

## Changing Shadows

Set up an object and place your torch on the floor to make a shadow. It works best if the shadow is made on a wall. Measure how far away from the object your torch is and write this down.

What do you think will happen to the shadow if you move the torch closer to the object? Try it! Measure again and write down the distance. What has happened to the shadow? How big is it? Why?

What do you think will happen to the shadow if you move the torch even further away than it was in the beginning? Try it! Measure again and write down the distance. What has happened to the shadow? How big is it now? Why?

Keep moving the torch closer and further away, observing what is happening to the shadow. Can you explain what you are observing using labelled diagrams to help? You could use the space below. Why is the shadow changing size? Can you explain the rule to someone else?

Use this table to record your measurements.

Distance between torch and object	Size of shadow

Where should you put the torch to make the biggest shadow possible? Can you make a huge shadow monster from a tiny toy?

Where should you put the torch to make the smallest shadow possible? Can you make something big seem really small?