Science– Zephaniah and Bowie
Light and Sight
Spring 1

Objective	What it looks like
Knowledge: Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.	Children draw annotated cartoons to be kept for Lesson 6 on how they think people see things and the role of light in this. They learn that a light source is something that makes its own light and they think about why some things might be mistaken for a light source. They begin to think of light as a 'journey' from a source to the eye.
Knowledge: Recognise that light appears to travel in straight lines Working Scientifically: Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	Children discuss the Sun as our most important source of light and they are shown what a light beam looks like. The teacher shows the class a model of the path of light from the Sun to Earth using a torch in a dark room.
Knowledge: 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.	Children think about what would happen if they put a black object in a black box. They investigate a similar idea using tubes and discuss what would need to happen to be able to see the objects at the bottom of the tube. They explore different effects of placing holes in different areas of the tubes and shining a torch through the holes before discussing how light travels and reflects.
Knowledge: 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. Working Scientifically: Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Children discuss how the Pepper's ghost trick works. They then investigate bouncing a tennis ball off an even wall to model how light can be reflected and then contrast the action on an uneven surface. Children make periscopes and discuss the path of light through periscopes.

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Knowledge: 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. Working Scientifically: Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Working Scientifically: Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	Children recap the plan for the investigation for the clothing manufacturer and consider how clothes can keep you safe. Discuss how children will record and present their results. After the investigation, children share their reports with the class.
Knowledge: Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. Working Scientifically: Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Children create shadows of different lengths and directions. With a child volunteering, the teacher demonstrates to the class the 'reverse shadow' method of using water to spray a 'reverse shadow' of the child's hand onto paper – the water mimicking light. Children make any changes they want to, to their annotated cartoons from Lesson 1 and make a mini-book about what they have learned in this unit.