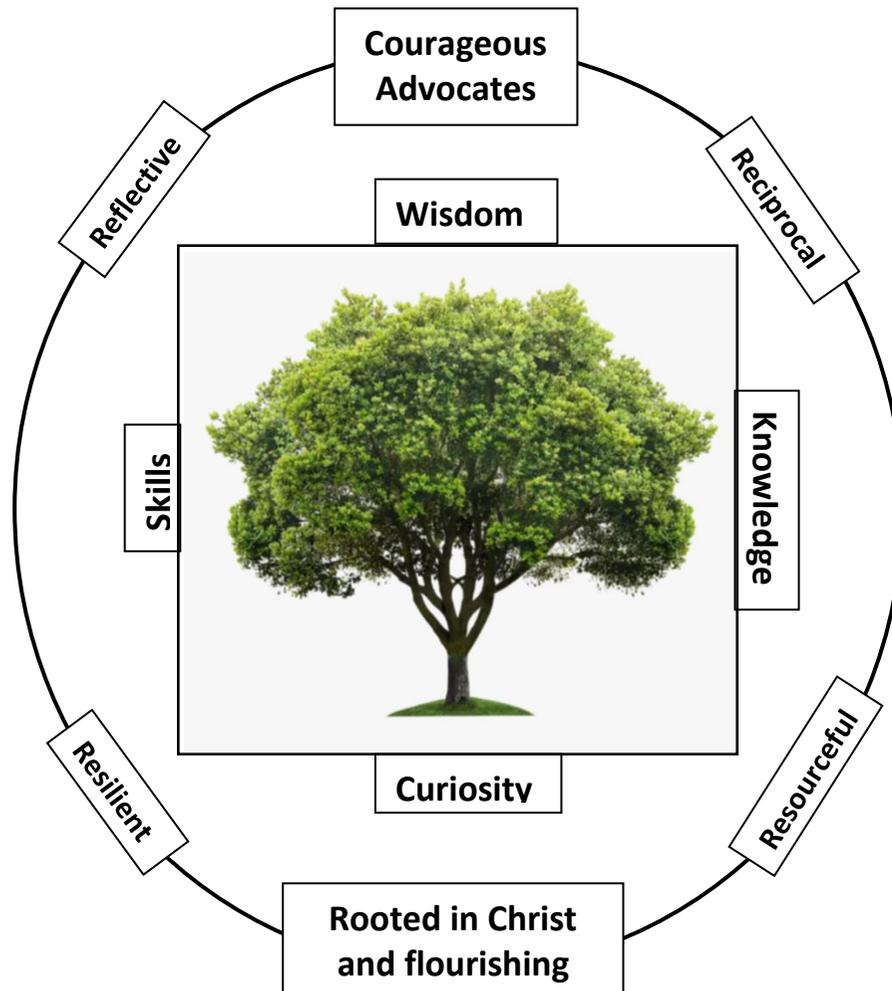


The Whittle-le-Woods Curriculum

I have come so they may have life and have it to the full. John 10:10

Design Technology



DT Intent

Our DT curriculum at Whittle-le-Woods aims to:

- prepare our children with the Design and Technology skills necessary to achieve their potential within an ever-changing technological world.
- encourage our children to **flourish**. They will use their creativity and imagination to design and make product that solve real and relevant problems within a variety of contexts.
- give our **Courageous Advocates** the opportunity to evaluate past and present designs and technologies, developing a critical understanding of the impact on daily life and the wider world.

DT Overview (Implementation)

Cooking
Mechanical and Electrical Systems and ICT
Structures
Textiles

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Funky fingers Construction Junk modelling Baking throughout the year linked to seasonal interests Fruit Kebab (Spring 1) Tomato and cucumber salad (Summer 1)					
Reception			Weaving shapes (fine motor)		Healthy Sandwich	Large castle (gross motor)
Year 1	House structure	Roasted Winter Vegetables	Moving Toy Car using wheels		Fabric weaving (fine motor)	
Year 2		Pop up Christmas Cards using sliders and levers		Corned Beef Hash		Sock Puppets using oversewing
Year 3		Moving picture book using levers and linkages		Structures Photo frames		Money Carriers using running stitch
Year 4		Moving toy using cams	Electrical Board Game		Bread (without yeast) and houmous	

Year 5	Ration Food WWII cake recipes. (Extra unit)	Christmas Stockings using different stitch types	Moon Buggies		Healthy Brazilian Stew	
Year 6		Moving mechanics	Flavoured Bread (with yeast)			Bridges with a moving mechanism

Nursery					
Term	Continuous provision activities to develop DT skills	Curriculum Content Skills and knowledge	Key vocabulary to be taught	Visitor/trips and other opportunities	Evidenced
	Funky fingers (fine motor skills activities)	<p>DT prerequisite skills: Use one-handed tools and equipment e.g. pegs, tongs, tweezers, scissors, pencils, chalk, crayons. Select and use activities and resources, with help when needed. Cutting, scrunching, gluing and ripping paper. Ribbon dancing, threading beads, drawing in sand or shaving foam. Explore how things work. Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p>	Scissors Paper Pencil		
	Construction (gross motor)	<p>DT prerequisite skills: Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Use large-muscle movements to wave flags and streamers, paint and make marks. Choose the right resources to carry out their own plan. Explore how things work.</p>	Long Short Big Small Heavy Light		

