

Science Skills

How can shadows change? Test it!

Word box
blurred

Shadows do not always look the same. Some look very dark, others are lighter. Some have sharp, crisp edges, others are **blurred**. The size of shadows can also change. The children were making a shadow puppet play about sailing to a desert island. They wanted the island to look bigger as their sail boat got closer to it. How can they do this?



If we make lots of different sized islands each one getting bigger we can keep changing them and it will look as if the island is getting closer.

Let's see how many ways we can change the shadow. I'm just going to use a simple shape to try things out.



We could change the material. Would that work?

Make a simple shadow puppet. Explore how you can make the shadow change.

You will need...

paper, card, scissors, sticky tape, lolly stick or straw, lamp or torch, tape measure
Spend some time exploring how to change the shape of the shadows. How can you make the shadows bigger or smaller? What else could you move?

Light and Shadows

The children experimented with a simple shape. They drew around each shadow and measured the height. Then they moved the shape further away. They drew around the shadow again and measured the height. They repeated this with the shape further away from the light.



They drew a table of their results.

Distance from light (cm)	Height of shadow (cm)
10	39
20	33
30	31
40	30
50	29
60	28

Try it yourself or use their results.

- 1 What is the pattern between the distance of the puppet from the light source and the size of the shadow?**
- 2 Draw a picture to explain why you think the shadows changed like this.**
- 3 Write a rule about what you have found out.**