

**INTENT****Design and Technology Curriculum Year A: Planning, Progress and Long-Term Knowledge Growth**

YEAR 3/4	Substantive Design and Technology content	Recurring substantive themes, ideas and language (Key Concepts)	Subject rationale: Supporting pupils' wider design and technology curriculum journey	Basic disciplinary training in design and technology
<b>Autumn Term</b>	<p><b>Designing</b> Can 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.</p> <p>Is able to generate, develop, model and communicate their ideas through discussion and annotated sketches.</p>	<p><u>Pneumatics – moving animals</u></p> <p>Throughout this term, children will research Stone Age tools which links to our quest work in History. They will also find out about pneumatics and make a moving animal.</p> <p>Energy produced by pneumatic systems can be more flexible, less costly, more reliable and less dangerous than some actuators and electric motors.</p>	<p>Building on prior learning of Moving Toys and Moving Pictures as taught in KS1, children will explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose.</p> <p>This unit of work enhances the Year 3 and 4 Science curriculum on animals.</p>	<p>Communicate ideas</p> <p>Evaluate the final product with reference back to the design brief and design specification.</p>
	<p><b>Making</b> Is able to select from and use a wider range of tools and equipment to perform practical tasks.</p> <p>Can accurately select from and use a wide range of materials according to their functional properties and aesthetic qualities.</p>	<p>Children will learn that something that is squashed, such as air in a tube, is compressed. The 'input' is what goes into a system and 'output' is what comes out. A point about which a lever turns is called a pivot. Pressure is the force used on an object or surface. Inflating something is filling it with air or a gas to make it swell up and deflating is removing the pressurised air to allow an object, like a balloon, to shrink.</p>	<p>This unit of work will give children a foundation for understanding their learning on mechanisms in Years 5 and 6 when they make balloon buggies.</p>	<p>Review work against own design criteria.</p>
	<p><b>Evaluating</b> Is able to investigate and analyse a range of existing products.</p> <p>Can evaluate their ideas and products against their own design</p>	<p>They will use a Syringe and a tube with a nozzle and plunger for sucking and blowing air or liquids.</p>		

	<p>criteria and consider the views of others to improve their work.</p> <p>Understand how key events and individuals in design and technology have helped shape the world.</p>	<p>They will learn that in a pneumatic system, the 'input movement' is where the user pushes or pulls a syringe or pump. The 'output movement' is where the object at the end of the tube moves.</p> <p>Children will embed their understanding of key words such as –  Mechanism  Pneumatics  Air  Compress  Movement  System</p> <p><u>Stone Age Tools</u>  Children will evaluate present day tools and will then gather materials to design and make their Stone Age tool and evaluate it against their design criteria. Using their technical knowledge they will reinforce and strengthen their tool.</p> <p>Children will embed their understanding of key words such as  join  sharp  tool  durable  bind  lash</p>		
<p><b>Spring Term</b></p>	<p><b>Designing</b>  Can use research and develop design criteria to inform the</p>	<p><b>Ancient Greece</b>  Food Technology</p>	<p>This unit extends prior learning in KS1 where children have previously cooked and explored traditional</p>	<p>Research and generate innovative ideas</p>

	<p>design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>Is able to generate, develop, model and communicate their ideas through discussion and list making.</p>	<p>Children will make flat bread or honey bread / Greek salads which links to our learning in history.</p> <p>They will understand that particular dishes are associated with different cultures and places or periods in time using different methods of cooking. Some ingredients are more readily available at certain times of the year than others, owing to changes in climate.</p> <p>By making bread and salad they will learn that some flavours complement each other more than others and some ingredients go well together.</p>	<p>foods of the UK and healthy / unhealthy foods.</p> <p>In KS1 children will have looked at where foods come from and seasonal food. Therefore, the learning in this unit will develop this knowledge.</p> <p>This learning will prepare children for further food technology lessons in Years 5 and 6 when they find out about the roles of micro-organisms in bread.</p> <p>The basic skills they learn will prepare children for cooking locally sourced fruits during their work on rationing in Years 5 and 6.</p>	<p>Explore ideas</p> <p>Communicate ideas</p> <p>Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.</p> <p>Select and use a range of utensils, including knives, chopping boards, weighing scales, measuring jugs, baking trays.</p> <p>Evaluate and review the final product with reference back to the design brief and design</p>
	<p><b>Making</b></p> <p>Is able to select from and use a wider range of tools and equipment to perform practical tasks.</p> <p>Can accurately select from and use a wide range of ingredients, according to their properties and taste.</p>	<p>Children will be taught the importance of washing hands and ingredients, where appropriate, which reduces microorganisms and cooking</p>		
	<p><b>Evaluating</b></p> <p>Can evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p>			

	<p><b>Food technology</b> Understand and can apply the principles of a healthy and varied diet.</p> <p>Can 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.</p>	<p>instructions are important for this purpose too.</p> <p>Children will embed their understanding of key words such as</p> <ul style="list-style-type: none"> <li>Ingredients</li> <li>flavours</li> <li>textures</li> <li>nutrition</li> <li>peel</li> <li>chop</li> <li>slice</li> <li>grate</li> <li>fresh</li> <li>knead</li> <li>healthy</li> <li>diet</li> <li>hygiene</li> <li>safety</li> </ul>		<p>specification, taking into account the views of others when identifying improvements.</p>
<p><b>Summer Term</b></p>	<p><b>Designing</b> Can 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.</p> <p>Is able to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams,</p>	<p>Taught alongside Tudors in our Quest work, children will design and make a functional purse or wallet with a fastening, communicating initial ideas through annotated sketches.</p> <p>To do this, they will research into the features of an appealing functional purse/wallet to inform design criteria. They will learn how to select and use an appropriate range of tools to perform practical tasks; stitching and sewing (joining), cutting and</p>	<p>This unit of work will build on textiles, weaving and mask making taught in KS1. It will introduce the skills of sewing which will then be further developed in UKS2 when they explore 'make, do and mend' when learning about WW2.</p>	<p>Select appropriate tools and techniques for making their product</p> <p>Measure, mark out, cut and shape materials, using appropriate tools, equipment and techniques</p> <p>Join and combine materials</p>

	<p>prototypes, pattern pieces and computer-aided design.</p>	<p>systematically work through phases of a design.</p>		<p>Sew using a range of different stitches</p>
	<p><b>Making</b> Able to select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].</p> <p>Can accurately select from and use a wide range of materials and components, including textiles and tools according to their functional properties and aesthetic qualities.</p>	<p>Children will learn different types of stitches for the purpose of functionality and aesthetics. Investigate the effect of different stitches in joining seams and how they contribute to the overall effectiveness and durability of the product.</p> <p>Know and use technical vocabulary relevant to the project. Such as – Assemble Cut Stitch</p>		<p>Measure, tape or pin, cut and join fabric with some accuracy</p>
	<p><b>Evaluating</b> Is able to investigate and analyse a range of existing products.</p> <p>Can evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p>	<p>Textile Back stitch Running stitch Blanket stitch Mark out</p> <p>They will know how to evaluate their product against the product criteria they have generated individually, as a means to improve their work.</p>		