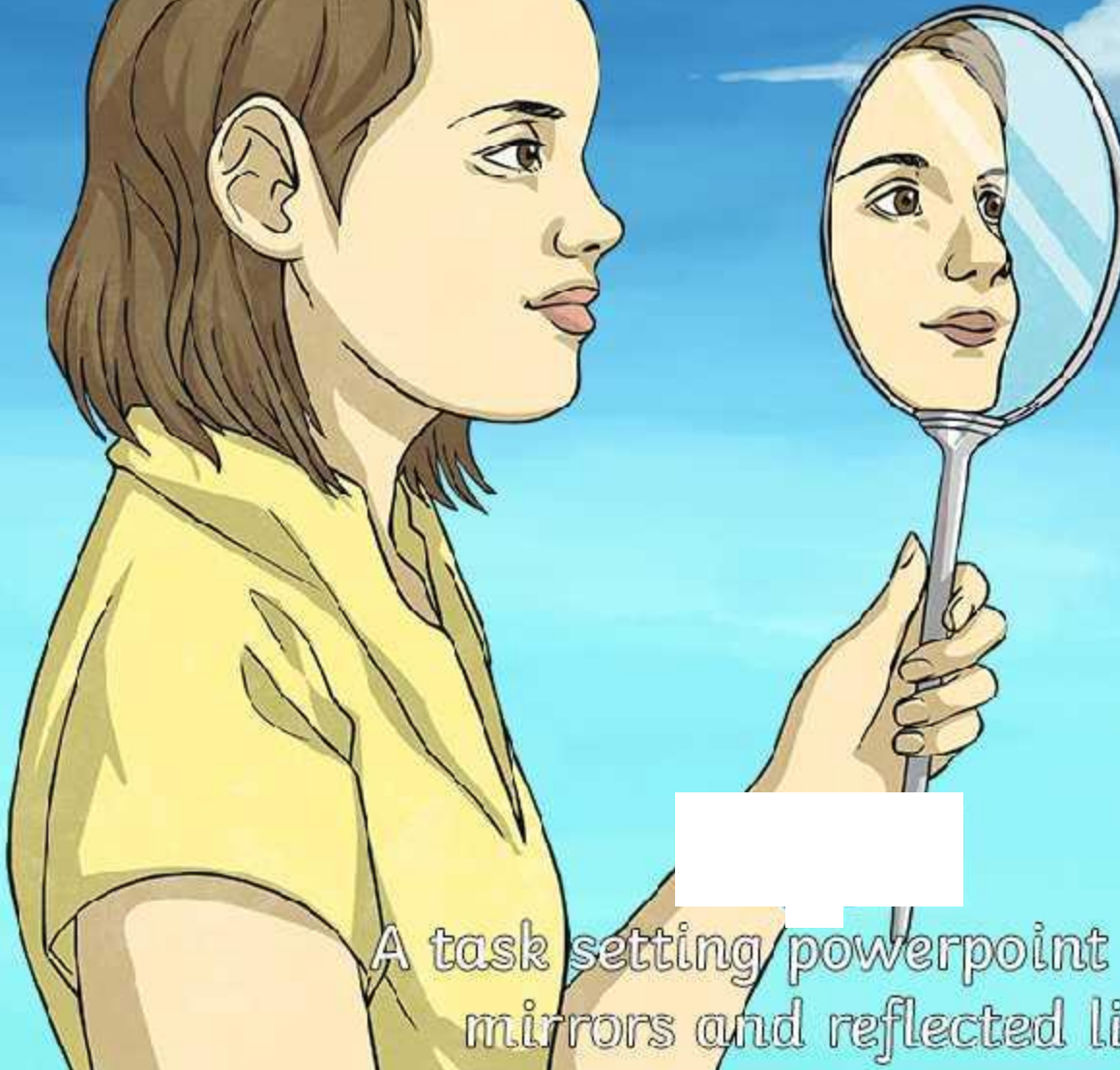


# Mirrors



A task setting powerpoint about mirrors and reflected light

# Aim

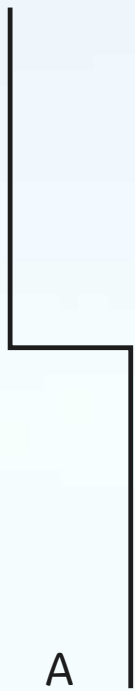
- To understand that light from an object can be reflected by a mirror.

