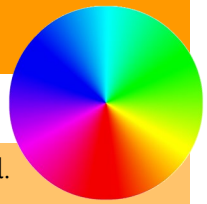
# Year 6 - Autumn - Science Knowledge Organiser

## What I already know...

- Light is a form of energy
- Light travels in straight lines
- We can see objects because when light hits an object it is reflected and enters our eyes.
- Opaque objects are objects that you can't see through.
- Sunlight contains ultraviolet rays.



## What I will learn...

•Shadows are formed when light is blocked.

•When an object isn't close to a surface, light has the opportunity to spill and bounce off other objects around the edge which makes the shadow fuzzy.

•The closer an object is to a surface, the less light is able to reflect and bounce behind.

•Light cannot bend around an opaque object in its path.

•Light is made up of different colours.

•The angle of the incident ray is equal to the angle of the reflected ray.

•Images appear upside down because light rays cross each other in the eye. The brain interprets the image so that we see it the right way up.

•Refraction happens when light changes direction or bends as it moves from one material to another.

## Key Vocabulary

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|---|---|
| Light | A form of energy that travels in a wave from a source. |
| Light rays | Imaginary lines used to explain how waves of visible light move. |
| Absorb | To take in |
| Reflection | When light bounces off a surface, changing the direction of a ray of light. |
| Straight | To move only in one direction. |
| Shadows | A dark area or shape produced by a body or object coming between rays of light and a surface. |
| Spectrum | The many different wavelengths of energy produced by a light source. |
| Incident ray | A ray of light that hits a surface. |
| Reflected ray | A ray of light that has bounced back after hitting a surface. |
| The law of reflection | The law of reflection states that the angle of the incident ray is equal to the angle of the reflected ray. |
| Refraction | When light bends as it passes from one medium to another (e.g. from air into water) |

## Making a difference at The Merton

In Year 6, our light topic starts by looking at beams of light and how light travels to enable us to understand how we see things. This understanding is then applied to the production of shadows and starts to look at how light is reflected. Applying our understanding, we will investigate how we can make a difference to WW2 residents as we explore the best material for creating black out blinds to make a difference during World War 2. The topic then takes the learning into the realm of coloured light and rainbows, using scientific skills to raise and answer questions.

## Making a difference at home

Look around your house. How does light make a difference to your day to day lives?

Where is it important for light to be blocked?

How has light been blocked?

Why has light been blocked?