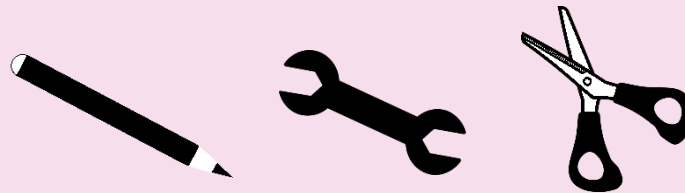




Meole Brace
C of E Primary School and Nursery

Design & Technology Subject Handbook



Our vision and rationale for Design and Technology

Design and technology is a valued part of our curriculum at Meole Brace Primary School where pupils can explore and evaluate existing products, and design, create and evaluate a product they have made.

Our Design and Technology curriculum allows our children to develop our three core values of **perseverance**, **respect** and **community** whilst engaging, inspiring and challenging our pupils.

Throughout the year groups children learn the knowledge, understanding and skills needed to engage in an iterative process of designing and creating, through a variety of practical and creative activities. Children build upon their structural knowledge and learn useful life skills alongside creating a variety of products designed for the home, school, local community, and industries in the wider environment. Our Design and Technology curriculums hangs upon the skill of evaluation which is first done to existing products and later on their own product which they have created.

Children are taught a range of techniques from cutting and preparing Cooking and nutrition to using cams to make mechanisms. We have a clear progression throughout Design and Technology in the school with many of the subject areas appearing in multiple year groups. For example, in Year One we make a fruit salad with the main focus being the design, in Year Two we make a Pizza with the main focus being tools and equipment usage, and by Year 6 children create their own bread with the focus being on the selection of ingredients.

Through collaborative discussions about their work children are encouraged to form evaluative opinions that are also **respectful**. Work is celebrated across the school and with the wider community through local festivals, art week, and after school clubs.

Our children are able to have opportunities to work collaboratively with their peers and with the wider **community** through links with local secondary schools.



Community



Respect



Perseverance

Curriculum Subject Leader



Mrs Helena Mason

National Curriculum Progression for Design and Technology

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Design</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make</p> <ul style="list-style-type: none"> select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> build structures, exploring how they can be made stronger, stiffer and more stable explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes understand where Cooking and nutrition comes from. 		<p>Design</p> <ul style="list-style-type: none"> use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p>Evaluate</p> <ul style="list-style-type: none"> investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work understand how key events and individuals in design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> understand and apply the principles of a healthy and varied diet prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. 			



Design and Technology Progression of knowledge



		Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Concepts and Themes								
Design	Core Knowledge	<p>In EYFS we: Think of ideas.</p> <p>Communicate ideas and plans through talk and drawing.</p> <p>Plan and make decisions about how to approach a task.</p>	<p>I know how to design purposeful, functional, appealing products for myself, and other users based on design criteria.</p> <p>I know how to generate, develop, model, and communicate my ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p>	<p>I know how to design purposeful, functional, appealing products for myself, and other users based on design criteria</p> <p>I know how to generate, develop, model, and communicate my ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p>	<p>I know how to develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at individuals or groups</p> <p>I know how to generate my ideas with growing confidence for an item considering its purpose and users.</p> <p>I know how to label drawings when designing and planning, showing materials and components.</p> <p>I know I can learn about inventors, designers, engineers who have developed groundbreaking products.</p>	<p>I know how to develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at individuals or groups</p> <p>I know how to generate products with confidence for an item considering its purpose and users.</p> <p>I know how to annotate labelled drawings when designing and planning, showing materials and components.</p> <p>I know I can learn about inventors, designers, engineers who have developed groundbreaking products.</p>	<p>I know to use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, aimed at individuals or groups</p> <p>I know how to generate, develop, model, and communicate my ideas through discussion, annotated sketches and pattern pieces.</p> <p>I know how to annotate labelled drawings when designing and planning, showing materials and components.</p> <p>I know I can learn about inventors, designers, engineers who have developed groundbreaking products</p>	<p>I know to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at individuals or groups</p> <p>I know how to generate, develop, model, and communicate my ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	
	Vocabulary	Design, texture, purpose, build, plan, measure, design, join.	Design, appealing, products, communicate, ideas, plan	Design, appealing, products, communicate, ideas, plan	Design, appealing, products, communicate, ideas, plan, purpose, users, label, materials, inventors, designers, engineers	Design, appealing, products, communicate, ideas, plan, purpose, users, label, materials, inventors, designers, engineers	Design, functional, appealing, communicate, ideas, annotate, plan, materials, inventors, designers, engineers, products,	Design, functional, appealing, communicate, ideas, annotate, plan, materials, inventors, designers, engineers, products, fit for purpose, diagrams	

