National Curriculum Supplementary material

Science activity 1

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;
b that making predictions can be useful when planning what to do;
c to decide what evidence should be collected;
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;
b to make careful observations and measurements;
c to check observations and measurements by repeating them

3. Considering evidence
a to use tables, bar charts and line graphs to present results;
b to make comparisons and to identify trends or patterns in results;
c to use results to draw conclusions;
d to indicate whether the evidence collected supports any prediction made;
e to try to explain conclusions in terms of scientific knowledge and understanding

Life processes and Living Things

b that there are life processes, including growth, nutrition and reproduction, common to plants.

3. Green plants as organisms
growth and nutrition
a that plant growth is affected by the availability of light and water, and by temperature;
b that plants need light to produce food for growth, and the importance of the leaf in this process;

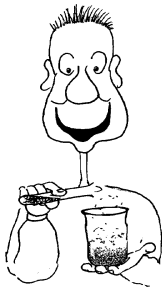
National Curriculum Supplementary material

Science activity 1

Light & Sound

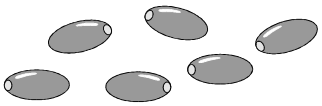
Physical processes

Instructions for you to follow



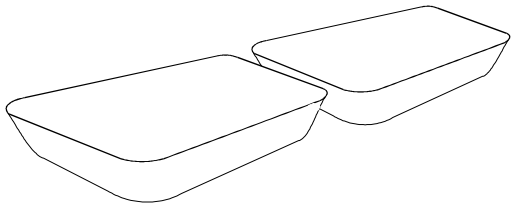
What effect does light have on plants? Let's find out.

You will need to collect or make:



seeds

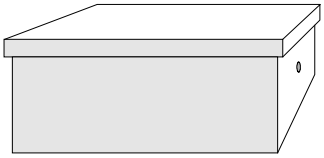
a large box with a lid

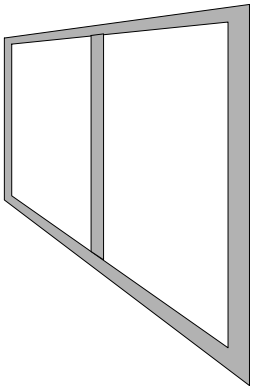


two containers

cotton wool

Place a layer of cotton wool in each container.
Dampen the cotton wool with water.
Place a few seeds on each piece of cotton wool.
Make a small hole in one end of the large box.
Place one tray of seeds in the large box and put the lid on.
Place the other seed tray near a window.
Place the large box near a window.





The experiment will take a few days to complete. Each day you will need to make a careful record of what has happened to the seeds in each container.

National Curriculum Supplementary material

Science activity 1

Light & Sound

Physical processes

Questions to think about

Once the experiment has been set up, answer the following questions:

1) What do you think will happen to the seeds in the big box?
2) What do you think will happen to the seeds in the other container?
3) Why do you think these things will happen?
4) How tall do you think the plants in the big box will grow?
5) How tall do you think the other plants will grow?
6) Draw a diagram of the experiment you have set up.

Each day make a record of what has happened to each group of plants. Think carefully about what would be a good way of recording everything. Don't forget to include in your record, how much each group of plants grow.

After one week, answer the following questions:

7) What are all the differences between the two groups of seeds?
8) How have these differences come about?
9) Why did you need a group of plants growing normally, and one growing in a box?
10) What would have happened if the box had no hole in it?
11) Make a graph of the growth of each group of plants. Take the information from you daily record.
12) Draw a diagram of your experiment now.

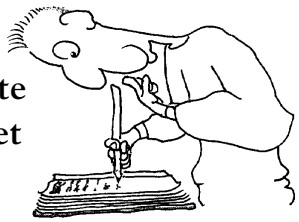
National Curriculum Supplementary material

Science activity 1

Light & Sound

Physical processes

Complete the sheet 1 of 3



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

1) This is what I think will happen to the seeds in the big box:

.....

.....

.....

2) This is what I think will happen to the seeds in the other container:

.....

.....

.....

3) I think these things will happen because:

.....

.....

.....

4) I think the plants in the big box will grow ☐ tall.

5) I think the other plants will grow ☐ tall.

6) Here is my diagram of the experiment I have set up.

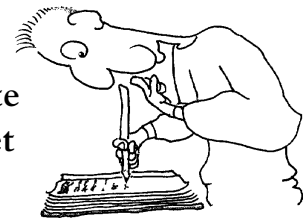
National Curriculum Supplementary material

Science activity 1

Light & Sound

Physical processes

Complete the sheet 2 of 3



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

Here is my record of what happened to each group of plants:

DAY 1

DAY 2

DAY 3

DAY 4

DAY 5

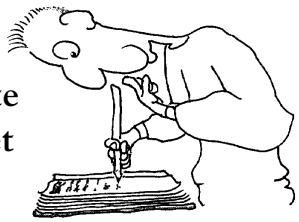
National Curriculum Supplementary material

Science activity 1

Light & Sound

Physical processes

Complete the sheet 3 of 3



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

One week has passed by:

7) The differences between the two groups of seeds are:

.....

.....

.....

8) I think these differences have come about because:

.....

.....

.....

9) This is why we needed a group of plants growing normally, and one growing in a box:

.....

.....

.....

10) If the box had no hole in it, this is what would have happened:

.....

.....

.....

11) Show the teacher your graph and your final diagram.