

## Class 3 – Summer 1 2024

### The Great Plague – Light.



#### What will we be learning?

We will:

- Explain that light travels in straight lines from light sources to our eyes, and from light sources to objects and then to our eyes.
- Understand how mirrors reflect light, and how they can help us see objects.
- Investigate refraction.
- Investigate prisms.
- Investigate how light enables us to see colours.
- Explain why shadows have the same shape as the objects that cast them.

#### Key Facts

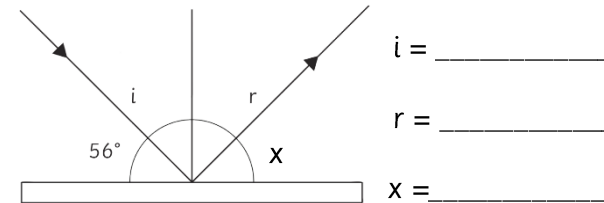
- We need light to be able to see things. Light waves travel out from sources of light in straight lines. These lines are often called rays or beams of light.
- Light from the sun travels in a straight line and hits an object. The light ray is then reflected off the chair and travels in a straight line to the our eye, enabling us to see the chair.
- Light travels as a wave. But unlike waves of water or sound waves, it does not need a medium to travel through.
- light bends when it moves from air to water. When light bends in this way, it is called refraction.

#### Key vocabulary

- Light: A form of energy that travels in a
- Wave: from 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 spectrum.
- Prism: A prism is a solid 3D shape with flat sides. The two ends are an equal shape and size. A transparent prism separates out visible light into all the colours of the spectrum.
- 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 things let some light through but scatters the light so we can't see through them properly.
- Opaque: Describes objects that do not let any light pass through them.

The law of reflection states that the angle of incidence is equal to the angle of reflection.

Can you calculate the missing angles below?



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.

Draw the shadow below.

Light source

Object blocking light

Shadow



What I have learnt.