Lodge Farm Primary School- Knowledge Organiser

Music Topic: To design and create a moving game/buzzer tank.

Year: 6 **Term:** Spring 2

Key Knowledge/Content:

- To know how more complex electrical circuits and components can be used to create functional products and how to program a computer to control their products.
- To know and understand that mechanical and electrical systems have an input, process and output.
- To know that engineers draw up a specification for their design- link with Mathematics and Science.

Links to:

Prior learning:

The children are going to create their own moving toy. The children planned their design, discussed their mechanical system, made their product using a range of resources and evaluated their product.

Key vocabulary with definition:

Prior vocabulary:

Function-How something works.

Innovative-A process used to create something.

Design specification-A list of criteria your product needs to address.

Mock-up- a full-sized structural model built to scale chiefly for study, testing, or display

New vocabulary:

Input - devices allow systems to understand changes in the environment around them.

Output – A device used to output data or information from a computer, e.g. a monitor, printer or speakers.

Process – A device, usually an integrated circuit, that controls the process functions of a system.

Voltage – The potential difference across a cell, electrical supply or electrical component. It is measured in volts (V)G

Series circuit - In a series circuit, all components are connected end-to-end to form a single path for current flow.

By the end of this unit

All children can: demonstrate and name equipment needed to make a series circuit. All children can make a detailed design and refer to whilst making.

Most children can: explain the method when making a series circuit and demonstrate how to solve a problem if they are face with one.

Some children can: explain the difference between a series circuit and an incomplete circuit. They can explain how more complex electrical circuits and components can be used to create functional products.

Background understanding for teachers and parents:

The children are going to research games using digital technology. The children will understand the components of series circuits and how they function within the product. The children will create a moving game or buzzer tank.

Curriculum Driver (one):

Communication

Evidence outcome:

The children will communicate their ideas, communicate how technology has changed over time and compare their works to others such as engineers.