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	**Key Vocabulary**	**Pupil Offer**
Design • 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. Make • Select from and use a wider range of tools and equipment to perform practical tasks[for example, cutting, shaping, joining and finishing], accurately Evaluate • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Technical Knowledge • Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]	Automata Design Specification Mechanism Rotation Cam Slider Follower Handle Cross section Evaluation	Pupils will be making

Term…	Week 1	Week 2	Week 3	Week 4	Week 5
Lesson Overview including Substantive knowledge	**Design** Pupils will be learning about automata toys and what they are. Exploring different designs and looking at the mechanics. They will be then be constructing their own design specification using a scaffold.	**Technical Knowledge** Pupils will be exploring the movements that are created by different cams	**Technical Knowledge and Design** Pupils will be designing their own automata design using cross sectional diagrams.	**Make** Pupils will be constructing their frames. This will involve careful measurements, sawing and joining.	**Evaluate** Pupils will be completing peer evaluations based on their design specification in week 1.
Disciplinary Knowledge	To know that an automata is a hand powered mechanical toy I can plan and design an innovative, functional, appealing product fit for purpose for the intended individual or group based on the design specification.	I know, and can explain how, mechanical systems such as cams or pulleys or gears create movement. To understand that different shaped cams produce different outputs. Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement.	Create 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.	I can understand and use the different mechanical systems in my products, such as gears, pulleys, cams, levers and linkages.	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
Organisation & communication	Written Design Specification				
Famous People					

Term 4 Design Technology- Greek Architecture		
National Curriculum Links	**Key Vocabulary**	**Pupil Offer**
Design • 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… Make • Select from and use a wider range of tools and equipment to perform practical tasks[for example, cutting, shaping, joining and finishing], accurately Evaluate • Understand how key events and individuals in design and technology have helped shape the world Technical Knowledge • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures	Stiffen Strengthen Reinforce Triangulation Stability Shape	

Term…	Week 1	Week 2	Week 3	Week 4	Week 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
Disciplinary Knowledge	To know that a 'free-standing' structure is one which can stand on its own To understand some different ways to reinforce structures	Designing a stable structure that is able to support weight	I can apply and explain my understanding of how to strengthen, stiffen and reinforce complex structures, explaining the process in detail using the correct technical vocabulary. Building frame structures designed to support weight	I can apply and explain my understanding of how to strengthen, stiffen and reinforce complex structures, explaining the process in detail using the correct technical vocabulary.	Evaluating structures made by the class
Famous People					