

Science

Medium Term Plan

Y3 - Light



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Class Text	
Hook	Area hunt
Topic Reflection	-
Topic Outcome	-
Scientific Enquiry	-

	Learning
EYFS + KS1	Plants Living things & their habitats Animals including humans Everyday materials Light Sound Seasonal Changes
KS2	Electricity Earth and Space Forces and Magnets Sound Light States of Matter Properties & Changes of Materials Rocks Evolution and Inheritance Living things & their habitats Animals including Humans Plants

Tier	Vocabulary
Tier 1	bright dark light Moon Sun
Tier 2	investigate compare source similar enquire / enquiry observe / observation accurate gather diagram prediction similarities differences effective
Tier 3	reflect / reflective translucent transparent opaque absorb nocturnal dim shadow orbit

Scientific Concepts
Organisation, cause and effect, systems, scale refers to quantity, models, change, structure and function, variation, diversity

Previous Skills	Previous Knowledge	Previous Understanding
I can identify which human body part is associated with each sense I can explain what nocturnal means	I know some animals are nocturnal and are mainly active through the night I know the names of the basic parts of the human body and I can say which is associated with each sense	I understand that we can see in the daytime because it is light I understand we need to use lights when it is dark

Lesson	Concepts	Learning Objective	Lesson Outcome	ARE Success Criteria	GD Success Criteria	SEND Success Criteria
Lesson 1	Working scientifically: Identifying and classifying - Talk about criteria for grouping, sorting and categorising, beginning to see patterns and relationships	LO: To identify light sources	Children will sort light sources and non-light sources that reflect light. They will explain what darkness is and why we cannot see in complete darkness. They will explain the difference between day and night	I can sort light sources and not light sources I can explain what happens in complete darkness	I can give an example of a reflective non light source and explain why it helps me to see	I can use CIP resources to identify light sources and non light sources
Lesson 2	Working scientifically: Investigating – discuss enquiry methods and describe a fair test	LO: To investigate the reflectiveness of materials	Children will investigate the reflectiveness of different materials (foil, CD, whiteboard, table, black paper) and decide how to rate their reflective qualities.	I can agree a scale to rate how reflective a material is I can test a range of materials for reflectiveness I can record my results We can evaluate our results as a class	I can explain why reflective materials make travelling in the dark safer	I can use a given scale to rate the reflectiveness of different materials
Lesson 3	Cause and effect Working scientifically: Recording and reporting findings - Record their findings using scientific language and present in note form, writing frames, diagrams, tables and charts.	LO: To explain how the sun can be dangerous	Children will learn about different ways in which exposure to the Sun can be dangerous to humans. Children use a selection of sunglasses, UV beads and UV torches to see how effective the sunglasses are. Children explain, and illustrate, ways in which the Sun can damage our eyes and skin and ways that this damage can be minimised.	We can sort ways in which the sun is good and bad for us We can identify how to look after our eyes We can explain which sunglasses offer the most protection I can present my findings	I can clearly explain the effects of UV light on UV beads using appropriate scientific vocabulary	I can use pictures to sort how the sun is good and bad for us I can say how we can look after our eyes

Lesson	Concepts	Learning Objective	Lesson Outcome	ARE Success Criteria	GD Success Criteria	SEND Success Criteria
Lesson 4	Cause and effect Working scientifically: Identifying and classifying - Talk about criteria for grouping, sorting and categorising, beginning to see patterns and relationships	LO: To identify objects as transparent, translucent or opaque and explore what type of shadows these objects create	Children will classify objects as transparent, translucent or opaque depending on how light behaves when it hits them. They carry out an investigation to classify a selection of classroom objects as transparent, translucent, or opaque	I can group objects depending on whether they are transparent, translucent or opaque	I can clearly explain the difference between 3 objects using the vocabulary transparent, translucent and opaque	I can investigate a range of objects using a torch I can use communicate in print and a word bank to describe the item scientifically
Lesson 5	Cause and effect Working scientifically: Investigating - Discuss enquiry methods and describe a fair test.	LO: To understand how shadows are formed	Children will learn that shadows are formed by an opaque object stopping light rays travelling through it, creating an area of darkness called a shadow. They will match objects to their shadows and observe the position of the light source by making their own shadows with a variety of classroom objects	I can explain how shadows are formed I can identify the object that made a shadow I can make shadows using classroom objects	I can explain why the candle flame does not cast a shadow but the candle does	I can use a sentence frame and communicate in print to explain how shadows are formed
Lesson 6	Cause and effect Working scientifically: Analysing data - Gather, record and use data in a variety of ways to answer a simple question	LO: To investigate how the distance from the light source changes the size of an object's shadow	Children investigate how moving a light source affects the size of an object's shadow. They predict and then measure the width of the shadow cast when the light source is at a range of distances. They explain the relationship between light source distance and shadow size	I can carry out a fair test I can record my results in a table I can explain the relationship between light source distance and shadow size	I can clearly explain my results using scientific vocabulary	I can follow instructions to make a shadow I can measure the shadow using non standard measures

Knowledge:	Skills:	Understanding: