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Thinking cap

Sometimes, my shadow is long. At other times, it's short. I wonder why...

The size of the shadows vary during different times of the day.

Let's Explore!

Light it up!

You will need:
- Toy car
- Torch

1. Work in groups.
2. Turn off the lights in the classroom.
3. Place the toy car on the floor, near a wall.

4. Place the torch on the floor, facing the direction of the toy car and the wall behind it. Switch it on. Refer to the diagram of the set-up below.

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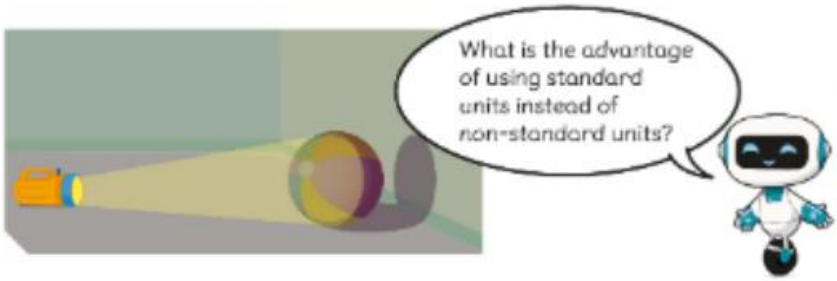
5. Discuss the following questions:
   - What do you see on the wall? a shadow or a dark area
   - Why do you see it only when the torch is switched on?
6. Draw your observation in the box below.

Light is required for a shadow to be formed.

You can use your handspan or an object such as a paper clip to measure distance or length. These are examples of non-standard units. They are not the same all the time. Is your handspan exactly the same as your friend's?

You can use a ruler or a measuring tape to measure distance or length in standard units. Standard units are the same all over the world. Some examples are centimetres (cm) and metres (m).



to get accurate measurements

Place the object 5 cm away from the light source. Use a ruler to measure the height of the shadow and record it in the table on the next page.

Predict what will happen to the shadow when you increase the distance between the light source and the object.

Circle the correct word to write a conclusion about the investigation:

The shadow becomes (taller / shorter) when the object is further away from the light source.

Do the results support your prediction?

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Activity Book
Activity 7B, p. 59