Medium term Plan for Science

Y3 Autumn 1

Class Text:	**Hook:**
Topic Outcome:	**Topic Reflection:**
Scientific Enquiry:	
Scientific Strands:	**vocabulary**

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

	Concepts	**Learning Objective**	**Lesson Outcome**	**ARE Success Criteria**	**GD Success Criteria**	**SEND Success Criteria**
Lesson 1	LO: To identify light sources **Working scientifically:** **Identifying and classifying** - Talk about criteria for grouping, sorting and categorising, beginning to see patterns and relationships		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		LO: To investigate the reflectiveness of materials **Working scientifically:** **Investigating** – discuss enquiry methods and describe a fair test	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 4	**Cause and effect**	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	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

	Working scientifically: **Identifying and classifying** - Talk about criteria for grouping, sorting and categorising, beginning to see patterns and relationships		investigation to classify a selection of classroom objects as transparent, translucent, or opaque			the item scientifically
Lesson 5	**Cause and effect**	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
	Working scientifically: **Investigating** - Discuss enquiry methods and describe a fair test.					
Lesson 6	**Cause and effect**	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	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
	Working scientifically:					

	Analysing data - Gather, record and use data in a variety of ways to answer a simple question	the light source is at a range of distances. They explain the relationship between light source distance and shadow size			
Endpoints:	**Knowledge:** **Skills:** **Understanding:**				