



Science Activity

Ray of light

Time to prepare: 5 - 10 minutes



□ Please stay safe and ask a grown up to supervise you

Resources/ things you need

- A dark room - Turn off the lights and shut the curtains so it is as dark as possible.
- Torch
- One piece of A4 thin card. Any colour.
- Blue tack, modelling clay or plasticine
- Small mirror
- Scissors

What to do

Try this experiment to find out how light travels.

1. First, fold the A4 piece of card in half and cut it in half so it is A5 size.
2. Then, place the two pieces of card together and in the middle of the card cut a slot around 5cm deep into one of the long edges.
3. Next, stand one of the pieces of card on its slotted edge. Support it with four pieces of blue tack, modelling clay or plasticine near the corners.
4. Stand the other piece of card on its slotted edge about 15 cm in front of the first piece of card. The pieces of card should be parallel and the slots should be in line with each other. Again, support the card with four pieces of blue tack, modelling clay or plasticine near the corners.
5. After that, make the room dark and shine the torch through one of the slots from about 10cm away. Move the torch from side to side to make the ray pass through both slots. **What does the light do?**
6. **Challenge:** Replace one piece of card with a mirror. Make sure the reflecting side is facing the remaining piece of card. Shine the torch through the slot towards the mirror. **Does the light stop?**

Background and the link to learning

When you turn on a torch, it produces a ray of light. This experiment shows how light travels only in straight lines.

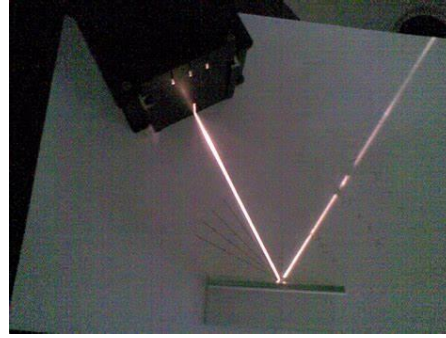
Light can only pass all the way through when the torch and both slots are all in line with each other. When the torch and slots are not in line,

Pictures



no light goes through the second slot. This shows that light only travels in straight lines.

When the mirror is placed facing the remaining piece of card the light ray that hits the mirror bounces back off the mirror like a ball bounces off a wall when you throw it. When you move the torch from side to side, you'll see that the ray always bounces off the mirror at the same angle that it hits.



[Link to other similar activities](#) - Please see: [Rainbow colours](#).