	Healthy Eating (Fruit Kebab)	<p>Design a fruit kebab. Use chopping skills to make a fruit kebab (softer fruits, easy peelers, bananas etc). Thread the fruit onto a stick. Evaluate a fruit kebab.</p> <p>DT prerequisite skills: Choose the right resources to carry out their own plan. Explore how things work. Select and use activities and resources, with help when needed. Use one-handed tools and equipment such as a butter knife.</p>	<p>Cut Slice Chop Knife Apron</p>		
	Tomato and cucumber salad	<p>Taste tomato and cucumber, as well as different types of vegetables they may want to put in the salad. Design, make and evaluate a tomato and cucumber salad. Know which foods are fruits and which are vegetables. Use chopping skills to make a salad.</p> <p>DT prerequisite skills: Choose the right resources to carry out their own plan. Select and use activities and resources, with help when needed. Use one-handed tools and equipment.</p>	<p>Cut Slice Chop Knife Apron</p>		
Key Vocabulary to be learned by the end of YN	Scissors, paper, pencil, long, short, big, small, heavy, light, cut, slice, chop, knife, apron				

Reception					
Term	Unit Name	Skills	Knowledge	Key Vocabulary to be taught	Visitor/trips links to other Year groups
Autumn 1					
Autumn 2					
Spring 1	Weaving shapes through the school fence (Materials – fine/gross motor skills)	<p>Design: Begin to use the language of designing and making (e.g. join, build, shape, longer, shorter, heavier) Learn about planning initial ideas to make them better.</p> <p>Make: Learn to construct with a purpose in mind (making a weaving shape for the school fence). Select the tools and techniques needed to weave a shape. Discuss how to make an activity safe. Record experiences by drawing, writing, voice recording etc.</p> <p>Evaluate: Begin to talk about changes made during the making process e.g. making a decision to use a different material. Adapt work if necessary. Talk about how things work. Look at similarities and differences between existing objects / materials / tools.</p> <p>DT prerequisite skills: Develop their own ideas and then decide which materials to use to express them. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used. Create closed shapes with continuous lines, and begin to use these shapes to represent objects.</p>	To know what different types of shapes there are and how to join materials together using weaving.	Weaving Shapes Material Fabric	Y1 – weaving a placemat

Summer 1	Healthy sandwich (Food for a picnic)	<p>Design: Begin to use the language of designing and making (e.g. combine) Learn about planning initial ideas to make them better.</p> <p>Make: Discuss how to make an activity safe and hygienic e.g. by washing hands, cleaning cutlery, how to cut safely.</p> <p>Evaluate: Begin to talk about changes made during the making process e.g. making a decision to use a different ingredient. Adapt work if necessary e.g. make a decision to use a different ingredient.</p> <p>Food: Begin to use the skills of spreading, chopping and combining. Use a range of small tools, including cutlery. Discuss use of senses. Begin to understand that eating well contributes to good health.</p>	To begin to know some of the tools, techniques and processes involved in food preparation. Children have basic hygiene awareness.	Spread Ingredient	Nursery – Fruit Kebab, Tomato and cucumber salad
Summer 2	Make a large castle (gross motor skills)	<p>Design: Begin to use the language of designing and making (e.g. join, build, shape, longer, shorter, heavier) Learn about planning initial ideas to make them better.</p> <p>Make: Learn to construct a large castle using recyclable materials (e.g. cardboard). Select the tools and techniques needed to construct a castle. Discuss how to make the castle safely. Record experiences by drawing, writing, voice recording etc.</p> <p>Evaluate: Begin to talk about changes made during the making process e.g. making a decision to use a different material. Adapt work if necessary.</p> <p>DT prerequisite skills: Use their core muscle strength to construct the castle. Use a range of small tools e.g. scissors and paintbrushes.</p>	To know what kind of materials would be suitable to build a large castle (e.g. cardboard, hard plastic).	Join Build Design Recycle	

		Share their creations, explaining the process they have used.			
Vocabulary to be learnt by end of Reception	Weaving, Material, Colours, Shapes, spread, ingredient, join, build, design, recycle				

Year 1					
Term	Unit Name	Skills	Knowledge	Key Vocabulary to be taught	Visitor/trips and links to other Year groups
Autumn 1	Houses and homes (Structures)	<p>Design: Use pictures and words to convey what they want to design/make. Propose an idea for their model structure. Use kits/reclaimed materials to develop an idea for their model structure. Select appropriate technique explaining: First... Next... Last.... Explore ideas by rearranging materials for the structure. Select pictures to help develop ideas. Use drawings to record ideas as they are developed. Add notes to drawings to help explanations. Describe their models and drawings of ideas and intentions.</p> <p>Make: Discuss their work as it progresses. Select materials from a limited range that will meet the design criteria such as card, paper, cardboard. Select and name the tools needed to work the materials. Assemble, join and combine 2D and 3D materials into a model. Explain what they are making and why.</p>	To know how to build a stable structure. To know the differences in materials and apply this knowledge to building a stable structure (learned in science – everyday materials).	Fold Join Hinge Stiffer/stiffen Structure	Making a large castle in Reception Purple Mash Unit 1.4 Lego builders

		<p>Explain which materials they are using and why. Name the tools they are using. Describe what they need to do next. Evaluate: Explore existing house model and investigate how they have been made. Decide how existing model homes do/do not achieve their purpose. Talk about their design as they develop and identify good and bad points. Note changes made during the making process as annotation to plans/drawings. Say what they like and do not like about items they have made and attempt to say why. Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user. Structures: Explore how to make structures stronger. Investigate different techniques for stiffening a variety of materials. Test different methods of enabling structures to remain stable. Use basic joining techniques for 3D modelling e.g. glue, tape. To make simple hinges (e.g. for a door by folding back a piece of cardboard). Mark out materials to be cut using a template. Use a glue gun with close supervision.</p>			
Autumn 2	Roasted winter vegetables (Food)	<p>Design: Use pictures and words to convey what they want to design/make. Propose more than one idea for their roasted winter vegetables. Select appropriate technique explaining: First... Next... Last....</p>	<p>To know where food comes from. To understand the need for a variety of foods in a diet. To know how to group familiar food products</p>	<p>Seasonality Peel Roast Slice</p>	<p>Reception – healthy sandwich</p>

