

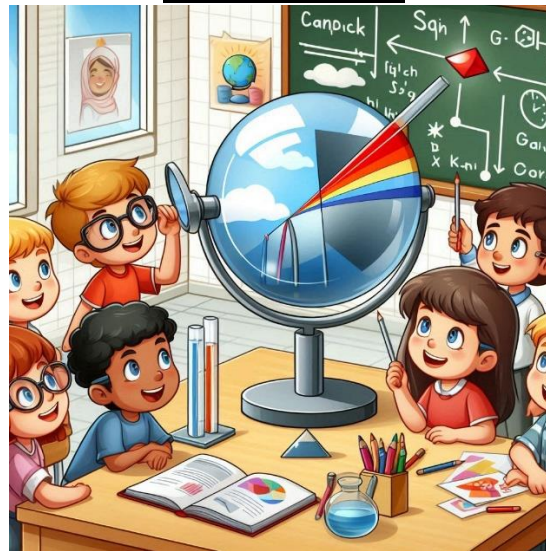


# Lowerhouse Junior School

## Science Overview Sheet



### Year 6 – Light



**Rationale:** Teaching light in Year 6 science helps students understand fundamental concepts such as reflection, refraction, and the behaviour of light. It enhances observational skills, fosters curiosity about natural phenomena, and lays the groundwork for more advanced physics topics. This knowledge is essential for understanding how we see and interact with the world.

#### Substantive Knowledge:

- 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 eye
- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

#### Disciplinary Knowledge:

- Comparative/Fair testing

#### Overview:

**Lesson 1:** How does light travel?

**Lesson 2:** How are shadows formed? (TAPS)

**Lesson 3:** How are images reflected?

**Lesson 4:** What is refractions?

**Lesson 5:** How does the human eye work?

#### Key Vocabulary:

**Straight lines:** Lines that have no curves or bends and extend in the same direction without changing. In the context of light, it refers to the path that light travels in a uniform direction.

**Light rays:** Narrow beams of light that travel in straight lines from a light source. They are often used to represent the direction and behaviour of light in diagrams and experiments.

**Reflection:** The bouncing back of light rays when they hit a surface, such as a mirror. This process allows us to see images in mirrors and other reflective surfaces.

**Refraction:** The bending of light rays as they pass from one medium to another, such as from air to water. This change in direction occurs because light travels at different speeds in different materials, causing effects like the apparent bending of a straw in a glass of water.

#### Impact/Assessment

**Most Children will be able to:** • describe, with diagrams or models as appropriate, how light travels in straight lines either from sources or reflected from other objects into our eyes • describe, with diagrams or models as appropriate, how light travels in straight lines past translucent or opaque objects to form a shadow of the same shape • explain how evidence from enquiries shows that light travels in straight lines • predict and explain, with diagrams or models as appropriate, how the path of light rays can be directed by reflection to be seen, e.g. the reflection in car rear view mirrors or in a periscope • predict and explain, with diagrams or models as appropriate, how the shape of shadows can be varied