

Science - Year 3

Light – Block 3L

Light and Shadows

Session 5

Resource Pack

Task Sheet

I can make systematic and accurate measurements using standard units (centimetres)

How much does a shadow change in size when a light source moves closer or further away

Distance between light source and object	Length of shadow
5cm	
10cm	
15cm	
20cm	
25cm	
30cm	
35cm	
40cm	

From my results I notice that ...

Can you make a shadow that is smaller than the object?

Why might this be?

How much larger than the object can the shadow actually get?

What happens to the shadow as it gets bigger?

Why might this be?

Session 5 Teacher's Notes

Blackout Facilities

During this session the children will be investigating shadows which will be much easier to see in a darkened room. If your classroom has effective blinds or curtains, use these to block out extraneous light for the investigation tasks. If you do not have this option, you will need to move to a different room for the tasks that has blackout facilities, e.g. the hall.

Light Sources

Ensure that you have good quality torches for the children to use for investigations. Choose torches with a focussed forward facing beam if possible rather than those with a lantern style head that throws light all around. Make sure the batteries have plenty of life in them. Weak torches and flat batteries will not allow children to investigate shadows in a rewarding and meaningful way.

YouTube film clip

There is a YouTube film clip recommended for this session. Consider downloading it ahead to avoid unsuitable or distracting advertisements popping up during the lesson.

Health and Safety

- Before the children begin their shadow investigations, it is important to remind them that we are using powerful torches as a light source and that it is dangerous to eyesight if we accidentally shine a torch into people's eyes. For this reason we will only use torches inside our theatres.
- In the plenary you will use talcum powder to create a striking visual demonstration of light travelling in straight lines. Make sure you do this at safe distance from the children and place any children who are asthmatic as far away as possible. Take care not to inhale powder yourself.