		<p>Describe their drawings of ideas and intentions.</p> <p>Make: Discuss their work as it progresses. Select ingredients from a limited range that will meet the design criteria. Select and name the tools needed to work the ingredients (e.g. knife, baking tray, oven). Explain what they are making. Explain which ingredients they are using and why. Name the tools they are using. Describe what they need to do next.</p> <p>Evaluate: Say what they like and do not like about items they have made and attempt to say why. Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</p> <p>Food: To develop a food vocabulary using taste, smell, texture and feel. Cut, peel, grate, chop a range of ingredients safely and with support. Work safely and hygienically. Measure and weigh food items, non-statutory measures e.g. spoons and cups.</p>	<p>e.g. fruit and vegetables. To know that fruit and vegetables are healthy. To know where some foods come from (i.e. plant or animal).</p>		
Spring 1	Toy vehicles (Mechanisms)	<p>Design: Use pictures and words to convey what they want to design/make. Propose more than one idea for their toy vehicle. Select appropriate technique explaining: First... Next... Last.... Select pictures to help develop ideas. Use drawings to record ideas as they are developed. Describe their models and drawings of ideas and intentions.</p> <p>Make:</p>	<p>Children will know what makes a good toy and will use this knowledge to design their own toy using different materials. To begin to understand how to use wheels and axles.</p>	<p>Axle Dowel Wheel Glue gun</p>	

		<p>Discuss their work as it progresses. Select materials from a limited range that will meet the design criteria. Select and name the tools needed to work the materials. Explain what they are making. Explain which materials they are using and why. Name the tools they are using. Describe what they need to do next.</p> <p>Evaluate: Explore existing toy vehicles and investigate how they have been made. Talk about their design as they develop and identify good and bad points. Say what they like and do not like about items they have made and attempt to say why. Discuss how closely their finished toy vehicle meets their design criteria and how well it meets the needs of the user.</p> <p>Mechanisms: Join appropriately for different materials e.g. glue, tape, pegs. Try out different axle fixings and their strengths and weaknesses e.g. dowel, plastic, straws, pipe cleaners. Make vehicles with construction kits which contain free running wheels. Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels. Roll paper to create tubes. Attach wheels to a chassis using an axle. Use a hole punch.</p>			
Spring 2					
Summer 1	Paper woven place mats (Textiles)	<p>Design: Use pictures and words to convey how they want to design their place mat. Propose more than one idea for their place mat.</p>	To know that weaving is joining two materials together.	Woven Placemat	Reception – weaving shapes

	<p>Select appropriate technique explaining: First... Next... Last....</p> <p>Explore ideas for their place mat by rearranging materials. Select pictures to help develop ideas. Use drawings to record ideas as they are developed. Add notes to drawings to help explanations. Describe their drawings of ideas and intentions.</p> <p>Make:</p> <p>Discuss their work as it progresses. Select materials from a limited range that will meet the design criteria. Select and name the tools needed to work the materials. Explain what they are making. Explain which materials they are using and why. Name the tools they are using (e.g. scissors, glue). Describe what they need to do next.</p> <p>Evaluate:</p> <p>Explore existing woven materials. Talk about their design as they develop and identify good and bad points. Say what they like and do not like about their place mat and attempt to say why. Discuss how closely their finished place mat meets their design criteria and how well it meets the needs of the user.</p> <p>Textiles:</p> <p>Cut out straight lines to create the pieces of paper to be woven. Join fabrics by weaving.</p>			
Summer 2				
Vocabulary to be learnt by end Y1	Fold, join, hinge, stiffen, structure, seasonality, peel, roast, slice, axle, dowel, woven, placemat			

Year 2

Term	Unit Name	Skills	Knowledge	Key Vocabulary	Visitor/trip Links to other year groups
Autumn 1					
Autumn 2	Pop up Christmas Cards (Sliders and Levers – Mechanisms)	<p>Design: Use pictures and words to convey what they want to design/make. Propose more than one idea for their product. Select appropriate technique explaining: First... Next... Last.... Explore ideas for a Christmas card. Select pictures to help develop ideas. Use drawings to record ideas as they are developed. Add notes to drawings to help explanations. Describe their models and drawings of ideas and intentions.</p> <p>Make: Discuss their work as it progresses, explaining what they are making and why it fits the purpose. Select materials from a limited range that will meet the design criteria and explain why they have been chosen. Select and name the tools needed to work the materials such as scissors and glue. Explain what they are making and why. Explain which materials they are using to make the sliders/levers and why. Name the tools they are using and why. Describe what they need to do next. Use finishing techniques to make the product look good such as decorating the pop up character.</p> <p>Evaluate: Explore existing products and investigate how they have been made.</p>	<p>To know how to design purposeful, functional, appealing products for themselves and other users based on design criteria. To know how to evaluate existing products that use sliders and levers. To know which tool and equipment to use to perform practical tasks such as cutting, shaping, joining and finishing. To know how to evaluate their ideas and products against design criteria.</p>	Lever Slider	

		<p>Decide how existing products do/do not achieve their purpose. Talk about their design as they develop and identify good and bad points. Note changes made during the making process as annotation to plans/drawings. Say what they like and do not like about items they have made and say why. Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user. Talk about what they would do differently if they were to do it again and why.</p> <p>Mechanisms: Join appropriately for different materials e.g. glue, tape. Mark out materials to be cut using a template (e.g. in a penguin shape). Fold, tear and cut paper and card. Cut along lines, straight and curved. Use a hole punch. Insert paper fasteners for card. Experiment with levers and sliders to find different ways of making things move in a 2D plane.</p>			
Spring 1					
Spring 2	<p>Corn Beef Hash (Food) Create a meal for an explorer</p>	<p>Design: Use pictures and words to convey what they want to make. Propose more than one idea for their corned beef hash (e.g. using different types of vegetables). Select appropriate technique explaining: First... Next... Last.... Explore ideas by rearranging ingredients.</p> <p>Make: Discuss their work as it progresses, explaining what they are making and why it fits the purpose. Select ingredients from a limited range that will meet the design criteria and explain why they have been chosen.</p>	<p>To know how to evaluate existing long life food and consider where different foods come from. To know why eating a balanced diet is important to stay healthy (eat well plate) To know the properties of ingredients and</p>	<p>Mash Boil Grate</p>	<p>Y1 roasted vegetables</p>

		<p>Select and name the tools needed to work the ingredients such as a knife, grater. Explain what they are making and why. Explain which ingredients they are using and why. Name the tools they are using and why. Describe what they need to do next. Use finishing techniques to make the product look good. Evaluate: Talk about their design as they develop and identify good and bad points. Note changes made during the making process as annotation to plans/drawings. Say what they like and do not like about what they have made and say why. Discuss how closely their finished meal meets their design criteria and how well it meets the needs of the user (explorer). Talk about what they would do differently if they were to do it again and why. Food: To develop a food vocabulary using taste, smell, texture and feel. Cut, peel, grate, chop and boil a range of vegetables and prepare meat with increasing confidence. Work safely and hygienically. Measure and weigh food items, non-statutory measures e.g. spoons and cups.</p>	<p>importance of a varied diet. To know how to plan a meal for an explorer, including ingredients and tools needed. To know how to safely and hygienically prepare different types of food. To know where food comes from. To know what 'five a day' means.</p>		
Summer 1					
Summer 2	Sock puppets (Textiles)	<p>Design: Use pictures and words to convey what they want to design/make. Propose more than one idea for their product. Select appropriate technique explaining: First... Next... Last.... Explore ideas by rearranging materials.</p>	<p>To know how hair, eyes etc. are created using different materials. To know what makes a good design and use this to think of ideas, discuss and create</p>	Sew Needle Thread	Computing – 2design and make

		<p>Select pictures to help develop ideas. Use drawings to record ideas as they are developed. Add notes to drawings to help explanations. Describe their models and drawings of ideas and intentions. Begin to use Computer Aided Design (2 design and make on Purple Mash)</p> <p>Make: Discuss their work as it progresses, explaining what they are making and why it fits the purpose. Select materials from a limited range that will meet the design criteria and explain why they have been chosen. Select and name the tools needed to work the materials. Explain what they are making and why. Explain which materials they are using and why. Name the tools they are using and why. Describe what they need to do next. Use finishing techniques to make the product look good.</p> <p>Evaluate: Talk about their design as they develop and identify good and bad points. Note changes made during the making process as annotation to plans/drawings. Say what they like and do not like about decorations they have made for the sock puppet and say why. Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user. Talk about what they would do differently if they were to do it again and why.</p> <p>Textiles: Cut out shapes accurately which have been created by drawing round a template onto the sock puppet. Join fabrics by using glue, tape and sew on a button or other decoration. Decorate the sock puppet with attached items e.g. buttons, beads, sequins, braids, ribbons.</p>	<p>designs following design criteria. To know what sewing is and how to sew on a decoration.</p>		
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Vocabulary to be learnt by end Y2	Lever, slider, mash, boil, grate, fabric, joining, sew, needle, thread
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Year 3					
Term	Unit Name	Skills	Knowledge	Key vocabulary to be taught	Visitor/trips other opportunities
Autumn 1					
Autumn 2	Mechanisms Levers and Linkages - Moving picture book	<p>Design: Develop more than one linkage and lever mechanism or adaptation of an initial linkage and lever mechanism. Plan a sequence of actions to make a product. Record the plan by drawing using annotated sketches of their linkage and lever mechanism. Use prototypes to develop and share ideas. Think ahead about the order of their work and decide upon tools and materials/ingredients. Propose realistic suggestions as to how they can achieve their design ideas. Consider aesthetic qualities of materials chosen.</p> <p>Make: Prepare pattern pieces as templates for their design. Cut slots. Cut internal shapes. Practice making examples of different lever and linkage mechanisms. Select from a range of tools for cutting and finishing. Use tools with accuracy. Select from techniques for different parts of the process. Select from materials according to their functional properties. Plan the stages of the making process. Use appropriate finishing techniques. Use card from recycled packaging for children to experiment with (link with Courageous Advocacy).</p>	Know how to make a simple lever and linkage mechanism. To know the difference between a fixed pivot and a loose pivot.	Linkage Fixed pivot Loose pivot Mechanism	Year 1 – moving vehicles Year 2 – pop up Christmas cards Y4 – moving toy using cams