# Success Criteria

- To know that we can see objects in mirrors because reflected light enters our eyes.
- To know that the direction of a beam of light travelling from a light source can be drawn using a straight line and an arrow.

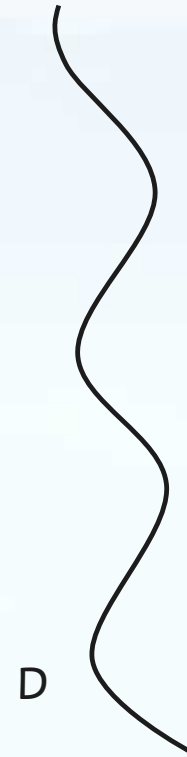
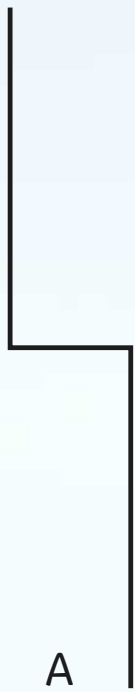
# Recap

Which drawing of a beam, of light shows how light travels?



# Recap

Light travels in a straight line from a light source.



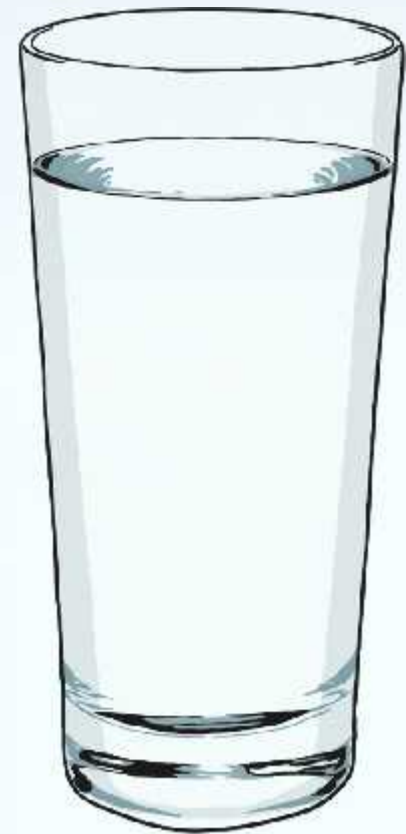
# Recap

What type of object would make the strongest shadow if it blocked a beam of light? Why?

An **opaque** object?

An **transparent** object?

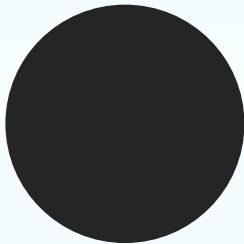
An **translucent** object?



# Answer

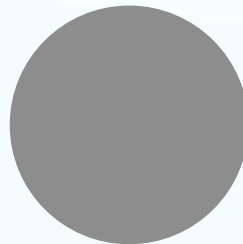
What type of object would make the strongest shadow if it blocked a beam of light? Why?