Make	Core Knowledge	<p>In EYFS we: Practice using tools such as scissors, glue, and a hole punch.</p> <p>Develop skills of weaving with paper, string, and wool.</p> <p>Handle equipment and tools effectively.</p> <p>Safely use and explore a variety of materials, tools, and techniques, experimenting with colour, design, texture, form and function.</p> <p>Handle equipment and tools effectively.</p> <p>Safely use and explore a variety of materials, tools, and techniques, experimenting with colour, design, texture, form and function.</p> <p>Build and construct with a wide range of objects, selecting appropriate resources.</p>	<p>I know how to select from and use a range of tools and equipment to perform practical tasks.</p> <p>I know how to select from and use a range of materials and components, including construction materials and ingredients, according to their characteristics</p>	<p>I know how to select from and use a range of tools and equipment to perform practical tasks</p> <p>I know how to select from and use a wide range of materials and components, including construction materials, textiles, and ingredients, according to their characteristics</p>	<p>I know how to select from range of tools and equipment to perform practical tasks</p> <p>I know how to select from and use a broader range of materials and components, including construction materials, textiles, and ingredients, according to their functional properties and aesthetic qualities.</p>	<p>I know how to select from range of tools and equipment to perform practical tasks</p> <p>I know how to select from and use a limited range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</p>	<p>I know how to select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining, and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles, and ingredients, according to their functional properties and aesthetic qualities</p>	<p>I know how to select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining, and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles, and ingredients, according to their functional properties and aesthetic qualities</p>
	Vocabulary	<p>Tools, scissors, glue, cut, stick, weave, fabric, material, safely, colour, design, texture, purpose, build, plan, measure, design, join.</p>	<p>Tools, equipment, craft knives, glue guns, scissors, cut, stick, materials, design, texture, material, assemble, model, mechanism, template, test.</p>	<p>Tools, equipment, craft knives, glue guns, scissors, cut, stick, materials, stitch, sew, decorate, stencil, template, fabric, hand puppet, mechanism, motion, running stitch, shape</p>	<p>Tools, equipment, craft knives, glue guns, scissors, cut, stick, materials, stitch, sew, applique, running-stitch, seam, stencil, 2D shapes, 3D shapes, design criteria, feature, bridge, arched bridge, beam bridge</p>	<p>Tools, equipment, assemble, mock-up, running stitch, template, target-audience, function, applique,</p>	<p>Caption, design, design criteria, function, mechanism, prototype, structure, accurate, annotate, fabric, sew, shape, template, air resistance, chassis,</p>	<p>Caption, design, design criteria, function, mechanism, prototype, structure, accurate, annotate, fabric, sew, shape, template, battery, component, conductor, motor,</p>
Evaluate	Core Knowledge	<p>In EYFS we: Check how well our activities are going.</p>	<p>I know how to explore and evaluate a range of existing products</p> <p>I know how to</p>	<p>I know how to explore and evaluate a range of existing products</p> <p>I know how to evaluate</p>	<p>I know how to investigate and analyse a range of existing products</p> <p>I know how to evaluate</p>	<p>I know how to investigate and analyse a range of existing products</p> <p>I know how to evaluate</p>	<p>I know how to investigate and analyse a range of existing products</p>	<p>I know how to investigate and analyse a range of existing products</p>

