National Curriculum subject content:

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
- ✓ 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

Evaluate
- ✓ 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

Technical knowledge
- ✓ 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]

National Curriculum theme:
- ✓ Design
- ✓ Make
- ✓ Evaluate
- ✓ Technical Knowledge
- ✓ Mechanical systems
- ✓ Electrical systems

Design and Technology:

Yr5 Autumn term

Key Vocabulary:	
Mineshaft	A deep narrow vertical hole, or sometimes a horizontal tunnel, that gives access to a mine.
Lever	A rigid bar resting on a pivot, used to move a heavy or firmly fixed load with one end when pressure is applied to the other.
Gear	A toothed wheel that works with others to alter the relation between the speed of a driving mechanism
Pulley	A piece of equipment for moving heavy objects up or down, consisting of a small wheel over which a rope or chain attached to the object can be easily raised or lowered.
Research	The process of retrieving information.
Design	A plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made.
Make	Combining materials and techniques to create a product.
Evaluate	To consider the effectiveness of a product.

Sequence of Learning:

Objectives (key knowledge):

Mechanisms and Electrical Systems

Research *Technical Knowledge (mechanical systems)* Objective 1: To know the difference between gears, pulleys and levers.	Research *Technical Knowledge (mechanical systems)/ Design* Objective 2: To learn to make a pulley system.	Technical Knowledge (mechanical systems)/ Evaluate Objective 3: To learn about famous levers, gears and pulley inventions.	Design Objective 4: To design a mineshaft.	Make Objective 5: To make a mineshaft	Evaluate Objective 6: To evaluate our mineshafts against design criteria.

Design and Technology:

Yr5 Autumn term