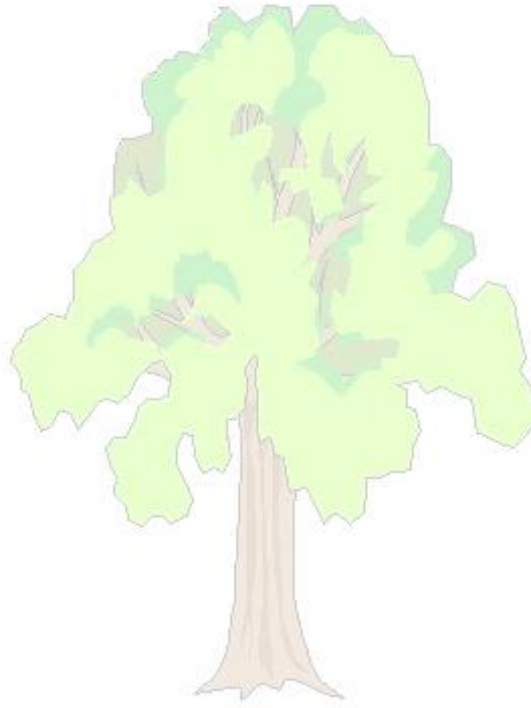


Year 5 Design Technology Long Term Plan

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
	Moving Toys Mechanisms/ Mechanical Structure		Greek Architecture Structures		Spaghetti Bolognaise Cooking & Nutrition



Year 5 Design Technology Medium Term Plan

Term 2 Design Technology- Moving Toys			
National Curriculum Links	Disciplinary Knowledge	Substantive Knowledge	Key Vocabulary
<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 <p>Evaluate</p> <ul style="list-style-type: none"> Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work <p>Technical Knowledge</p> <ul style="list-style-type: none"> Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] 	<p>Design</p> <ul style="list-style-type: none"> I can plan and design an innovative, functional, appealing product fit for purpose for the intended individual or group based on the design specification. Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement. Draw cross-sectional diagrams to show the inner-workings of my design. Understanding how linkages change the direction of a force. Making things move at the same time. <p>Make</p> <ul style="list-style-type: none"> Measuring, marking and cutting components accurately using a ruler and scissors. <p>Evaluation</p> <ul style="list-style-type: none"> I can use the design criteria to test and evaluate my ideas and products with the intended user in mind, considering the quality of the design, manufacture, and functionality and whether it is fit for purpose. Describing changes they would make/do if they were to do the project again 	<p>Technical</p> <ul style="list-style-type: none"> To understand that the mechanism in an automata uses a system of cams, axles and followers. To understand that different shaped cams produce different outputs. To know that a cross-sectional diagram shows the inner workings of a product. <p>Linked with product</p> <ul style="list-style-type: none"> To know that an automata is a hand powered mechanical toy. 	<p>Automata Design Specification Mechanism Rotation Cam Slider Follower Handle Cross section Evaluation</p>
Pupil Offer		Famous People	
Pupils will be creating their own automata moving toy.			

	Session 1	Session 2	Session 3	Session 4	Session 5
Lesson Overview including Substantive knowledge	<p>Design</p> <p>Pupils will be learning about automata toys and what they are. Exploring different designs and looking at the mechanics. They will then be constructing their own design specification using a scaffold.</p>	<p>Technical Knowledge</p> <p>Pupils will be exploring the movements that are created by different cams</p>	<p>Technical Knowledge and Design</p> <p>Pupils will be designing their own automata design using cross sectional diagrams.</p>	<p>Make</p> <p>Pupils will be constructing their cam systems and completing their design (box/background/moving part).</p>	<p>Evaluate</p> <p>Pupils will be completing peer evaluations based on their design specification in week 1.</p>
Organisation & communication	Written Design Specification	Annotated Photographs	Cross- Sectional Diagram	Seesaw	Written evaluation
Reading & Maths Opportunities				Accurate Measurements (length)	

