

Electricity and Light

Reception

Day and night, light and dark, shadow play, light for plant growth, Northern Lights

- Possible Big Question: How can we see in daytime? What are shadows?

Year 1

- No explicit focus in this year group, however this can be added in addition to what is already taught.
- There will be some scientific links when learning about 'Plants' and 'Living Things and their Habitats' as children learn what living things and plants needs to survive and grow.

Year 2

- No explicit focus in this year group, however this can be added in addition to what is already taught.
- There will be some scientific links when learning about 'Plants' and 'Living Things and their Habitats' as children learn what living things and plants needs to survive and grow.

Year 3

- Recognise that they need light in order to see things and that dark is the absence of light
- Notice that light is reflected from surfaces
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- Recognise that shadows are formed when the light from a light source is blocked by a solid object
- Find patterns in the way that the size of shadows change

Possible Big Question: How does the Sun make light?

Year 4

- 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
- Recognise some common conductors and insulators, and associate metals with being good conductors
- 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

Possible Big Question: How has electricity changed the way we live?

Year 5

- No explicit focus in this year group, however this can be added in addition to what is already taught.

Year 6

- Associate brightness of a lamp/volume of a buzzer with the number/voltage of cells used in a circuit
- Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
- Use recognised symbols when representing a simple circuit in a diagram
- Recognise that light appears to travel in straight lines
- Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
- Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

Possible Big Question: Why do some people need to wear glasses to see clearly?

