Year 6 – Eccentric Electricity ENERGY SCIENCE AUTUMN 2

Prior Learning: children will already know how to construct a simple series circuit, know whether the circuit is complete and know how a switch works.

Concept: Energy

In this unit we will use our knowledge of electricity and circuits to carry out scientific enquiries to investigate the effect of voltage on the brightness of a lamp or the loudness of a buzzer.

Make a prediction (KS2)

Interpret results
- answer the question

1. TWAL to draw series circuits using the correct electrical symbols

In this lesson we will learn about the different types of components that can be included in an electrical circuit. We will learn the function of each component and how it affects the circuit.

sticky knowledge

That different components have different functions in a circuit.

2. TWAL to use knowledge of conductors and insulators to control the flow of electricity

In this lesson we will test classroom items to see if they are conductors or insulators. Then we will recap about what a switch is and then make our own switches!

Interpret results
- answer the question

sticky knowledge

Definition of a conductor and insulator.

3. TWAL to associate the brightness of a lamp with the number and voltage of cells in the circuit

In this lesson we will change the current flowing through the circuit by changing the number of cells in the circuit. How else could we change the current flowing through the circuit?

sticky knowledge

The current is the same everywhere in a series circuit.

4. TWAL to compare and give reasons for variations in how components function

In this lesson we will investigate whether the length of the wire used in our series circuit affects the brightness of a bulb. Which variables will you keep the same and which will change?

Make a prediction (KS2)

5. TWAL to design a product using our knowledge of circuits

We're going to test our circuits knowledge! Design a burglar alarm which will sound if someone triggers it by walking on a sensor (switch). Which components will you need in your circuit?

Interpret results
- answer the question

6. TWAL to design a product using our knowledge of circuits

Today you will build the circuit you designed for your burglar alarm, you will need to work together as a team in order to defeat the burglars!

sticky knowledge

Switches control the flow of electricity in a circuit.

Words we will know!