Shadow Explorer: Move the Torch

Investigate with an adult. Keep the torch out of everybody’s eyes.

Work with an adult. Use a battery torch, opaque card and paper screen.

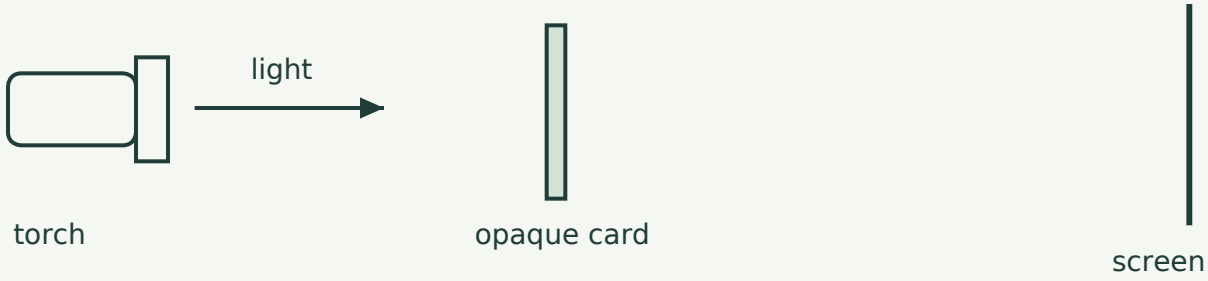
1. Fix the card and screen 30 cm apart.

2. Mark torch positions 30 cm and 15 cm from the card.

3. Keep the card, screen and light direction still. Move only the torch.

4. Try each position twice. An adult helps trace and measure the shadows.

SET-UP SKETCH: NOT TO SCALE



My prediction

Which torch position might make a wider shadow?

Circle: 30 cm / 15 cm / not sure

Tell an adult why you think so.

Opaque means that light does not pass through the card.

Shadow Explorer: Record What Happened

Predictions are ideas. Observations describe what you actually see.

Keep the card and screen fixed. Trace each shadow on a fresh sheet in the same screen position. An adult helps measure the widest horizontal part.

Try 1: torch 30 cm away

Sketch the shadow here.

Width: _____ cm / unclear

Try 1: torch 15 cm away

Sketch the shadow here.

Width: _____ cm / unclear

Try 2: torch 30 cm away

Sketch the shadow here.

Width: _____ cm / unclear

Try 2: torch 15 cm away

Sketch the shadow here.

Width: _____ cm / unclear

When the torch was nearer the card, the shadow was:

wider / narrower / the same / unclear

What did the repeat tell you? Tell an adult or write.