



Coleman Primary School

Key Knowledge Organiser:

Year 5- Spring 2.

Design Technology - Alarms.

In this unit, children develop an understanding of simple electrical control through the designing, making of and evaluating an alarm system.






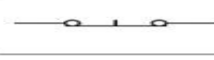



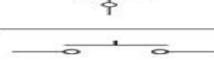

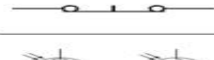




Key Vocabulary

Images:

Alarm circuit	An alarm triggered in a circuit when a circuit is either completed or broken.
Micro- switch	A very sensitive switch that can operate as a push-to-make or break switch.
Toggle switch	A switch operated when a lever is pressed.
Tilt (Mercury) switch	A ball bearing or conductive liquid that is tilted at an angle, joining together the contacts in a circuit.
Reed (Magnetic/Proximity) switch	Activated by a magnet which closes the circuit.
Push- to- make/ break switch	A push button that makes or breaks the electricity in a circuit when it is pushed or released.
Buzzer	An electrical device that makes a buzzing noise and is used for signalling.
Light emitting diode (LED)	An electronic device that gives off light when it receives an electrical current.
Light- dependent resistor (LDR)	A sensor that operates when light is shined on it.
Pressure Pad	A pad which converts applied pressure into an electrical signal.

Inputs and outputs

Switches and sensors (inputs)

		Toggle switch A switch operated when a lever is pressed.
		Push-to-make switch When you push, the electricity flows through the circuit, but when you release it the circuit is broken and the switch is off.
		Push-to-break switch The switch is off while the button is pushed, but returns to its 'on' position when button is released.
		Reed switch Activated by a magnet which closes the contacts.
		Tilt switch When tilted at an angle a ball bearing or conductive liquid bridges the contacts inside, completing the circuit.
		Micro-switch A very sensitive switch that can operate as push-to-break switch or a push-to-make switch.
		Light-dependent resistor (LDR) A sensor that operates when light is shined on it.
		Pendulum switch When stationary the switch is on; when it swings it breaks the circuit.

Design Technology skills learned prior to this unit:

- To build on earlier work designing purposeful, functioning, appealing products for themselves and others.
- To explore and use mechanisms (here techniques/apparatus) in their products.
- To explore their ideas and products against design criteria.

Design Technology skills learned during this unit:

- To 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. .
- To understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

