

Light - Year 6: Progression Map

National Curriculum Objectives

- 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

Lesson Titles:

1. How does light travel?
2. How does reflection help us see?
3. can we increase reflection?
4. What shapes our shadows?
5. What causes rainbows?
6. Can we make a red apple blue?

Coherence:

English:

Reporting on findings, including oral and written explanations, text comprehension

Key vocabulary:

ray, surgeon, opaque, translucent, transparent, periscopes, distort, absorb

Maths:

Taking accurate measurements
using standard units, gathering and analysing data

Art:

Representing ideas about light

Book Recommendations:

Light: Let's Investigate: Facts Activities Experiments (Science Essentials - Key Stage 2) by Ruth Owen and Victoria Dobney

Common misconceptions:

- Light travels instantaneously
- Light does not travel in straight lines
- Darker colours absorb more light
- Mixing all colours of light makes black

Scientific enquiry:

Lesson 1 - Comparative testing - aligned vs non aligned holes

Lesson 2 - Comparative testing - reflection from different surfaces

Lesson 3 - Observe objects through a periscope

Lesson 4 - Research using secondary data about shadows

Lesson 5 - Observe rainbows formed when light passes through water

Lesson 6 - Comparative testing, observation - through colour filters

Prior learning:

Year 3 - Light, Plants

Yea 4 - Sound

Future learning at KS3:

Use ray diagrams to model how light passes through lenses and transparent materials.