



How can you light up your life?



1. What is light and how does it travel?
2. How do we see?
3. How do our eyes work?
4. What is a shadow and how do they work?
5. What is refraction and reflection?
6. How do mirrors work and help us to see round corners?
7. How does light make colours?

We learn the following Science knowledge and skills...

- recognise that light appears to travel in straight lines
- 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
- 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
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
- explore the way light behaves including light sources, reflection and shadows
- design and make a periscope
- look at a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters

We learn the following technology knowledge and skills...

- * Internet research on the life of Louis Braille
- * Scratch traffic lights
- * produce a range of graphs in Excel about hours of daylight in different cities

Hook for Learning:

- *Spend time in a blacked out room.
- *Link to WW2 blackouts and trip to Stockport Air Raid Shelters
- *Link to RE and festivals around the World - assemblies
- *Maths - Can you measure the angle that light is shining on a mirror and calculate the angle at which it will reflect?

As Thinkers can we...?

- *listen to a range of opinions and reach a conclusion
- *use feedback from a range of sources to help solve a problem
- *compare information

As Talkers can we...?

- *feedback the findings from an investigation and draw a conclusion
- *present information about light in religious festivals

We learn the following vocabulary:

- | | | |
|-------------|---------------|--------------|
| *refraction | *light source | *opaque |
| *reflect | *shadow | *translucent |
| *travel | *reflective | *transparent |
| *direction | *pupil | *prism |
| *iris | *lens | *concave |
| *cornea | *sclera | *convex |
| *retina | *optic nerve | *plane |
| *sensors | *function | *mirror |
| *light wave | *filters | |

We learn the following music knowledge and skills...

- * use instruments to make an investigation about how sound travels compared to light

We learn the following art knowledge and skills...

- *look at the work of several famous painters, including Constable and Cezanne giving particular attention to light, tone and shadow
- DT - periscope

We learn the following English knowledge and skills...

- * Louis Braille biography
- * Non-chronological report about light in different religious festivals