		<p>Evaluate: Investigate similar mechanisms to the one to be made to give starting points for a design. Draw/sketch products to help analyse and understand how products are made. Research needs of user. Identify the strengths and weaknesses of their design ideas in relation to purpose/user. Decide which design idea to develop. Consider and explain how the finished product could be improved. Discuss how well the finished product meets the design criteria of the user.</p> <p>Mechanisms: Develop vocabulary related to the project. Use linkages and levers to create a moving mechanism.</p>			
Spring 1					
Spring 2	Photo frames (Structures)	<p>Design: Develop more than one design or adaptation of an initial design. Plan a sequence of actions to make a product. Record the plan by drawing using annotated sketches. Think ahead about the order of their work and decide upon tools and materials. Propose realistic suggestions as to how they can achieve their design ideas.</p> <p>Make: Select from a range of tools for cutting shaping joining and finishing. Use tools with accuracy. Create a stand for the photo frame that will keep it stable. Select from techniques for different parts of the process. Select from materials according to their functional properties. Plan the stages of the making process. Use appropriate finishing techniques for their photo frames.</p> <p>Evaluate: Investigate similar photo frames to the one to be made to give</p>	<p>To know how to make a strong and stable structure. To know how to strengthen paper and card in different ways. To know what 1cm is and how to measure this using a ruler or tape measure.</p>	<p>Measure Mark 1cm</p>	<p>Y1 – House structures</p> <p>Y5 – Moon buggies, joining wood and using tools.</p> <p>Y6 – Bridges and Theatres. Free standing structures with electronics.</p>

		<p>starting points for a design. Research needs of user (what do they want the photo frame to be like?). Identify the strengths and weaknesses of their design ideas in relation to purpose/user. Decide which design idea to develop. Consider and explain how the finished photo frame could be improved. Discuss how well the finished photo frame meets the design criteria of the user.</p> <p>Structures: Develop vocabulary related to the project. Create frame structures and a stand to keep the frame upright. Strengthen frames with diagonal struts. Make structures more stable by giving them a wide base. Measure and mark square section, strip and dowel accurately to 1cm.</p>			
Summer 1					
Summer 2	<p>Money carriers (running stitch and oversewing)</p>	<p>Design: Develop more than one design or adaptation of an initial design. Plan a sequence of actions to make a product. Record the plan by drawing using annotated sketches. Think ahead about the order of their work and decide upon tools and materials. Propose realistic suggestions as to how they can achieve their design ideas. Consider aesthetic qualities of materials chosen.</p> <p>Make: Prepare pattern pieces as templates for their design. Select from a range of tools for cutting, shaping, joining and finishing. Use tools with accuracy. Select from techniques for different parts of the process. Select from materials according to their functional properties. Plan the stages of the making process.</p>	<p>To know how to perform a running stitch. To know about the different types of fastenings.</p>	<p>Fastenings - hook and eye, poppers, Velcro etc Running stitch Seam allowance</p>	<p>Y1 – weaving placemats Y2 – sock puppets Y5 – Christmas stockings (progression through stitch types)</p> <p>Y2 Purple mash unit 2.6 – Creating pictures</p>

	<p>Use appropriate finishing techniques such as decorating the money carrier.</p> <p>Evaluate: Investigate similar money carriers to the one to be made to give starting points for a design. Research needs of user. Identify the strengths and weaknesses of their design ideas in relation to purpose/user. Decide which design idea to develop. Consider and explain how the finished product could be improved. Discuss how well the finished product meets the design criteria of the user.</p> <p>Textiles: Develop vocabulary for tools materials and their properties. Understand seam allowance. Join fabrics using a running stitch. Explore fastenings such as inventors, hook and eye, and recreate some. Use appropriate decoration techniques.</p>			
Vocabulary to be learnt by end Y3	Linkage, fixed pivot, loose pivot, mechanism, measure, mark, 1cm, fabric, seam allowance, fastenings, running stitch			

Year 4					
Term	Unit Name	Skills	Knowledge	Key vocabulary to be taught	Visitor/trips and other opportunities
Autumn 2	Moving mechanical toy (Cams)	<p>Design: Develop more than one design or adaptation of an initial design. Plan a sequence of actions to make a product. Record the plan by drawing using annotated sketches. Begin to use an exploded diagram. Use prototypes to develop and share ideas.</p>	<p>To know how a cams mechanism works. To know that a cam will change rotary motion into linear motion.</p>	<p>Cams Rotary Linear</p>	<p>Y1 – moving vehicles Y3 – levers and linkages</p>

