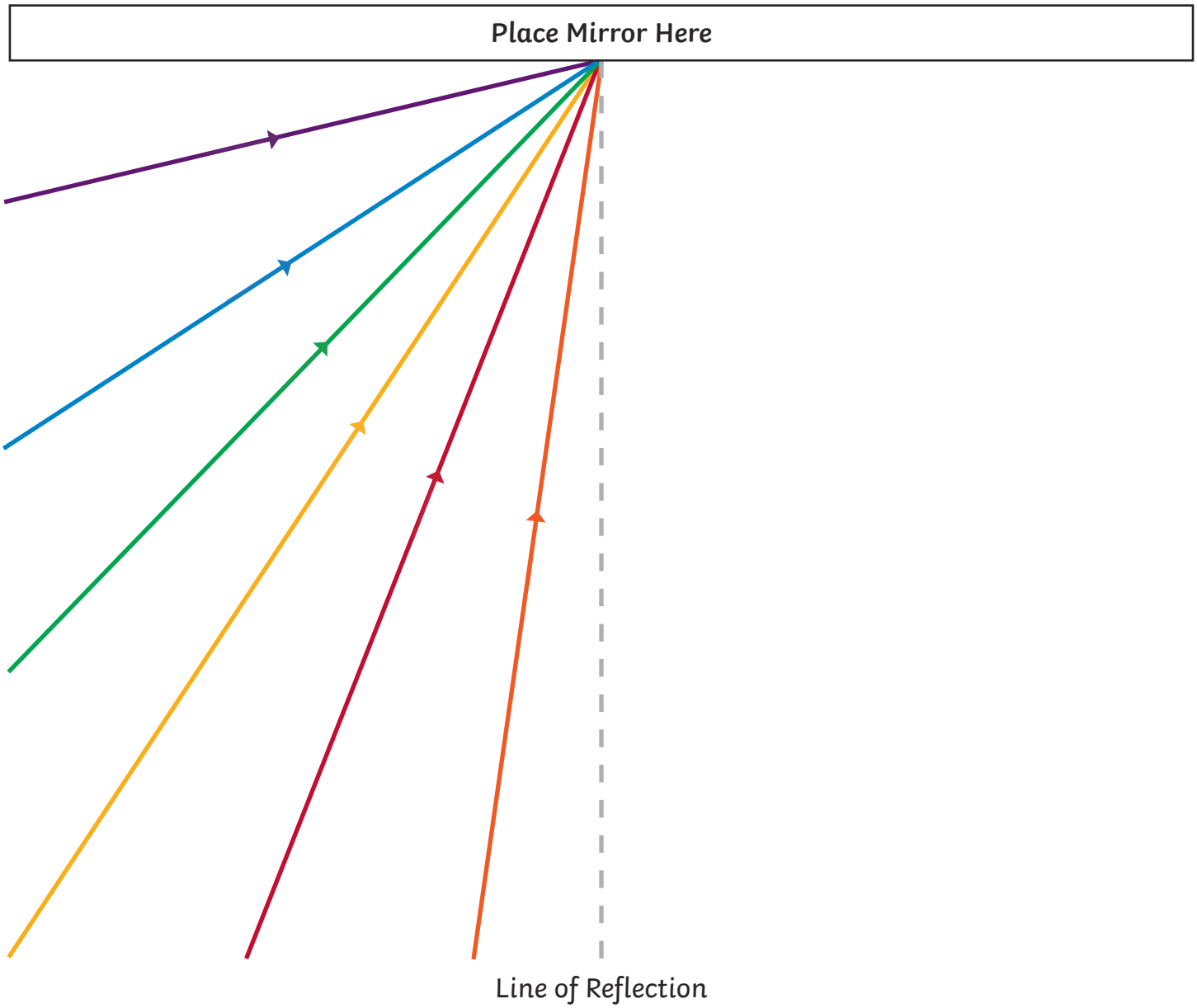
Does Light Reflect at the Same Angle?

You will need:

- Mirror
- Coloured pens or pencils
- Protractor
- Torch
- A piece of card with a slit in it so you can shine a thin beam of light through it.