		Adapt our work when necessary. Review how well my approach worked. Evaluate my own and others work verbally.	evaluate my ideas and products against design criteria	ideas and products against design criteria	my ideas and products against my own design criteria and consider the views of others to improve their work I know how key events and individuals in design and technology have helped shape the world	my ideas and products against my own design criteria and consider the views of others to improve their work I know and understand key events and individuals in design and technology have helped shape the world	I know how to evaluate my ideas and products against their own design criteria to improve my work I know and understand how key events and individuals in design and technology have helped shape the world	I know how to evaluate their ideas and products against their own design criteria and consider the views of others to improve their work I know and understand how key events and individuals in design and technology have helped shape the world
	Vocabulary	Evaluate, product, ideas	Evaluate, product, ideas, improve	Evaluate, product, ideas, improve	Evaluate, product, ideas, improve, investigate, analyse, views of others	Evaluate, product, ideas, improve, investigate, analyse, views of others	Evaluate, product, ideas, improve, investigate, analyse, views of others	Evaluate, product, ideas, improve, investigate, analyse, views of others
Technical knowledge	Core Knowledge	In EYFS we: Design and build structures, which we can adapt to make stronger.	I know how to build structures, exploring how they can be made stronger, stiffer and more stable I know how to explore and use mechanisms (for example, different types of hinges), in their products.	I know how to build structures, exploring how they can be made stronger, stiffer and more stable. I know how to explore and use mechanisms [for example, levers, sliders, wheels and axles], in my products.	I know how to apply my understanding of how to strengthen, stiffen and reinforce structures I know how to and can use mechanical systems in my products [for example, gears, pulleys, cams, levers and linkages]	I know how to apply my understanding of how to strengthen, stiffen and reinforce structures I know how to and can use mechanical systems in my products [for example, gears, pulleys, cams, levers and linkages]	I know how to apply my understanding of how to strengthen, stiffen and reinforce more complex structures I know and understand what suitable ingredients are to promote a healthy, balanced diet.	I know how to apply my understanding of how to strengthen, stiffen and reinforce more complex structures I know how to use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] I know what electrical systems are in my products I know how to apply my understanding of computing to program, monitor and control my products
	Vocabulary	Rebuild, adapt, stronger	Stronger, stiffer, stable, levers, sliders, wheels, axes	Stronger, stiffer, stable, levers, sliders, wheels, axes	Strengthen, stiffen, reinforce, gears, pulleys, cams, levers, linkages, series circuits, switches, buzzers, bulbs, motors, program, monitor, control products.	Strengthen, stiffen, reinforce, gears, pulleys, cams, levers, linkages, series circuits, switches, buzzers, bulbs, motors, program, monitor, control products.	Strengthen, stiffen, reinforce, gears, pulleys, cams, levers, linkages, series circuits, switches, buzzers, bulbs, motors,	Strengthen, stiffen, reinforce, gears, pulleys, cams, levers, linkages, series circuits, switches, buzzers, bulbs, motors,

							program, monitor, control products.	program, monitor, control products.
Cooking and nutrition	Core Knowledge	In EYFS we: Practise stirring, mixing, pouring and blending ingredients during cookery activities. Handle equipment and tools effectively Observe changes.	I know the basic principles of a healthy and varied diet to prepare dishes I know and understand where Cooking and nutrition comes from.	I know and understand the basic principles of a healthy and varied diet to prepare dishes I know where Cooking and nutrition comes from.	I know how to apply the principles of a healthy and varied diet to prepare and cook a variety of dishes. I know how to use a range of cooking techniques. I know where and how a variety of ingredients are grown, reared, caught and processed.	I know how to apply the principles of a healthy and varied diet to prepare and cook a variety of dishes. I know how to use a range of cooking techniques. I know about seasonality and which Cooking and nutrition are best during each season. I know where and how a variety of ingredients are grown, reared, caught and processed.		I know how to apply the principles of a healthy and varied diet to prepare and cook a variety of dishes. I know how to use a range of cooking techniques. I know about seasonality and which food is best during each season. I know where and how a variety of ingredients are grown, reared, caught and processed.
		Mix, pour, blend, ingredients, cook, bake, bowl, spoon, knife, chopping board, healthy, unhealthy, sweet, savoury.	Mix, pour, blend, ingredients, cook, bake, bowl, spoon, knife, chopping board, healthy, unhealthy, sweet, savoury, varied diet,	Mix, pour, blend, ingredients, cook, bake, bowl, spoon, knife, chopping board, healthy, unhealthy, sweet, savoury, varied diet,	Mix, pour, blend, ingredients, cook, bake, boil, roast, bowl, spoon, knife, chopping board, healthy, unhealthy, sweet, savoury, varied diet, seasonality, grown, reared, caught, processed.	Mix, pour, blend, ingredients, cook, bake, boil, roast, bowl, spoon, knife, chopping board, healthy, unhealthy, sweet, savoury, varied diet, seasonality, grown, reared, caught, processed.	Mix, pour, blend, ingredients, cook, bake, boil, roast, bowl, spoon, knife, chopping board, healthy, unhealthy, sweet, savoury, varied diet, seasonality, grown, reared, caught, processed.	Mix, pour, blend, ingredients, cook, bake, boil, roast, bowl, spoon, knife, chopping board, healthy, unhealthy, sweet, savoury, varied diet, seasonality, grown, reared, caught, processed.