An opaque object



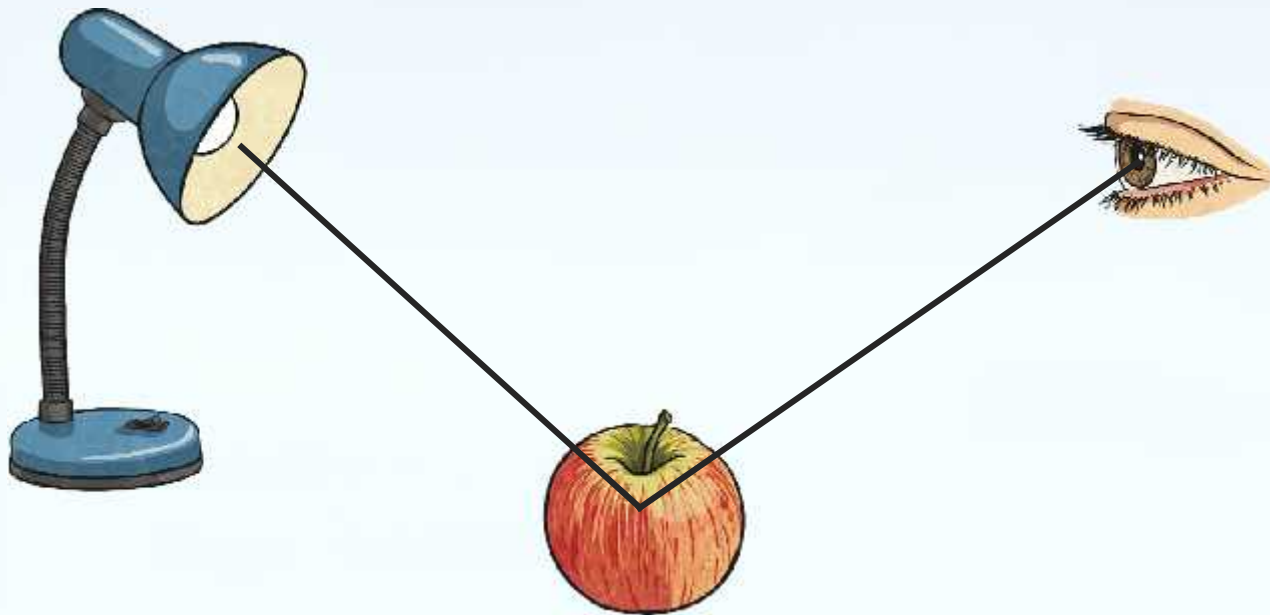
An transparent object

An translucent object



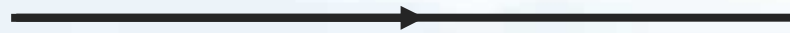
# Reflecting light

All surfaces reflect some light. For us to see a surface, light has to reflect off it and enter our eyes.