Method

Shine a ray of light from your torch, through the card and down a coloured line. Using a ruler, mark with the same colour on the other side where the reflection lands. Use a protractor to measure the angle of each line from the line of reflection. **What do you notice?**



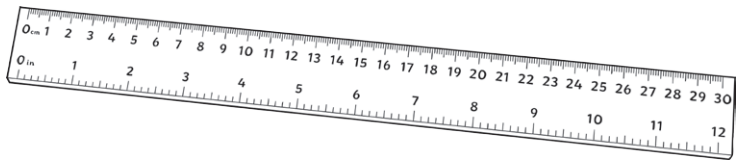
Draw Your Own Light Path

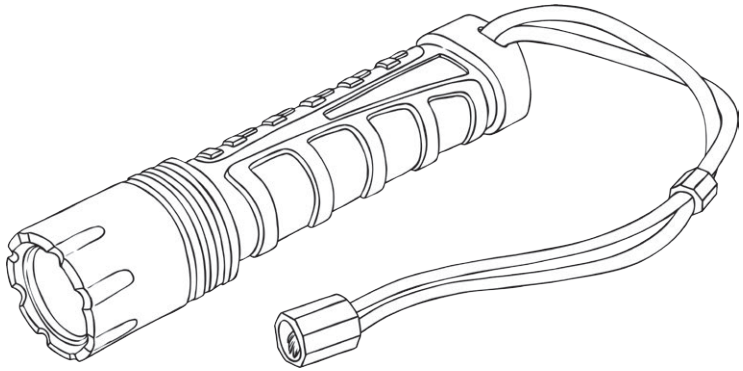
You will need:

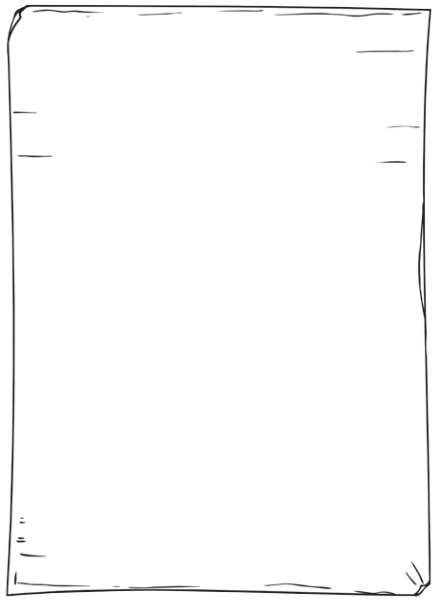
- Ruler and pencil
- Mirrors
- Torch
- A piece of card with a slit in it so you can shine a thin beam of light through it

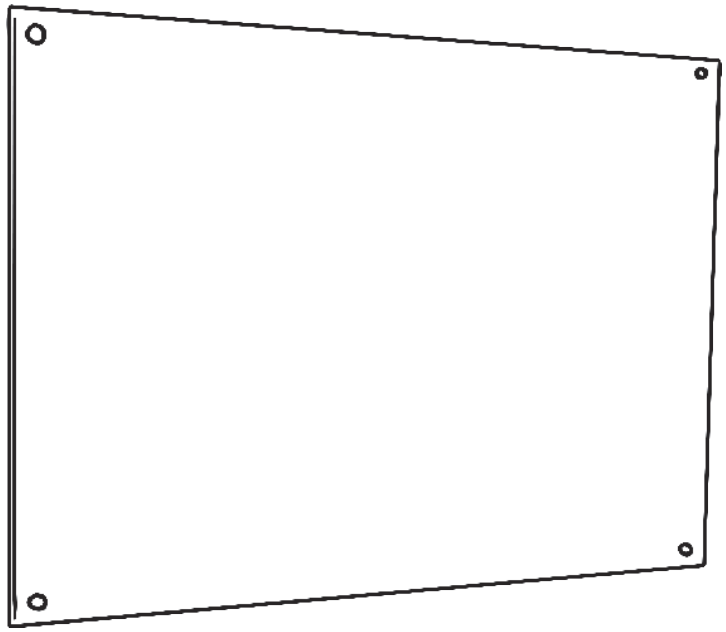
Method

Using a ruler, draw your name, initials or a pattern using a continuous track of straight lines. Then, starting at the beginning, use mirrors to reflect the light along the path you have drawn. **Can you do it? Can your friend do it? Have a look at it in a darker room.**









