cultural, and personal reasons. - That some people are intolerant and/or allergic to certain food substances and that precautions are needed to keep them safe.	Children will know how to: - Carry out different surveys and questionnaires for research and to help with the design process. - Write step by step instructions and recipes to make a product they have designed. - List the materials and tools that will be needed to make a product they have designed. - Work responsibly using guidelines to ensure they keep themselves and others safe. - Write an action plan for the making process including lists of tools, equipment and materials needed. - How to accurately assemble, join and combine materials and components to ensure a quality finish to a product. - Apply a range of decorative and finishing techniques following the product design. - List ways of improving a product considering the views of others and intended users. Cooking and Nutrition - Follow a recipe accurately. - Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. - Demonstrate a range of baking and cooking techniques. - Create and refine recipes, including ingredients, methods, cooking times and temperatures. - Choose and adapt recipes for dietary reasons. - Create visually appealing products by cutting out shapes to decorate. Food Preparation Skills - Cutting higher resistance foods using either the claw grip or the bridge grip - Using different weighing scales with increasing accuracy. - Use a measuring jug independently and accurately. - Layer different ingredients. - Peel with a swivel peeler to create food ribbons to be used in a dish. - Core – remove the core of fruit or vegetables. Children should know how to cook food using a range of different methods including: - Grill – cook under direct heat. - Fry and sauté – cook on the hob (usually in oil). - Microwave – cook or re-heat food in a microwave.

Curriculum Map



Temple Marble Run	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children will know: • Creating a prototype of a design is useful for checking ideas and seeing how well they work. • Different types of drawing can be used to help with designing and communicating ideas about a product. • How labels and annotated drawings can be used to explain and communicate how a product is made and how it will work. • Surveys, interviews and questionnaires are used to find out the needs and wants of clients. • Choosing materials, tools and equipment is dependent upon the skills and techniques to be used. • Step-by-step action plans should be created and followed when making complex products. • A range of different finishing techniques and choose ones that are suitable to create a quality product. • To continually reflect on and evaluate their work throughout the stages of designing and making. • That evaluating the whole project is an important part of design technology. Materials • The different properties of materials and how they are considered when designing and making a product. Structures • Different properties of some common materials and how these properties are used when designing and making structures. • Ways of reinforcing structures, including using triangulation techniques.	Children will know how to: • Write step by step instructions and recipes to make a product they have designed. • List the materials and tools that will be needed to make a product they have designed. • Carry out different surveys and questionnaires for research and to help with the design process. • Drawing Skills: Communicate their ideas using cross-sectional drawings and cut-away drawings. • Drawing Skills: Use computer-aided design software to develop and communicate their ideas. • Work responsibly using guidelines to ensure they keep themselves and others safe. • Write an action plan for the making process including lists of tools, equipment and materials needed. • Accurately assemble, join and combine materials and components to ensure a quality finish to a product. • Apply a range of decorative and finishing techniques following the product design. • Identify strengths and areas for development in their own ideas and products. • Evaluate a product against specific design specifications. • Measure and cut materials with precision and refine the finish with appropriate tools.

Curriculum Map



Soft Toy Tamagotchi (Micro:bit)	
Substantive & Technical Knowledge	Practical Knowledge (Skills)
Children will know: - Creating a prototype of a design is useful for checking ideas and seeing how well they work. - How labels and annotated drawings can be used to explain and communicate how a product is made and how it will work. - Choosing materials, tools and equipment is dependent upon the skills and techniques to be used. - A range of different finishing techniques and choose ones that are suitable to create a quality product. - To continually reflect on and evaluate their work throughout the stages of designing and making. - That evaluating the whole project is an important part of design technology. Materials/Textiles - The different properties of materials and how they are considered when designing and making a product. - Blanket stitch is used to strengthen edges and when joining to fabrics. - The importance of using a template (pattern) to accurately mark out a design on a fabric. Electrical and Program Systems - A sensor is a tool that monitors, detects, and responds to changes. - Program systems have an input and an output. - Microcontrollers are small computer processors that turn inputs into outputs and are controlled through computer code.	Children will know how to: - List the materials and tools that will be needed to make a product they have designed. Drawing Skills - Use computer-aided design software to develop and communicate their ideas. - Work responsibly using guidelines to ensure they keep themselves and others safe. - Write an action plan for the making process including lists of tools, equipment and materials needed. - Accurately assemble, join and combine materials and components to ensure a quality finish to a product. - Apply a range of decorative and finishing techniques following the product design. - Evaluate a product against specific design specifications. Materials/Textiles - Measure and cut materials with precision and refine the finish with appropriate tools. - Join textiles with a combination of stitching techniques (such as blanket stitch, back stitch for seams and running stitch to attach decoration). - Create products by joining several fabric pieces that employ a seam allowance. - Use the qualities of materials to create suitable visual and tactile effects in the decoration of masks and textile products. Electrical and Program Systems - Write procedures and/or computer code to control and monitor models or products. - Make a product device that includes a sensor to monitor change. - Make a product that allows the user to control and monitor the device including lights, sounds and motion.