		<p>Think ahead about the order of their work and decide upon tools and materials. Propose realistic suggestions as to how they can achieve their design ideas. Consider aesthetic qualities of materials chosen. Make: Prepare pattern pieces as templates for their design. Cut slots. Cut internal shapes. Select from a range of tools for cutting, shaping, joining and finishing. Use tools with accuracy. Select from techniques for different parts of the process. Select from materials according to their functional properties. Plan the stages of the making process. Use appropriate finishing techniques. Evaluate: Investigate similar mechanical toys to the one to be made to give starting points for a design. Draw/sketch products to help analyse and understand how products are made. Research needs of user. Identify the strengths and weaknesses of their design ideas in relation to purpose/user. Decide which design idea to develop. Consider and explain how the finished product could be improved. Discuss how well the finished product meets the design criteria of the user. Mechanisms and Electrical Systems and ICT: Develop vocabulary related to the project. Use a cams mechanism to create a linear movement. Describe how a wooden mechanical toy works by using a cam.</p>	<p>To know that different shaped cams produce different movements.</p>		<p>Y6 – Moving mechanics with rotating part and Crumble (Theatre)</p>
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Spring 1	Electrical systems (Board games)	<p>Design: Develop more than one design or adaptation of an initial design. Plan a sequence of actions to make a product. Record the plan by drawing using annotated sketches. Begin to use exploded diagrams. Use prototypes to develop and share ideas. Think ahead about the order of their work and decide upon tools and materials. Propose realistic suggestions as to how they can achieve their design ideas. Begin to use Crumble (Computer Aided Design) to build a circuit.</p> <p>Make: Use tools with accuracy. Select from techniques for different parts of the process. Select from materials according to their functional properties. Plan the stages of the making process. Use appropriate finishing techniques for their board game.</p> <p>Evaluate: Investigate similar board games (e.g. Operation) to the one to be made to give starting points for a design. Draw/sketch products to help analyse and understand how products are made. Research needs of user. Identify the strengths and weaknesses of their design ideas in relation to purpose/user. Decide which design idea to develop. Consider and explain how the finished product could be improved. Discuss how well the finished product meets the design criteria of the user. Investigate key events and individuals in Design and Technology (e.g. James Dyson).</p> <p>Electrical Systems: Develop vocabulary related to the project.</p>	<p>To know the different types of board games that use electrical systems. To know how to use a simple circuit in a model. To know and use electrical systems in products such as switches, bulbs and buzzers. To know how to incorporate a circuit into a model.</p>	<p>Circuit Wire Switch Buzzer Bulb</p>	<p>Properties of materials (KS1) James Dyson</p> <p>Y6 – moving mechanics using Crumble to control lights</p>
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		Make a simple circuit, Incorporating a battery, light bulb, different switches and connecting wires.			
Spring 2					
Summer 1	Bread without yeast and houmous (Greek food)	<p>Design: Plan a sequence of actions to make a product. Think ahead about the order of their work and decide upon tools and ingredients. Design bread with different shapes and finishes.</p> <p>Make: Use tools with accuracy. Select from techniques for different parts of the process. Select from ingredients according to the recipe. Plan the stages of the making process.</p> <p>Evaluate: Investigate similar bread to the one to be made to give starting points for a design. Decide which design idea to develop. Consider and explain how the finished product could be improved. Investigate key events and individuals in Design and Technology (Jamie Oliver, Paul Hollywood, etc)</p> <p>Food: Develop sensory vocabulary/knowledge using smell, taste, texture and feel. Analyse the taste, texture, smell and appearance of a range of savoury foods. To develop the skills needed to make bread (weighing, cutting, kneading and baking) as well as to make houmous (mashing and blending). Follow instructions/recipes. Join and combine a range of ingredients. Find out which vegetables are grown in countries/continents studied in Geography (vegetables being used in the houmous).</p>	To know about the different types of bread and how to make houmous. To know the different types of flavourings that can be added to bread. To know how to make bread.	Savoury Measure Weigh Dough Knead Blend Combine	Y6 – flavoured bread with yeast
Summer 2					

Vocabulary to be learnt by end Y4	Cams, rotary, linear, circuit, wire, switch, buzzer, bulb, savoury, knead, dough, weigh, blend, combine
Other opportunities	Warburtons bakers – sandwich making workshop. Visit from nutritionist Lego workshop (electrical systems)

Year 5					
Term	Unit Name	Skills	Knowledge	Key vocabulary	Visitor/trips and other opportunities
Autumn 1	Ration food (Wartime cake recipes) Extra unit	<p>Design: List tools needed before starting the activity. Plan a recipe. Devise step by step plans which can be read / followed by someone else (recipe)</p> <p>Make: Use researched information to inform decisions. Produce detailed lists of ingredients and tools. Select from and use a wide range of tools and materials. Use appropriate finishing techniques for the project (e.g. decorating) Refine their product – review and rework/improve by tasting or checking texture.</p> <p>Evaluate: Give a report using correct technical vocabulary. Consider and explain how the finished product could be improved related to the ingredients used.</p> <p>Food: Prepare food products, taking into account the properties of ingredients and sensory characteristics. Weigh and measure using scales. Select and prepare foods for a particular purpose.</p>	<p>To know what types of food were rationed during the war and what/how much food was available for each family.</p> <p>To know the different types of ingredients needed to make a Wartime cake (no egg, no milk, no butter).</p>	Ration Bake Beat Test Dry ingredients Wet ingredients	Y4 – bread (no yeast) with houmous

		<p>Work safely and hygienically. Use a range of cooking techniques. Know where and how ingredients are processed.</p>			
Autumn 2	<p>Christmas stockings (Textiles – blanket stitch, cross stitch, back stitch)</p>	<p>Design: List tools needed before starting the activity. Plan the sequence of work e.g. using a storyboard. Record ideas using annotated diagrams. Combine modelling and drawing to refine ideas. Devise step by step plans which can be read / followed by someone else. Sketch and model alternative ideas. Decide which design idea to develop.</p> <p>Make: Develop one idea in depth. Use researched information to inform decisions. Produce detailed lists of ingredients / components / materials and tools. Select from and use a wide range of tools. Cut accurately and safely to a marked line. Select from and use a wide range of materials e.g. felt, thread. Use appropriate finishing techniques for the project. Refine their product – review and rework/improve.</p> <p>Evaluate: Research and evaluate existing products (including book and web based research). Consider user and purpose (make a Christmas stocking for a family member) Identify the strengths and weaknesses of their design ideas. Give a report using correct technical vocabulary. Consider and explain how the finished product could be improved related to design criteria. Discuss how well the finished product meets the design criteria of the user. Test on the user!</p> <p>Textiles: Use the correct vocabulary appropriate to the project.</p>	<p>To know what a Christmas stocking generally looks like and the different types of material used to make one. To know the different techniques used to make a Christmas stocking. To know how to perform a blanket stitch, cross stitch and back stitch.</p>	<p>Chain stitch Back stitch Blanket stitch</p>	