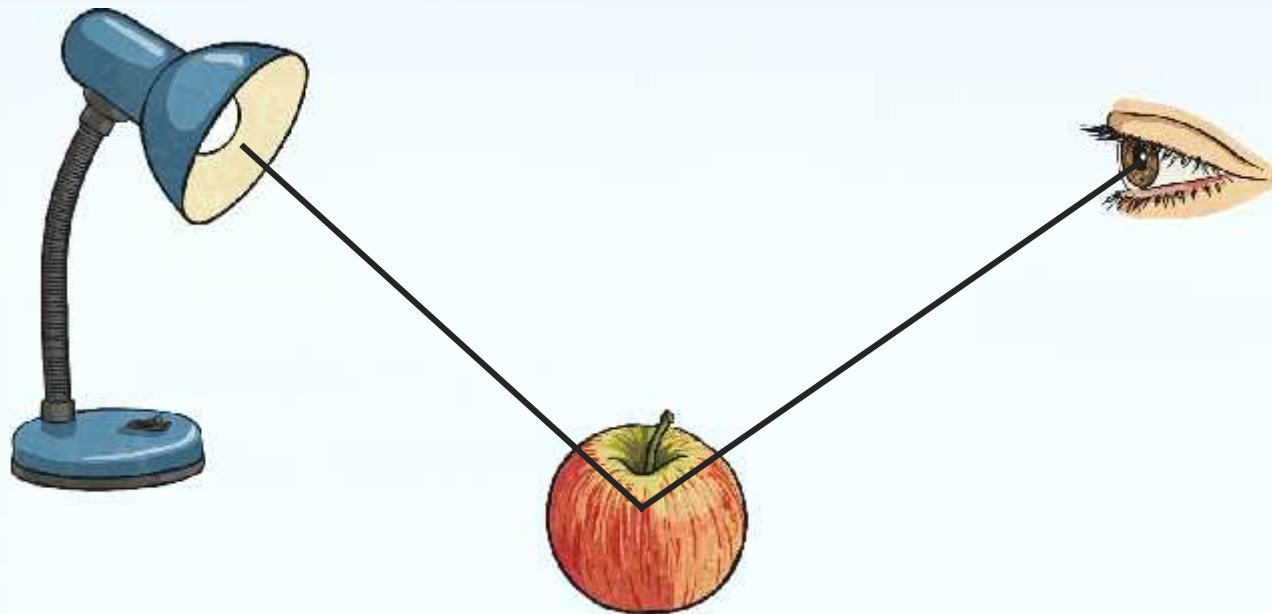


# Reflecting light

The direction that light travels can be drawn using arrows on a straight line.



Can you show which way the light is travelling by including arrows in this diagram?



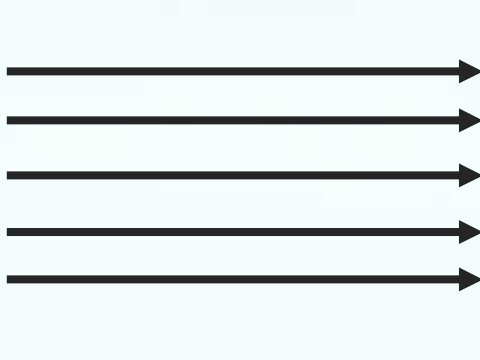


# Reflecting Light

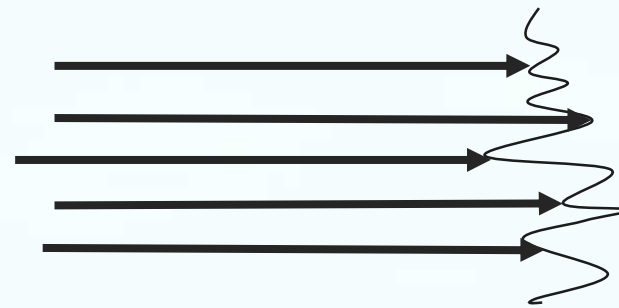
Different surfaces reflect light in different ways.

Talk to the person next to you, do you think these two surfaces will reflect the beams of light differently? Why?

A



B



# Reflecting Light

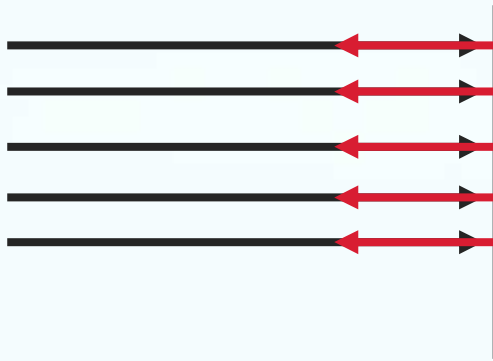
Light bounces off a surface at the same angle that it hits it.

Therefore, uneven surfaces scatter light more than smooth surfaces.

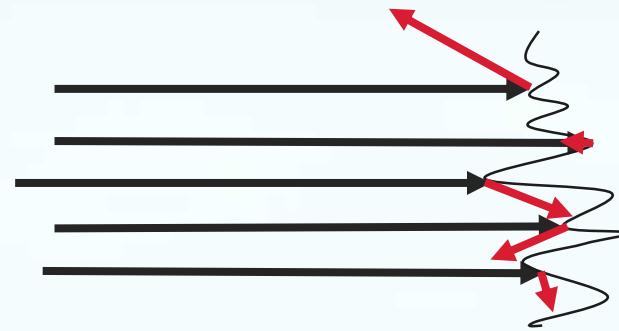
When light is scattered off an object we describe it as a **diffused reflection**.

When light is not scattered we get a **mirror image** or **specular reflection**.

