St John Fisher RC Primary School
Year 6 Knowledge Organiser – Spring One – Science - Light

What we will be learning

I know:

- **Week 1** -That light appears to travel in straight lines - How to 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.
- **Week 2** - How to 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.
- **Week 3** - How to explain why shadows have the same shape as the objects that cast them.
- **Week 4** - To make a periscope to demonstrate my understanding that light appears to travel in straight lines.

Light - Key Facts to Remember

- **Light travels in straight lines.** When you turn on a light, it shines outwards in all directions.
- **We see things because light reflects off objects.** The light enters our eyes, allowing us to perceive the world around us.
- **A shadow is created when an object blocks light.** The area behind the object, where the light cannot reach, becomes dark.
- **Periscopes help us see things above our line of sight.** They use two mirrors that reflect light to provide a view of what's above.
- **The angle of the mirrors in a periscope allows light to travel down and around.** This lets you see what's above you without moving.
- **Different materials can affect how light travels.** For example, some materials are transparent and let light through, while others are opaque and block it.
- **White light is made up of a mix of colours.** This can be demonstrated using a prism to separate the colours.
- **The sun is a natural source of light.** In contrast, bulbs and candles are examples of artificial light sources.
- **Light can be bent or refracted.** This happens when it passes through different substances, such as water.
- **Using shadows, we can tell the time with a sundial.** It shows how light changes throughout the day.

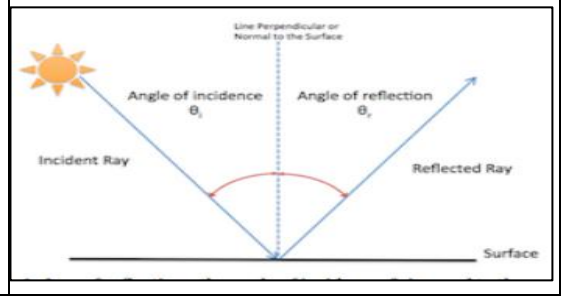
Key Vocabulary and Glossary

- **Light**: A form of energy that makes things visible. Without light, we cannot see anything.
- **Source**: An object that produces light, like the Sun or a light bulb.
- **Ray**: A straight line that represents the path of light as it travels.
- **Reflection**: When light bounces off a surface, like a mirror, allowing us to see our own image.
- **Refraction**: The bending of light when it passes from one medium to another, such as from air into water.
- **Spectrum**: A range of colours that light can be split into, like a rainbow.
- **Opaque**: A material that does not allow light to pass through, like wood or metal.
- **Transparent**: A material that lets light pass through easily, such as glass or clear plastic.
- **Translucent**: A material that allows some light to pass through but not enough to see clearly, like frosted glass.
- **Shadow**: A dark shape that is created when an object blocks light from a source.

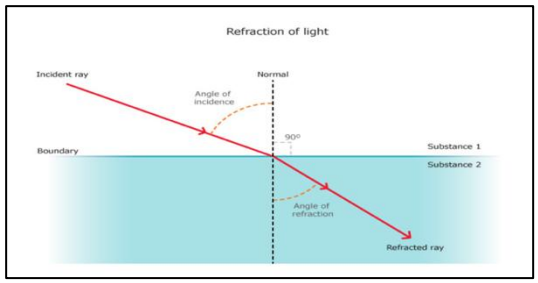
Key Knowledge: How We See

Note: The human eye can see objects because of light. When light shines on an object, it bounces off and enters our eyes. The lens in our eye focuses the light, so we can see a clear picture. Our brain then takes this information and turns it into what we recognise. That's why we can see everything around us, from bright colours to dark shapes!

Reflection



Refraction



Shadows