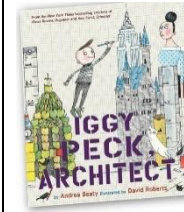
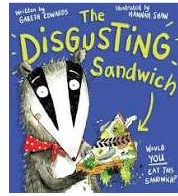
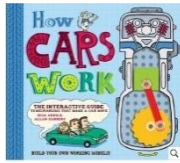
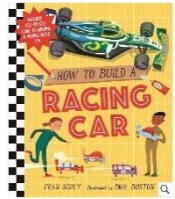
Design and Technology Unit Coverage

	Autumn Term	Spring Term	Summer Term
Year R	<ul style="list-style-type: none"> Textiles - Sea creature representations 	<ul style="list-style-type: none"> Textiles - Exploring textures with tools 	<ul style="list-style-type: none"> Structures - building castles with flat and solid shapes
Year 1	<ul style="list-style-type: none"> Cooking and Nutrition – Making a Fruit Salad 	<ul style="list-style-type: none"> Mechanisms – Castle drawbridge / trap door 	<ul style="list-style-type: none"> Structures – make a gnome or fairy home
Year 2	<ul style="list-style-type: none"> Mechanisms – Moving Christmas card – wheels, levers and sliders 	<ul style="list-style-type: none"> Cooking and nutrition – Preparing fruit and vegetables for a healthy pizza 	<ul style="list-style-type: none"> Textiles – joining fabric to create a pirate puppet
Year 3	<ul style="list-style-type: none"> Mechanisms – making a moving vehicle 	<ul style="list-style-type: none"> Cooking and nutrition – Making a healthy sandwich 	<ul style="list-style-type: none"> Structures – Bridges and aqueducts
Year 4	<ul style="list-style-type: none"> Mechanisms – cam mechanisms to make a moving volcano 	<ul style="list-style-type: none"> Cooking and nutrition – Tudor biscuits 	<ul style="list-style-type: none"> Textiles – sewing and needlework to make a bag for a Rainforest explorer
Year 5	<ul style="list-style-type: none"> Structures – Make a Saxon shelter 	<ul style="list-style-type: none"> Mechanism – make a vehicle with linked wheels 	<ul style="list-style-type: none"> Cooking and nutrition – Making flatbread and design a healthy Greek salad
Year 6	<ul style="list-style-type: none"> Cooking and Nutrition – Making bread 	<ul style="list-style-type: none"> Textiles - Recycled materials to make a pencil case 	<ul style="list-style-type: none"> Mechanisms – Electrical control to make a vehicle

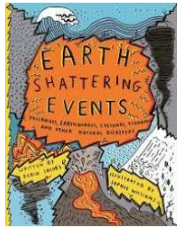
Curriculum Reading

	Autumn Term	Spring Term	Summer Term
EYFS	  		 
Year 1	  	 	
Year 2		  	  

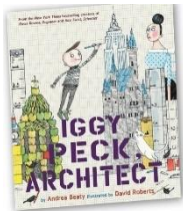
Year 3



Year 4



Year 5



Year 6