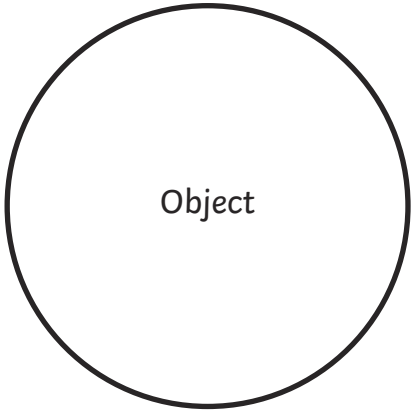
Investigating How Shadows Change When the Light Source Changes

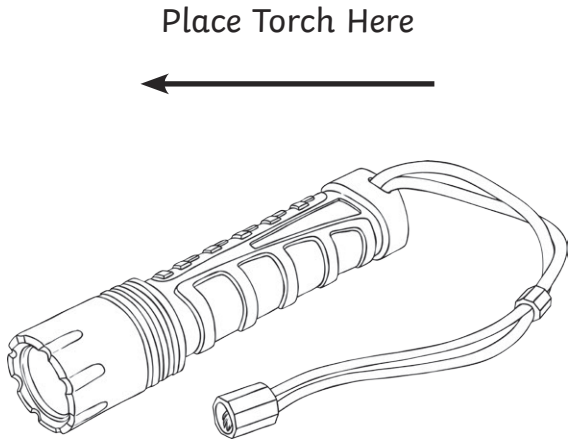
You will need:

- Torch
- Ruler
- Pencil
- A glue stick
- A square of card or another opaque object with plain edges to cast a shadow.

Method

Place your object on the object spot, shine the torch from the torch place and use the ruler and pencil to draw the edges of the shadow that is cast (label it 1). Now lift the torch level with half way up the object and draw the new shadow (label it 2). Now lift the torch to level with the top of the object and tilt it down slightly. Draw the shadow (label it 3). **What do you notice?**





Investigating How Shadows Change with Distance

You will need:

- Torch
- Ruler
- Pencil
- A glue stick
- A square of card or another opaque object with plain edges to cast a shadow.

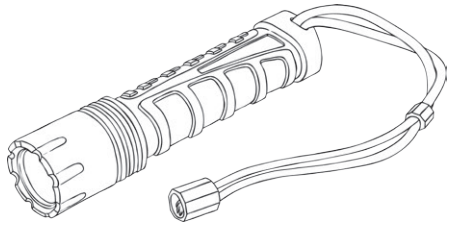
Place your object on the number 1 spot, shine the torch from the torch place and use the ruler and pencil to draw the edges of the shadow that is cast (label it 1). Do the same, moving the object to 2 and then 3. **What do you notice?**

