

Light and Shadow : Science : Year 3

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To recognise that we need light in order to see.	Children will learn that darkness is the absence of light, and that without light we cannot see. They will then identify, describe and sort a variety of light sources.	<ul style="list-style-type: none"> Do children know that we need light in order to see things? Do children know that dark is the absence of light? Can children identify a variety of light sources? 	<ul style="list-style-type: none"> Slides Picture Cards 1A/1B Worksheet 1A/1B A pre-made dark space (FSD? activity only) Dark Card 1A (FSD? activity only)
Lesson 2	To learn about how light from the Sun can be dangerous and how we can protect ourselves.	Children will learn about the benefits and dangers of being in the sun for too long. They will think about how we can protect our skin and eyes from damaging UV light and conduct an experiment around the SPF or amount of sunscreen.	<ul style="list-style-type: none"> Can children name a way to protect their skin or eyes from the sun? Can children identify ways in which a test can be made fair? Are children able to make clear and relevant observations? 	<ul style="list-style-type: none"> Slides Worksheet 2A/2B/2C Experiment Instructions 2A UV reactive beads Plastic cups/small sandwich bags Selection of sunglasses/selection of suncreams A range of objects (FSD? activity only) Dark sugar paper (FSD? activity only) Prediction Slip 2A (FSD? activity only)
Lesson 3	To investigate what shadows are and why they are formed.	Children will share their ideas about how objects could be tested to determine whether or not they will make a shadow. They may then either test their ideas, or explore the way shadows are created or go on a shadow hunt around the school.	<ul style="list-style-type: none"> Do children know that shadows are formed when light is blocked? Do children know the difference between objects that are transparent, translucent and opaque? Can children explore shadows and record their observations? 	<ul style="list-style-type: none"> Slides Worksheet 3A/3B/3C Variety of opaque, transparent and translucent objects Torches Worksheet 3D (FSD? activity only)
Lesson 4	To investigate how shadows behave.	Children will continue to learn about how shadows are created, then conduct practical shadow investigations where they will predict, test and draw/write to show their findings.	<ul style="list-style-type: none"> Can children explain that a shadow is made because light is being blocked? Can children identify where a shadow will be based on the position of the light source? Can children use simple equipment to explore how shadows behave? 	<ul style="list-style-type: none"> Slides Worksheet 4A/4B/4C Variety of small objects Torches Challenge Cards (FSD? activity only) Large sheets of paper (FSD? activity only)
Lesson 5	To investigate how the size of shadows change throughout the day.	Children will discuss and predict what will happen to a shadow cast by a stick in sunlight throughout the day. They may then conduct a shadow investigation and present their findings using bar graphs.	<ul style="list-style-type: none"> Can children explain why shadows created by the Sun change position during the course of a day? Can children plan and carry out an investigation? Can children find patterns in the way the size of shadows change? 	<ul style="list-style-type: none"> Slides Worksheet 5A/5B/5C Shadow stick, ruler and chalk What Happens If...? Cards 2A (FSD? activity only) Torches (FSD? activity only) Opaque objects (FSD? activity only)
Lesson 6	To explore how light is reflected from surfaces.	Children will learn that some surfaces reflect more light than others. They may then either identify and describe a range of reflective surfaces, or conduct a reflection investigation using mirrors.	<ul style="list-style-type: none"> Do children know that light travels in a straight line? Do children know that we see objects when light is reflected from a surface? Do children understand that all objects reflect light to some degree? 	<ul style="list-style-type: none"> Slides Worksheet 6A/6B/6C Mirrors Challenge Card 6A (FSD? activity only)
Lesson 7	To investigate how we use reflective materials in everyday life.	In this lesson the children will explore how we use different reflective surfaces in our lives. They will think about how they can help us keep safe as well as be used for decorations.	<ul style="list-style-type: none"> Can children describe what a highly reflective object/surface is? Can children identify a highly reflective object? Are children able to identify ways in which we use reflective surfaces? 	<ul style="list-style-type: none"> Slides Worksheet 7A/7B Picture Cards 7A End of Unit Quiz Instruction Sheet 7A (FSD? activity only) Small mirrors/metallic or reflective card (FSD? activity only) Straws (FSD? activity only) Felt tip pens (FSD? activity only)