A

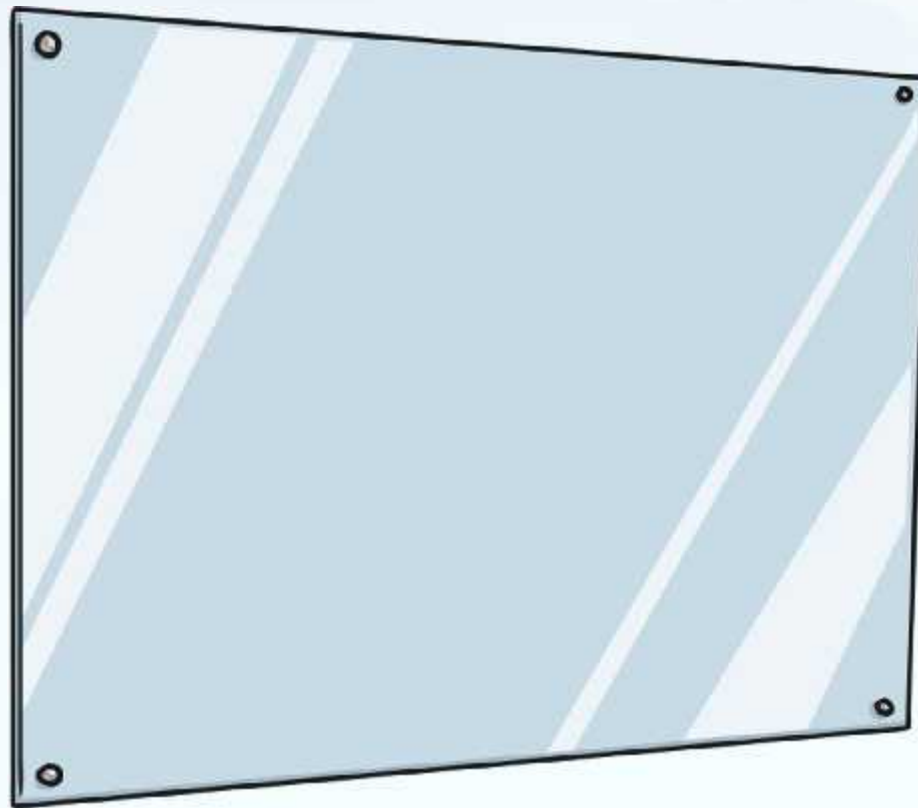


B



# Mirrors

Mirrors are so smooth that they reflect light without disrupting the image that is being reflected and create a **specular reflection**.





# Activity 2: Periscopes

Kneel down behind your chair.

Can you use two mirrors to see over the top of the chair?

If you can, you have made a basic **periscope**.

Can you draw a diagram to show how the light travelled from behind the chair, into your eyes? Use arrows to show the direction that light travels.



# Activity 3: Mirror Writing

Rest your mirror vertically on a piece of paper.

Can you write your name on the paper? You are only allowed to look at your hand in the mirror!

What do you notice?



# Plenary

**Can you complete these sentence?**

1. Light travels in \_\_\_\_\_ lines away from their \_\_\_\_\_.
2. The direction that light travels can be drawn using \_\_\_\_\_ on a straight line.
3. \_\_\_\_\_ surfaces create a diffused reflection by scattering the light.
4. \_\_\_\_\_ create specular reflections.

Draw two mirrors on this diagram to let the light from the torch enter the eye:

