

*Light and reflection!*

# What is light?

- Light - Light is a type of energy that travels as a wave. Light waves travel from a source of light in straight lines. Consequently, the waves stimulate sight and make things visible.
- Without these waves of light, we wouldn't be able to see things around us.
- <https://www.bbc.co.uk/bitesize/topics/zbssgk7/articles/z2s4xfr>

# Light!

- Dark - Dark is the absence of light. If it is dark, there is no light source available.
- When might you have experienced complete darkness?
- Were you able to see?
- Why is it rare to experience complete darkness?

# Question!

A mirror and the moon have something in common.

What might they have in common?

# Light

*Light waves travel from a source of light in straight lines.*

- As we have already seen, we require a source of light to help us see objects and around ourselves.
  - So how do we get light?

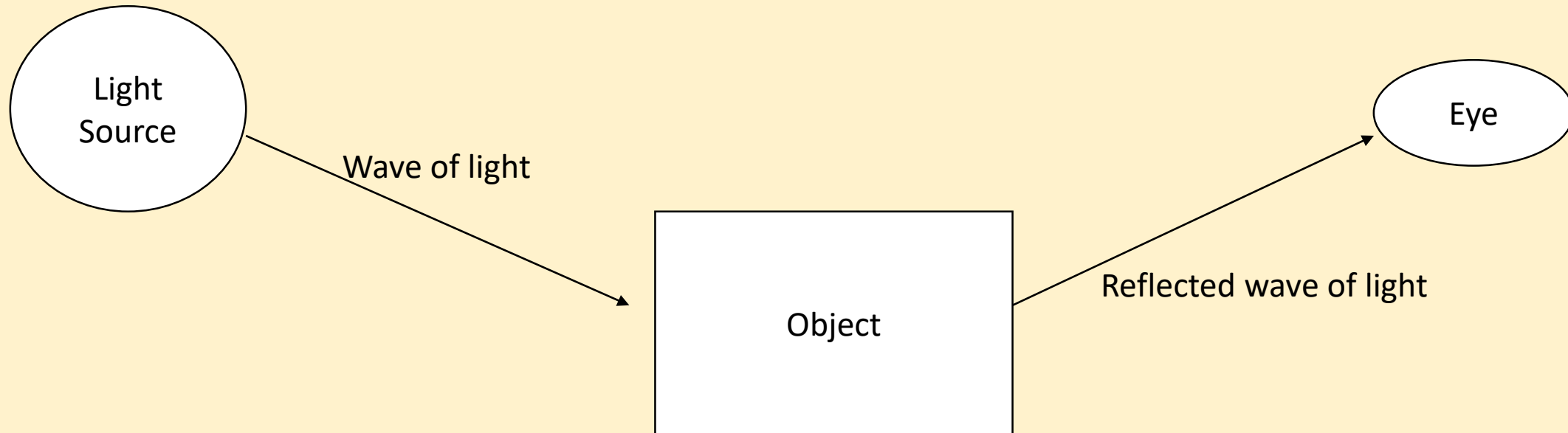
*How many light sources can you identify in this picture?*



# Light!

- Light is made up of little photons which are little particles of energy.
- It travels as a wave and can travel through a completely airless space (a vacuum).
- Light waves that travel are often called rays or beams of light.

- Rays of light travel in a straight line.
- The wave of light will travel from the light source initially and hit objects around us.
- The rays of light reflect off an object before travelling into our eyes.





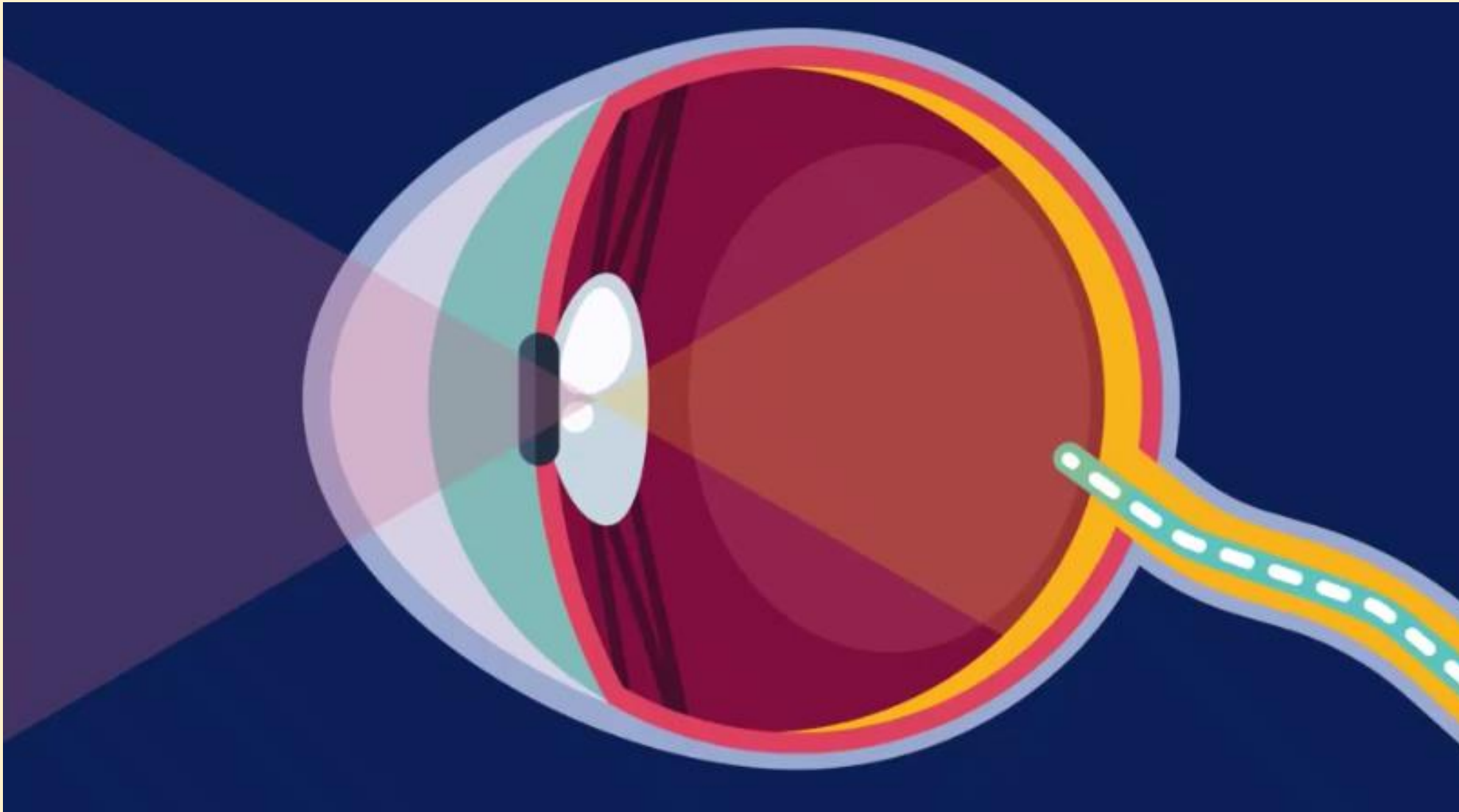
# Task!

