

Science activity 4

Light & Sound Physical processes

Information
for
teacher



National Curriculum references: Science Key Stage 2 - Programmes of Study

1. Systematic Enquiry

- a** ask questions related to their work in science;
- b** use focused exploration and investigation to acquire scientific knowledge, understanding and skills;
- c** use both first-hand experience and secondary sources to obtain information;

3. The nature of scientific ideas

- a** obtain evidence to test scientific ideas in a variety of ways;
- b** recognise that science provides explanations for many phenomena.

Experimental and Investigative Science

1. Planning experimental work

- a** to turn ideas suggested to them, and their own ideas, into a form that can be investigated;
- d** that changing one factor and observing or measuring the effect, whilst keeping other factors the same, allows a fair test or comparison to be made;

2. Obtaining evidence

- a** to use simple apparatus and equipment correctly;

3. Considering evidence

- b** to make comparisons and to identify trends or patterns in results;
- c** to use results to draw conclusions;
- e** to try to explain conclusions in terms of scientific knowledge and understanding

4. Communication

- a** use appropriate scientific vocabulary to describe and explain the behaviour of living things, materials and processes;

3. Light and sound

everyday effects of light

- a** that light travels from a source;
- b** that light cannot pass through some materials, and that this leads to the formation of shadows;

Science activity 4

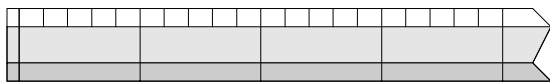
Light & Sound Physical processes

Instructions
for you to
follow

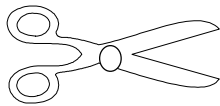


A **pin-hole** camera is a very simple camera. It is very similar to the **camera obscura**. Let's make a pin-hole camera and examine the classroom with it.

You will need to collect or make:



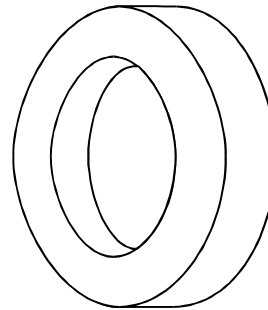
A ruler



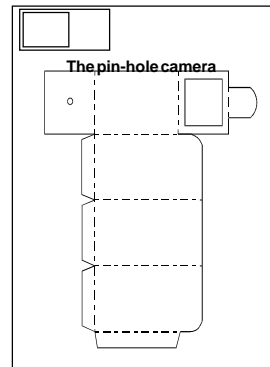
scissors



tracing paper



tape or glue



card ONE



Look at **card ONE**. Cut out the pin-hole camera. Tape or glue it together. Don't forget to put the tracing paper over the square end.

Once you have made the pin-hole camera, have a look through the viewing end.

Look at bright areas first. Then take the camera outside and look at the view.

Record what you have looked at and what you saw.

Now see if you can find out any information about the **pin-hole camera** and how it works or the **camera obscura**.

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Questions
to think
about



- 1) Make the pin-hole camera.
- 2) What can you see through the viewing window of the pin-hole camera?
- 3) What is odd about everything you see through the camera?
- 4) Why is it best to view bright things through the camera?
- 5) What happens if you place your finger over the pin hole?
- 6) What is a **camera obscura**?
- 7) Explain how you made the pin-hole camera and how you think it works
- 8) Draw a diagram of your pin-hole camera and a picture of the viewing screen.

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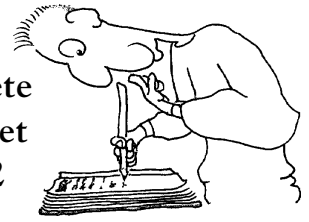
name..... class..... date.....

- 1) Show the teacher the pin-hole camera you have made.
- 2) Through the viewing window of the pin-hole camera, I can see:
.....
.....
- 3) What is odd about everything you see through the camera?
.....
.....
- 4) Why is it best to view bright things through the camera?
.....
.....
- 5) What happens if you place your finger over the pin hole?
.....
.....
- 6) What is a **camera obscura**?
.....
.....

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Complete
the sheet
2 of 2



name..... class..... date.....

7) This is how I made the pin-hole camera.

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8) Here is my diagram.

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To be
printed
on card

card
ONE

The pin-hole camera