Object 3

Object 2

Object 1

Place Torch Here



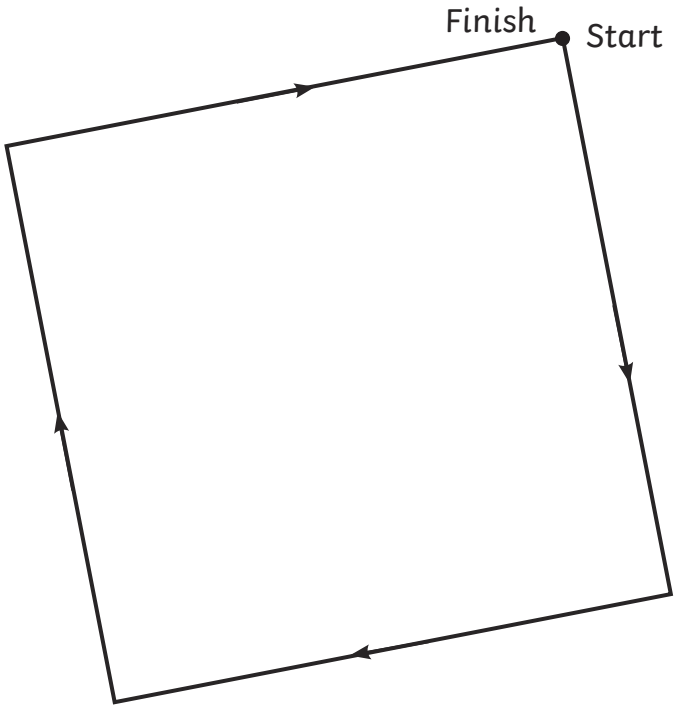
Reflecting Light in Straight Lines

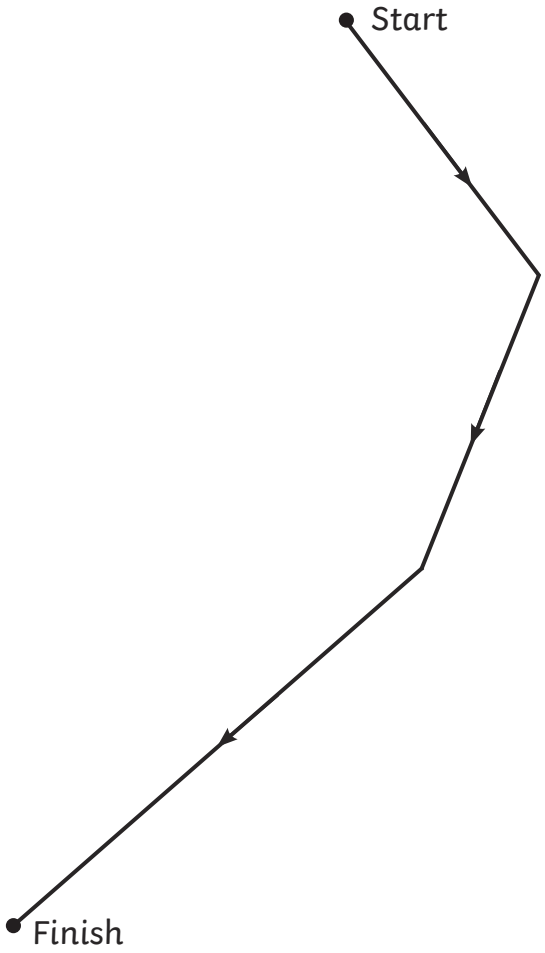
Method

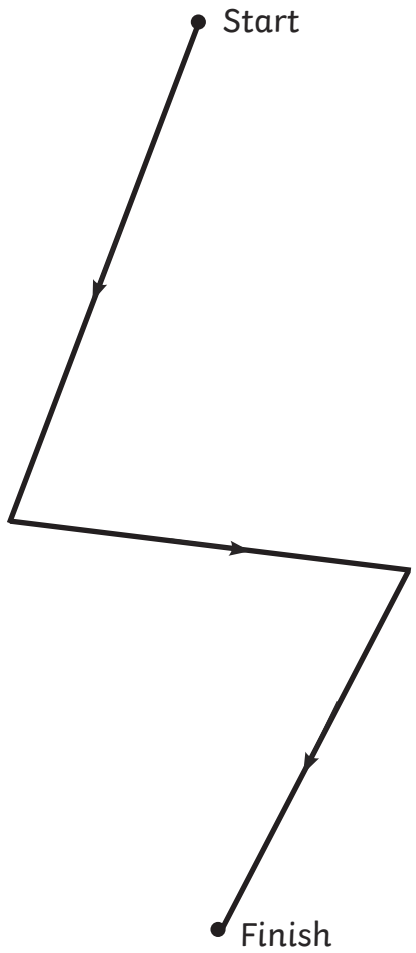
Shine a ray of light through the card from your torch down a coloured line. Place the mirrors where you think they are needed to make the light travel the paths of lines on the paper. Mark on the paper where you put the mirrors. **Can you do it?**

You will need:

- Mirrors
- Torch
- A piece of card with a slit in it so you can shine a thin beam of light through it.







Using Mirrors to Plot a Light Course

Method

Shine a ray of light through the card from your torch down a coloured line. Place the mirrors where you think they are needed to make the light travel the paths of lines on the paper. Mark on the paper where you put the mirrors. **Can you do it?**

You will need:

- Mirrors
- Torch
- A piece of card with a slit in it so you can shine a thin beam of light through it.