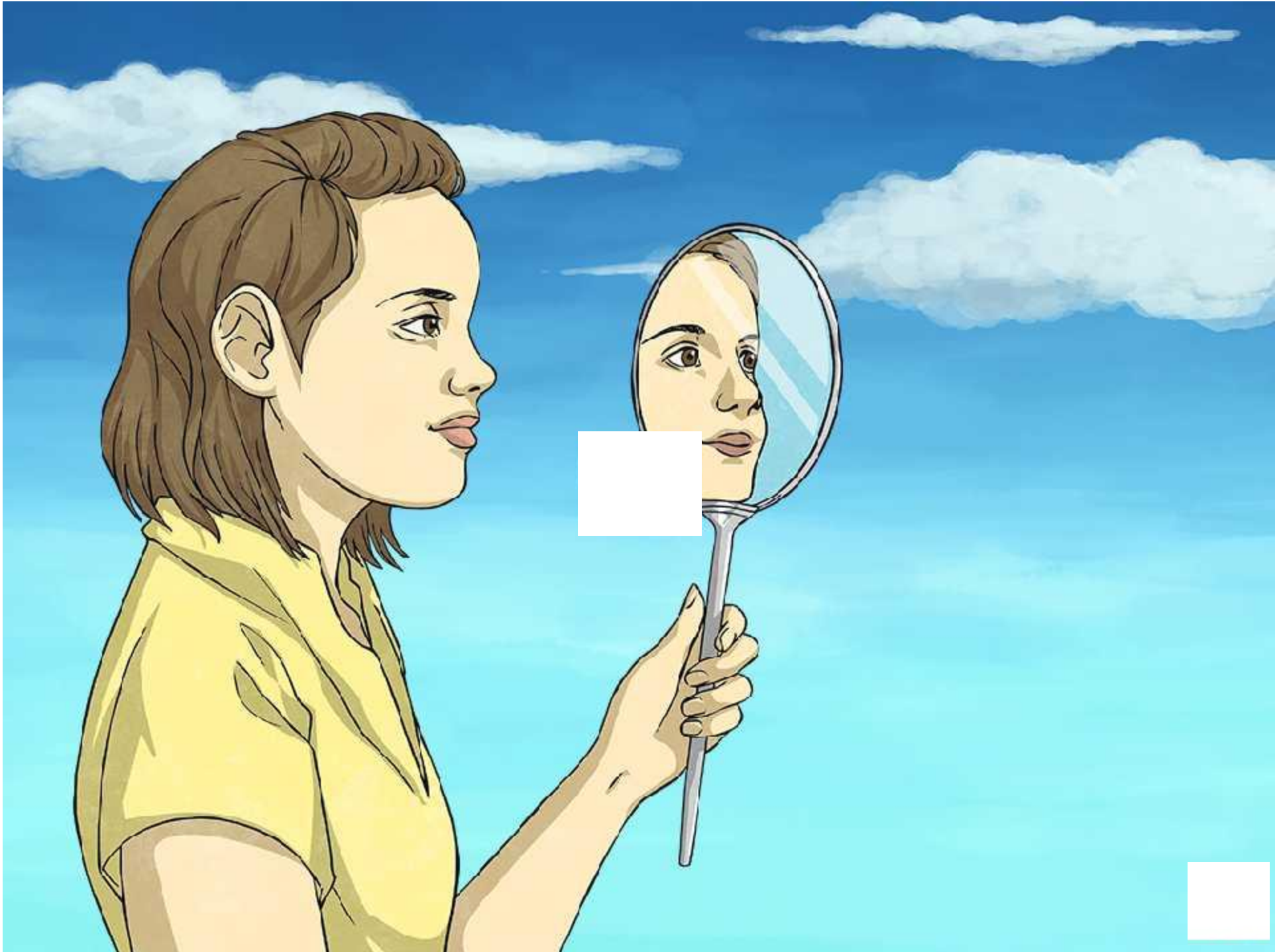
# Plenary

**Can you complete the diagram?**

Draw two mirrors on this diagram to let the light from the torch enter the eye:







# Mirrors Teacher Notes

**LO: To understand that light from an object can be reflected by a mirror.**

- To know that we can see objects in mirrors because reflected light enters our eyes.
- To know that the direction of a beam of light travelling from a light source can be drawn using a straight line and an arrow.

## **Activities:**

This task setter contains three mini-activities which are all designed for children to explore the nature of mirrors and the way in which light travels.

These could be carried out in rotation by splitting your class up into small groups, or you may choose to focus on just one of the activities and make it more in-depth, the periscope activity would be ideal for this and you may wish to link it with a design and technology learning objective.

## **Equipment:**

- Small mirrors.
- Dry-wipe markers for use on classroom tables (you could use A1 or A2 paper instead).
- Torches