

Year Group	3
Term	Spring 2
Subject	Science

Topic	Light
Curriculum Intent	Pupils should explore the properties of light through active investigation. They will learn to identify light sources versus non-light sources, understand sun safety and the harmful effects of ultraviolet (UV) rays, examine which materials are reflective, and investigate the formation and transformation of shadows. They will work scientifically by recording observations, classifying data and drawing evidence-based conclusions.

Key Vocabulary	Natural, artificial source, light, reflect, vitamin D, sunburn, exposure, ultraviolet rays, protection, surface, materials, high visibility, reflective, fluorescent, shadow, ray, sundial, block, opaque, position, direction, opposite, cast, length, size
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Skills	• Asking relevant questions and planning scientific enquiries • Making systematic and careful observations • Setting up and conducting fair, comparative tests • Recording findings using diagrams, tables, and graphs • Using scientific evidence to support conclusions
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Knowledge	• Asking relevant questions and planning scientific enquiries • Making systematic and careful observations • Setting up and conducting fair, comparative tests • Recording findings using diagrams, tables, and graphs • Using scientific evidence to support conclusions
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Week	Learning Objective	Activities	Outcome
1	LO: To identify and classify objects as light sources or non-light sources	Presentation and images for pupils to cut out and sort into “light sources” and “non-light sources”. Whole-class discussion to address common misconceptions about natural versus artificial light	Pupils will be able to explain that only objects that emit light (or are designed to produce it) are true light sources, while other objects only reflect light.
2	LO: To explore the properties of sunlight and understand how to protect oneself from harmful UV radiation	Discuss how sun protection helps safeguard skin and eyes.	Pupils will understand that sunlight includes dangerous UV rays and can explain how measures such as using sun cream and wearing protective clothing reduce exposure risks
3	LO: To investigate the reflective properties of different materials	Experiment with various materials (e.g. tin foil, paper, wood, metal, fabric) using a torch to explore how light is reflected. Record observations and discuss differences between smooth and rough surfaces.	Pupils will identify which materials are the best reflectors and explain why smoother, shinier surfaces reflect light more effectively
4	LO: To discover how shadows are formed when an object blocks light	Use a torch and different opaque objects to cast shadows on paper. Draw the shadow outlines and compare them with the shape of the object. Discuss the relationship between the light source, object, and resulting shadow.	Pupils will understand that a shadow is created when light is blocked and that the shadow's shape resembles the object causing it.
5	LO: To investigate how shadows change throughout the day.	Review data gathered from a shadow stick investigation (recording shadow lengths at different times). Plot the data on graph paper to create a bar chart. Discuss predictions versus actual observations	Pupils will be able to explain how the movement of the sun causes changes in the size, direction, and sharpness of shadows.
6	LO: To understand how changing the distance between a light source and an object affects the size and shape of its shadow.	Experiment by moving a light source closer to and further from an object while recording the changes in the shadow. - Discuss the results as a class	Pupils will learn that the size and shape of a shadow can be manipulated by altering the distance between the object and the light source, and they will explain why these changes occur.