

Progression: Light



Reception:

- Talks about why things happen and how things work.
- *Practical exploration and discussion of basic understanding of light and dark, including some play and experience based vocabulary e.g. shadow, sunlight, torch, daylight, night time*

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

Working Scientifically

- setting up simple practical enquiries and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- using results to draw simple conclusions

Links to Teacher Assessment Framework:

- The pupil can use the idea that light from light sources, or reflected light, travels in straight lines and enters our eyes to explain how we see objects, and the formation, shape and size of shadows.

Recap -

Vocabulary: Light, Shadows, Mirror, Reflective, Dark, Reflection

Working scientifically vocabulary: enquiry, fair test, observation, accurate measurements, equipment, data (gather, record, present), record (drawings, labelled diagrams, keys, bar charts, tables), predictions, conclusions, evidence.

Year 6:

- 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

Working scientifically:

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

Links to Teacher Assessment Framework:

- The pupil can use the idea that light from light sources, or reflected light, travels in straight lines and enters our eyes to explain how we see objects, and the formation, shape and size of shadows.

Recap –

- light is needed to see things/dark is the absence of light
- light is reflected from surfaces
- dangers of light from the sun
- how shadows are formed/change in size

Vocabulary: Refraction, Reflection, Light, Spectrum, Rainbow, Colour

Working scientifically vocabulary: record data (scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graph), predictions, report and present (conclusions, causal relationships, explanations, degree of trust, oral and written display and presentation), evidence (support, refute ideas or arguments), systematic, quantitative, accuracy, precision, variables, measurements, plan, further comparative and fair test