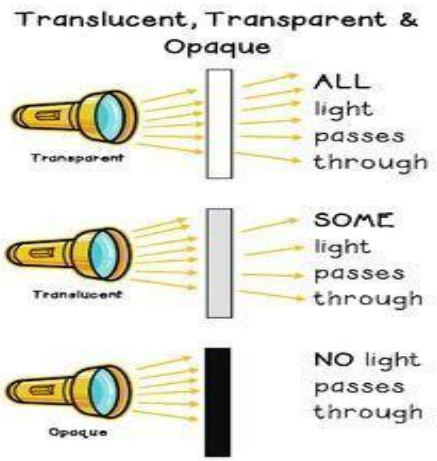
What should I already know?

- Describe the movement of the Earth, and other planets, relative to the Sun and each other in the solar system.
- Describe the movement of the Moon relative to the Earth.
- Describe Sun/Earth/Moon as approximately spherical bodies.
- Use the idea of the Earth's rotation to explain day and night.
- Use the Earth's movement in space to explain the apparent movement of the sun across the sky.

Skills

I can explain that light travels in straight lines from light sources to our eyes, and from light sources to objects and then to our eyes.
I can understand how mirrors reflect light, and how they can help us see objects.
I can investigate how refraction changes the direction in which light travels.
I can investigate how a prism changes a ray of light to show the spectrum.
I can investigate how light enables us to see colours.
I can explain why shadows have the same shape as the object that casts them.



Year 6– Summer Term – Light and Astronomy
Intention: In Science, I will learn…

Knowledge

- We need light to be able to see things. Light waves travel out from sources of light in straight lines. These lines are often called rays or beams of light.
- Light from the sun travels in a straight line
- The law of reflection states that the angle of incidence is equal to the angle of reflection. Whenever light is reflected from a surface, it obeys this law.
- The angle of reflection is the angle between the normal line and the reflected ray light.
- The angle of incidence is the angle between the normal line and the incident ray of light.
- Light travels as a wave but unlike waves of water or sound waves, it does not need a medium to travel through. This means light can travel through a vacuum - a completely airless space.
- Isaac Newton shone a light through a transparent prism, separating out light into the colours of the rainbow (red, orange, yellow, green, blue, indigo and violet) - the colours of the spectrum.
- A shadow is always the same shape as the object that casts it. This is because when an opaque object is in the path of light travelling from a light source, it will block the light rays that hit it, while the rest of the light can continue travelling.
- Shadows can also be elongated or shortened depending on the angle of the light source. A shadow is also larger when the object is closer to the light source. This is because it blocks more of the light.

Vocabulary

Light	A form of energy that travels in a wave rom a source.
Light Source	An object that makes its own light
Reflection	Reflection is when light bounces off a surface, changing the direction of a ray of light.
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 states that the angle of the incident ray is equal to the angle of the reflected ray.
Refraction	This is when light bends as it passes from one medium to another. E.g Light bends when it moves from air into water.
Visible Spectrum	Light that is visible to the human eye. It is made up of a colour
Shadow	An area of darkness where light has been blocked.
Transparent	Describes objects that let light travel through them easily, meaning you can see through the object.
Translucent	Describes objects that let some light through, but scatters the light so we can't see through them properly.