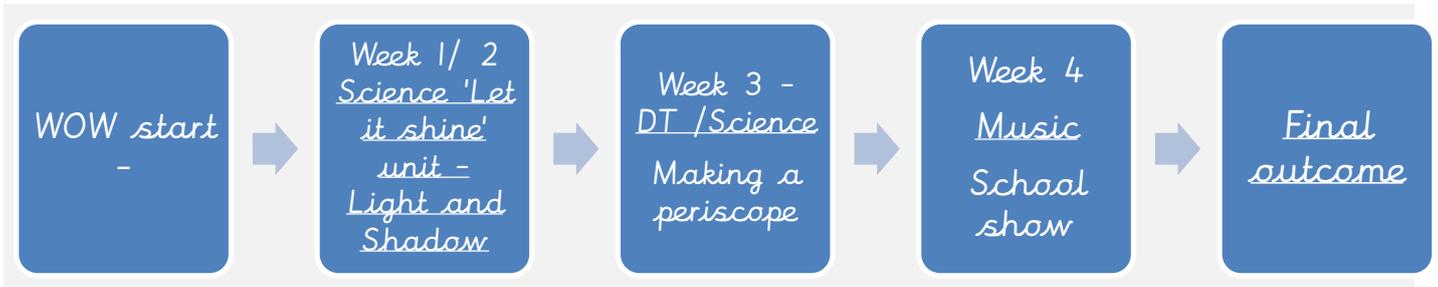


Year 5/6 Science based unit - Let it shine! 4 weeks



Topic overview: In this unit children learn about how the human eye works and how we see things through the reflection of light. They learn about shadows and the use of mirrors. They use this knowledge to help them design and make a working periscope for a purpose. Throughout this topic, the children will learn, rehearse and perform songs for their summer production.

Working scientifically skills	Scientific knowledge skills
<ul style="list-style-type: none"> Plan enquiries, including recognising and controlling variables where necessary. Take measurements, using a range of scientific equipment, with increasing accuracy and precision. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models. Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions. Use test results to make predictions to set up further comparative and fair tests 	<p>Recognise that light appears to travel in straight lines.</p> <ul style="list-style-type: none"> Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes. 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. <p>Previous Learning:</p> <ul style="list-style-type: none"> Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns in the way that the size of shadows change. <p>Previous Vocabulary: data logger, comparative and fair test, light source, shadow, reflected</p>

DT skills
<ul style="list-style-type: none"> Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding). Cut materials with precision and refine the finish with appropriate tools. Show an understanding of the qualities of materials to choose appropriate tools to cut and shape. Design with the user in mind, motivated by the service a product will offer. Make products through stages of prototypes, making continual refinements. Ensure products have a high quality finish, using art skills where appropriate. Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. <p>Previous Learning: Levers and Pulleys - Ancient Greece, Making shelters - Funky Flintstones, Building aqueducts - Roman invaders</p>

Music skills	PSHE
<ul style="list-style-type: none"> • play from memory with confidence. • Confidently improvise. • play expressively and in tune. • Perform with skillful playing (instrument). • Perform solos or as part of an ensemble. • Create rhythmic patterns with an awareness of timbre and duration. • Combine a variety of musical devices, including melody, rhythm and chords. • Thoughtfully select elements for a piece in order to gain a defined effect. • Use melodic ostinati (based on the pentatonic scale) • Choose from a wide range of musical vocabulary to accurately describe and appraise <p>Previous learning:</p> <ul style="list-style-type: none"> • play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression • improvise and compose music for a range of purposes using the inter-related dimensions of music • use and understand staff and other musical notations • appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians 	<ul style="list-style-type: none"> • Describe how to stay safe in different environments eg in the sun <p>Previous learning: Understand how exposure to sun light can be dangerous. Suggest ways of staying safe in the sun and why they work. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. About safe and unsafe exposure to the sun, and how to reduce the risk of sun damage, including skin cancer</p> <p>Vocabulary: Exposure, Sun damage, skin cancer</p>

You must never look directly at the sun.

Shadows are caused when an opaque object blocks the rays of light.

Light can only travel in straight lines.

Light will reflect off of shiny surfaces at the same angle that it hits the surface.

A design can be adapted and modified to make improvements and a prototype is the first production of a design.

The sun produces harmful light rays which can burn the skin and cause diseases therefore adequate sun protection must be used.

The sun produces Vitamin D which makes people feel better (and we need to keep healthy).

Rhythm

Melody/tune

Reflect

Opaque

Transparent

Translucent

Shadow

Cornea

Pupil

Iris

Periscope