Term 4 Design Technology- Greek Architecture			
National Curriculum Links	Disciplinary Knowledge	Substantive Knowledge	Key Vocabulary
<p>Design</p> <ul style="list-style-type: none"> Use research...to inform the design of...functional, appealing products that are fit for purpose Generate, develop, model and communicate their ideas through discussion, annotated sketches...prototypes... <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 <p>Evaluate</p> <ul style="list-style-type: none"> 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 	<p>Design</p> <ul style="list-style-type: none"> Designing a stable structure that is aesthetically pleasing and selecting materials to create a desired effect. <p>Make</p> <ul style="list-style-type: none"> Creating a range of different shaped frame structures. Making a variety of free standing frame structures of different shapes and sizes. Selecting appropriate materials to build a strong structure. Reinforcing corners to strengthen a structure. Creating a design in accordance with a plan. <p>Evaluation</p> <ul style="list-style-type: none"> Evaluating structures made by the class 	<p>Technical</p> <ul style="list-style-type: none"> To know that a 'free-standing' structure is one which can stand on its own. To understand some different ways to reinforce structures. To understand how triangles can be used to reinforce structures. 	<p>Stiffen Strengthen Reinforce Triangulation Stability Shape</p>
Pupil Offer		Famous People	
Class competition to build structures that meet set criteria			

	Session 1	Session 2	Session 3	Session 4	Session 5
Lesson Overview including Substantive knowledge	Technical Knowledge Opportunity to explore different structures and experiment with which structures are the strongest.	Design Look at designs of Greek architecture and use this to design	Make Prototype models	Make Final Designs	Evaluate Evaluate strength of structure
Organisation & communication	Create design criteria for Greek structures	Non-Chronological report	Photographs and group evaluations	Photographs	Peer Evaluations set against set criteria
Reading & Maths Opportunities		Ancient Green Architecture reading to complete diagram (twinkl)			

Term 5 and 6 Design Technology- Spaghetti Bolognese			
National Curriculum Links	Disciplinary Knowledge	Substantive Knowledge	Key Vocabulary
<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. 	<p>Design</p> <ul style="list-style-type: none"> Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. Writing an amended method for a recipe to incorporate the relevant changes to ingredients.. <p>Make</p> <ul style="list-style-type: none"> Cutting and preparing vegetables safely. Using equipment safely, including knives, hot pans and hobs. Knowing how to avoid cross-contamination. Following a step by step method carefully to make a recipe. <p>Evaluation</p> <ul style="list-style-type: none"> Identifying and describing healthy benefits of food groups. 	<ul style="list-style-type: none"> To understand where meat comes from - learning that beef is from cattle and how beef is reared and processed, including key welfare issues. To know that I can adapt a recipe to make it healthier by substituting ingredients. 	Beef Reared Processed Ethical Diet Balanced Ingredients Prepare Peel, chop, slice, grate, mix
Pupil Offer	Famous People		
Pupils will be producing their own bolognese recipes			

	Session 1	Session 2	Session 3	Session 4	Session 5
Lesson Overview including Substantive knowledge	<p>Technical Knowledge <i>To understand where food comes from</i></p> <p>An understanding of beef (where it comes from, how it is produced and cattle welfare)</p>	<p>Technical Knowledge <i>To understand the term 'healthy'</i></p> <p>Pupils will be trying different shop brought versions of bolognese sauce. They will then be researching different recipes.</p> <p>When they have done this, they will be completing their own eat well plate using ingredients they have found from different recipes.</p>	<p>Design <i>To adapt a traditional recipe</i></p> <p>Pupils will be finalising their recipes using nutritional calculator before writing their ingredient list and method.</p>	<p>Make</p> <p>Pupils will be producing their own bolognese</p>	<p>Evaluate</p> <p>Pupils will be evaluating their own recipes as well as their peers by writing a food review</p>
Organisation & communication		Completed food plate	Pupils will be writing their own recipe	Photographs	Food review
Reading & Maths Opportunities		S4 LS+ A healthy diet Retrieval Focus		Accurate Measurements (mass)	