- Draw your own diagram of how light travels so that we are able to see objects around us.  
(remember to use a ruler for your waves of light)

*How does the eye detect light?*

<https://www.bbc.co.uk/bitesize/topics/zbssgk7/articles/zp7f8mn>

Label your diagram to explain how we are able to see.



*What is reflection?*

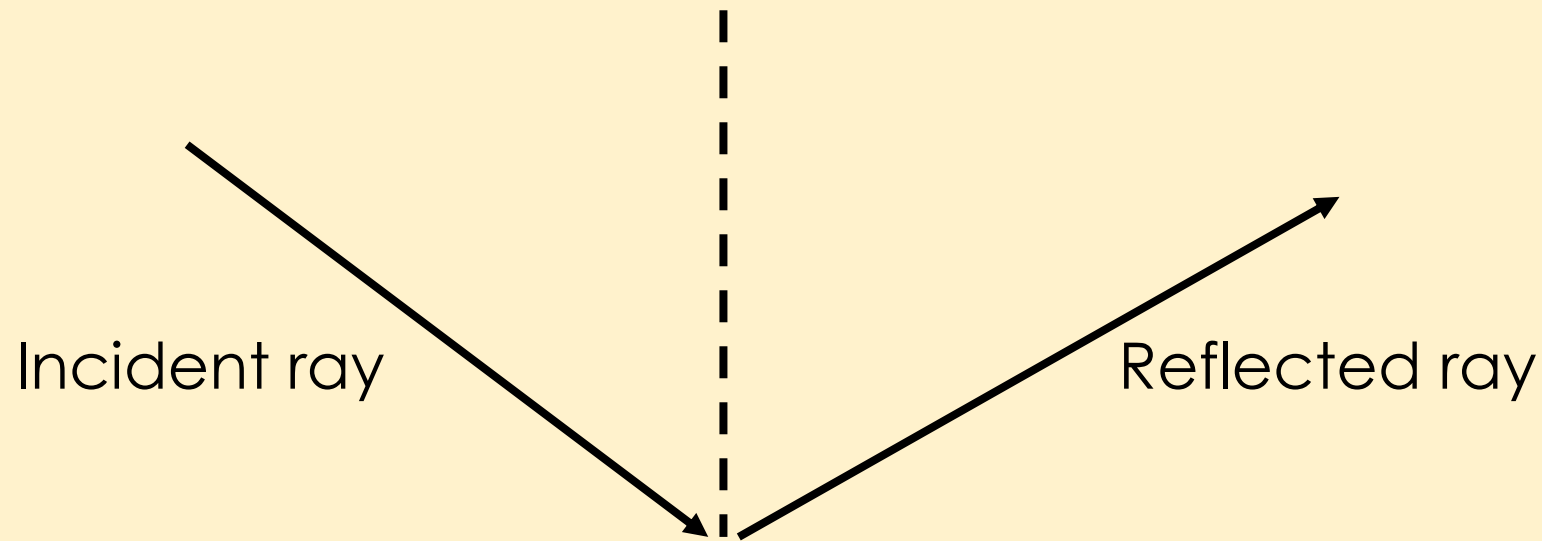
<https://www.bbc.co.uk/bitesize/topics/zbssgk7/articles/zqdx82>

# What is reflection?

- Reflection is when light bounces off a surface, changing the direction of a ray of light.
- All objects reflect light; smooth and shiny surface reflect all the rays of light at the same angle, rather than scattering the rays of light like rough or dull surfaces.

# Reflection:

The light ray that hits the mirror or object is described as the incident ray. The ray of light that bounces off is known as the reflected ray. When rays of light reflect, they obey the law of reflection: The angle of incidence always equals the angle of reflection.



Light

*How is light travelling to enable the boy to see the computer behind the wall?*

Mirror

Remember light travels in straight lines

Explain the importance of the mirror in being able to see the computer. Why would he not be able to see it without the mirror?

Boy

Wall

Computer

<https://www.bbc.com/bitesize/clips/ztcg9j6>

- Can you name any materials that are particularly reflective?
- Are there any materials you know that aren't very reflective?