		<p>Create 3D products using patterns pieces and seam allowance. Understand pattern layout. Decorate textiles appropriately (often before joining components). Pin and tack fabric pieces together. Join fabrics using chain stitch, back stitch and blanket stitch (closer supervision). Combine fabrics to create more useful properties. Make quality products.</p>			
Spring 1	Moon buggies (Rubber band powered)	<p>Design: List tools needed before starting the activity. Plan the sequence of work e.g. using a storyboard. Record ideas using annotated diagrams. Use models, kits and drawings to help formulate design ideas. Combine modelling and drawing to refine ideas. Devise step by step plans which can be read / followed by someone else. Use exploded diagrams to communicate ideas. Sketch and model alternative ideas. Decide which design idea to develop.</p> <p>Make: Make prototypes. Develop one idea in depth. Use researched information to inform decisions. Produce detailed lists of ingredients / components / materials and tools. Select from and use a wide range of tools such as a saw. Cut accurately and safely to a marked line. Select from and use a wide range of materials. Use appropriate finishing techniques for the project. Refine their product – review and rework/improve.</p> <p>Evaluate: Research and evaluate existing products (including book and web based research). Consider user and purpose. Identify the strengths and weaknesses of their design ideas.</p>	<p>To know what a moon buggy is and what its purpose is. To know how to fix an elastic band on to the moon buggy so that it can move. To know how a rubber band can be used to create a movement.</p>	<p>Saw Bradawl Square section 1mm</p>	<p>Links to space topic Y1 – toy vehicles, house structures Y3 – photo frames Y6 – bridges 2Design and Make Unit 5.6 3D Modelling</p>

		<p>Give a report using correct technical vocabulary. Consider and explain how the finished product could be improved related to design criteria. Discuss how well the finished product meets the design criteria of the user. Test on the user! Understand how key people have influenced design.</p> <p>Structures Use the correct terminology for tools materials and processes. Use bradawl to mark hole positions. Use hand drill to drill tight and loose fit holes. Cut strip wood, dowel, square section wood accurately to 1mm. Join materials using appropriate methods. Build frameworks to support mechanisms. Stiffen and reinforce complex structures.</p>			
Spring 2					
Summer 1	<p>Healthy Brazilian stew (incorporating different types of beans)</p>	<p>Design Adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. Writing an amended method or a recipe to incorporate the relevant changes to ingredients which can be followed by someone else. Sketch and model alternative ideas. List tools needed before starting the activity. Record ideas using annotated diagrams. Devise step by step plans which can be read / followed by someone else. Decide which design idea to develop.</p> <p>Make Peeling, cutting and preparing vegetables safely Using equipment safely, including knives, hot pans and hobs Knowing how to avoid cross contamination. Follow a step by step method carefully.</p> <p>Evaluate: Consider user and purpose.</p>	<p>Understand and apply the principles of a healthy and varied diet when designing the Brazilian stew. Understand what seasonality means and know where and how a variety of ingredients are grown, reared, caught and processed. Know the different types of beans available and which would</p>	<p>Fry Simmer Soak (dried beans)</p>	<p>Y2 – corned beef hash Y4 – bread with houmous Y6 – flavoured bread with yeast Links with science (healthy eating)</p>

	<p>Identify the strengths and weaknesses of their design ideas. Give a report using correct technical vocabulary. Consider and explain how the finished product could be improved related to design criteria. Discuss how well the finished product meets the design criteria of the user. Test on the user!</p> <p>Food: Prepare food products taking into account the properties of ingredients and sensory characteristics. Weigh and measure using scales. Select and prepare foods for a particular purpose. Work safely and hygienically. Show awareness of a healthy diet (using the Eatwell plate). Use a range of cooking techniques. Know where and how ingredients are grown and processed. Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc</p>	be best for a Brazilian stew.		
Summer 2				
Vocabulary to be learnt by end Y5	Ration, bake, beat, test, dry ingredients, wet ingredients, fry, simmer, soak, saw, bradawl, square section, 1mm, chain stitch, back stitch, blanket stitch			
Other opportunities				

Year 6					
Term	Unit Name	Skills	Knowledge	Key vocabulary	Visitor/trips and other opportunities
Autumn 1					
Autumn 2	Moving mechanics (The Theatre)	<p>Design: List tools needed before starting the activity. Plan the sequence of work e.g. using a storyboard.</p>	To know what types of products	Rotate Circuit	Y4 Playground games

