

Science

Light

Understand 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, and to predict the size of shadows when the position of the light source changes.

Electricity

Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the 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.

Forces

☒ explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object

☒ identify the effects of air resistance, water resistance and friction, that act between moving surfaces

recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect

Changes and Properties of Materials

☒ compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets

☒ know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution

☒ use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating

☒ give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic

☒ demonstrate that dissolving, mixing and changes of state are reversible changes

explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda

All living things

Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird

Describe the life process of reproduction in some plants and animals

Animals including humans

Describe the changes as humans develop to old age