EDEN Academy Trust
Working together to make a difference

Science Curriculum – Cycle B
Lower Key Stage 2 – Spring 1

Theme – Electricity (Physics)

Enquiry Question – What is a series circuit?

National Curriculum Coverage

Pupils should be taught to:
Identify common appliances that run on electricity
Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
Recognise some common conductors and insulators, and associate metals with being good conductors.

Key Scientists:	**Comparative Test**	**Observation over time**	**Pattern Seeking**	**Research**
Benjamin Franklin	Which metal is the best conductor of electricity? **Fair Test** How does the thickness of conducting material affect how bright a lamp is in a series circuit?	How long does a battery light a torch for?	Which room has the most electrical sockets in a house/school?	When and why did they stop making pennies from copper?

Objective	Challenge	Working Scientifically	Vocabulary
• To identify common appliances that run on electricity. - To know that electricity is a type of energy that powers electrical items. • To identify and name the basic parts in a simple series circuit. -cells, wires, bulbs, switches and buzzers. - To know that a series circuit has one path for electricity to flow. • To construct a simple series electrical circuit - To draw a circuit using pictorial representations. **NB: Chn do not need to know circuit symbols in Y4.**	• To explain how a bulb might get lighter • To explore if <u>all</u> metals are conductors of electricity • To work out which metals can be used to connect across a gap in a circuit • To explain why cautions are necessary for working safely with electricity **or own challenges*	See separate objectives sheet.	appliances, electricity, electrical circuit, cell, wire, bulb, buzzer, switch, conductor, insulator, metals

• To recognise whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. • To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. • To recognise some common conductors and insulators - To know the difference between conductors and insulators - To know all metals are good conductors (copper, aluminium, gold and silver) - To name some common insulators (glass, plastic, air, rubber and wood)			