

Making Shadows

Key Stage 2

Topics covered: Light and dark, shadows, shapes

Teacher's Notes

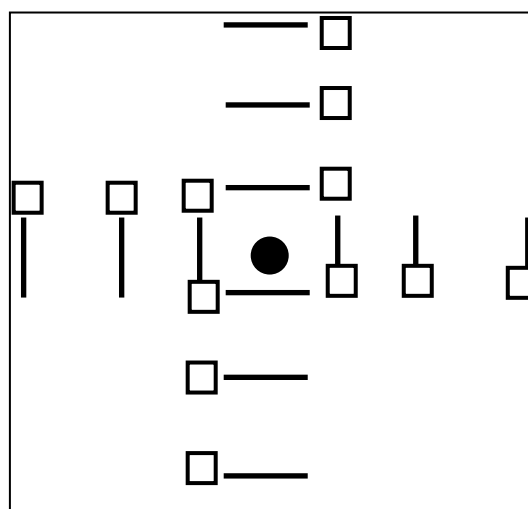
This extension activity looks at how shadows are formed and what affects their size, direction and shape.

Equipment per team: A3 sheet of (white) paper, pencils, torch, figure, bluetack.

Activity: Making Shadows

This activity works best in a dark room.

1. Place the figure in the centre of the paper and use bluetack to keep it upright.
2. Mark 4 points on the paper that are a distance from the figure equal to the height of the figure (see diagram).
3. Mark 4 points that are a distance half of the height of the figure (under the original points).
4. Mark 4 points that are a distance double the height of the figure.
5. Draw little boxes next to these points for students to tick.
6. Ask the students to move the torch around the figure so that they produce shadows that touch the points. Once they've produce the correct shadow they can tick the box.
7. Ask them to draw the outline of their shadows.



Extension:

Ask the students to point the torch at the figure so that a shadow is cast on the wall. Ask them to move the torch towards and away from the figure without changing direction.

Questions to ask the students:

What happens to the shadow when you tilt the torch up and down?
Answer: It changes size.

What happens to the shadow when you move the torch closer to the figure and further away?

Why do you think this happens?

Answer: As you move the torch closer to the figure the shadow gets more spread out, move it away it gets narrower and darker.

On a sunny day you see your shadow on the ground. Why?

Answer: You block the sunlight, the shadow is always in the opposite direction to the Sun.

Do you think your shadow changes during the day? How and why?

Answer: As the Sun rises and sets your shadow changes direction and changes size.