		<p>Record ideas using annotated diagrams. Combine modelling and drawing to refine ideas. Devise step by step plans which can be read / followed by someone else. Use exploded diagrams to communicate ideas. Sketch and model alternative ideas. Decide which design idea to develop. To design a mechanism for a stage curtain with a rotating part, using an exploded diagram to show this. To investigate ways of making a framework for a theatre stage and moving curtains.</p> <p>Make: Make prototypes. Develop one idea in depth. Use researched information to inform decisions. Produce detailed lists of ingredients / components / materials and tools. Use a computer to model ideas. Select from and use a wide range of tools. Cut accurately and safely to a marked line. Select from and use a wide range of materials. Use appropriate finishing techniques for the project. Refine their product – review and rework/improve. To make a mechanism for a moving curtain following the design in the exploded diagram.</p> <p>Evaluate: Research and evaluate existing products (including book and web based research). Consider user and purpose. Identify the strengths and weaknesses of their design ideas. Give a report using correct technical vocabulary. Consider and explain how the finished product could be improved related to design criteria. Discuss how well the finished product meets the design criteria of the user. Test on the user!</p>	<p>use rotating parts. To know how a motor works to make a mechanism move. To know the design criteria for a theatre stage and moving curtains.</p>	<p>Electrical Motor Control Exploded diagram</p>	<p>Y5 Purple mash unit 5.6 3D modelling</p> <p>Y6 Purple mash unit 6.1 coding</p>
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		<p>Understand how key people have influenced design.</p> <p>Mechanical and Electrical Systems and ICT (Programming)</p> <p>Develop a technical vocabulary (see vocab list).</p> <p>Use a motor to create a rotating part.</p> <p>Program, monitor and control stage lights for the theatre using Crumble.</p>			
Spring 1	Flavoured bread (with yeast)	<p>Design:</p> <p>List tools and equipment needed before starting the bread making.</p> <p>Plan the sequence of work e.g. using a storyboard.</p> <p>Record ideas using annotated diagrams.</p> <p>Devise a recipe which can be read / followed by someone else.</p> <p>Sketch and model alternative ideas for their bread design along with some packaging.</p> <p>Decide which design idea to develop.</p> <p>Make:</p> <p>Make prototypes based on research.</p> <p>Develop one idea in depth.</p> <p>Use researched information to inform decisions.</p> <p>Produce detailed lists of ingredients / components / materials and tools.</p> <p>Select from and use a wide range of tools.</p> <p>Select from and use a wide range of ingredients.</p> <p>Use appropriate finishing techniques for the project (e.g. seasoning, adding cheese, etc).</p> <p>Refine their product – review and rework/improve.</p> <p>Evaluate:</p> <p>Research and evaluate existing bread designs (including book and web based research).</p> <p>Consider user and purpose.</p> <p>Identify the strengths and weaknesses of their design ideas.</p> <p>Give a report using correct technical vocabulary.</p> <p>Consider and explain how the finished product could be improved related to design criteria.</p> <p>Discuss how well the finished product meets the design criteria of the user. Test on the user!</p>	<p>To know the different types of bread roll and packaging designs.</p> <p>To know how to prepare and bake bread.</p>	<p>Yeast</p> <p>Prove</p>	<p>Y4 - Flat bread</p> <p>Y5 – Wartime cake</p>

		<p>Understand how key people have influenced design of bread.</p> <p>Food: Prepare and bake flavoured bread for consumer feedback, developing the skills needed such as kneading, measuring, proving and baking. Weigh and measure using scales. Select and prepare foods for a particular purpose. Work safely and hygienically. Develop understanding of a healthy diet (using the Eatwell plate) and apply in their ingredient choices. Use a range of cooking techniques. Join and combine a widening range of ingredients. Know where and how ingredients are grown and processed. Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.</p>			
Spring 2					
Summer 1					
Summer 2	<p>Bridges (Structures) Make a bridge that has an opening/closing mechanism</p>	<p>Design: List tools needed before starting the activity. Plan the sequence of work e.g. using a storyboard. Record ideas using annotated diagrams. Use models, kits and drawings to help formulate design ideas. Combine modelling and drawing to refine ideas. Devise step by step plans which can be read / followed by someone else. Use an exploded diagrams to communicate ideas. Sketch and model alternative ideas. Decide which design idea to develop. Use Computer Aided Design (Purple Mash).</p> <p>Make: Develop one idea in depth. Use researched information about different types of bridges to inform decisions. Produce detailed lists of ingredients / components / materials and tools.</p>	<p>To know that there are many different types of bridges such as n arch, beam, suspension and truss.</p> <p>To know the different parts of a bridge.</p> <p>To know what makes bridges strong.</p>	<p>Pillar Beam Span Truss Suspension Arch</p>	<p>Y3 – Photo frames (cardboard) Y5 – moon buggies Y5 Purple mash unit 5.6 3D modelling Y6 Purple mash unit 6.1 coding</p>

		<p>Use a computer to model ideas of how they could build a bridge. Select from and use a wide range of tools such as a hand drill, hacksaw and bradawl. Select from and use a wide range of materials. Use appropriate finishing techniques for the project. Refine their product – review and rework/improve.</p> <p>Evaluate: Research and evaluate existing structures (including book and web based research). Consider user and purpose. Identify the strengths and weaknesses of their design ideas. Give a report using correct technical vocabulary. Consider and explain how the finished product could be improved related to design criteria. Discuss how well the finished product meets the design criteria of the user. Test on the user! Understand how key people have influenced design of bridges (e.g. Brunel)</p> <p>Structures: Use the correct terminology for tools materials and processes. Use bradawl to mark hole positions. Use hand drill to drill tight and loose fit holes. Cut strip wood, dowel, square section wood accurately to 1mm. Join materials using appropriate methods. Build frameworks to support mechanisms. Stiffen and reinforce complex structures.</p> <p>Mechanisms Use mechanical systems such as cams, pulleys and gears to make part of the bridge open and close.</p>			
Vocabulary to be learnt by end Y6	Mechanism, rotation, circuit, electrical, axle, motor, control, exploded diagram, yeast, prove, pillar, beam, span, truss, suspension, arch				
Other opportunities	Science – create working beaks using levers				

DT Impact

- Children will work independently and as part of a team solve problems.
- Children will be able to work safely with tools.
- Children will ultimately know more, remember more and understand more about Design Technology, and will be able to apply this to other curriculum areas.
- The large majority of children will achieve age related expectations in Design Technology.
- As designers children will develop skills and attributes they can use beyond school and into adulthood.
- Feedback from children was taken on board to include more cooking opportunities, therefore children will further develop their ability to prepare and cook different types of food.