

Folder: Science P1-3
Topic: Energy – Light, p16-20
Level: B

Using the Snapshot

Introduction

By using the snapshot, you can get the LogIT software to draw a bar graph for you. This can be more accessible for P1-3 pupils than a line graph.

The teacher sets up the datalogger to record snapshots. Then the green button is pressed every time a snapshot is required. Finally, the datalogger is plugged into the computer, the data is 'fetched' and a bar graph is drawn.

1. Using the snapshot to record light levels round the school/classroom

You need:
LogIT Explorer
A computer and connecting USB cable
A torch

Now here's what to do:

Step 1

Do not plug the datalogger into the computer.

- Switch on the datalogger with the Green start button.
- Press the blue menu button twice until it says "Press Green to start snapshot >"
- Press the Green button. You should see it say "Logging started" and then it returns to the usual display. Don't worry that the display does not look any different at this point – that is how it should be!

Step 2

Look at the worksheet '**Light Snapshots**' with pupils. Try to guess which place will have the highest light reading and which the lowest.

Step 3

Use the worksheet to take snapshot readings. At each place, whoever is taking the reading should point the light sensor (Sensor 2) at the light source, so that it is a fair test, and then press the Green button once. You should see it say "Storing readings". It is also important that the snapshots are taken in the same order as on the worksheet, so you can compare results.

Step 4

Very important! Remember to press the Red button to stop logging. You will see it say “Logging stopped”.

Step 5

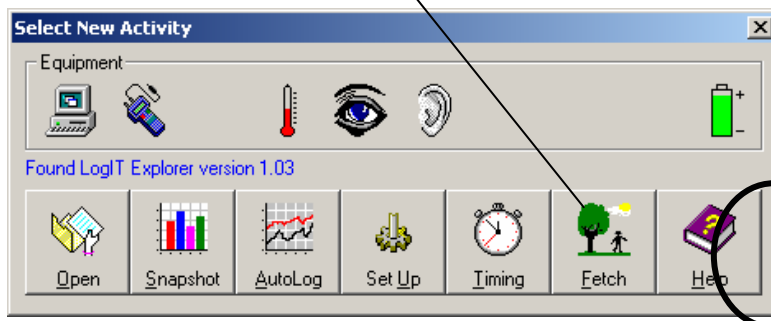


LogIT Lab Level 1

Connect the datalogger to the computer. Double click to open LogIT Lab Level 1 (or 2). Click the Fetch button.

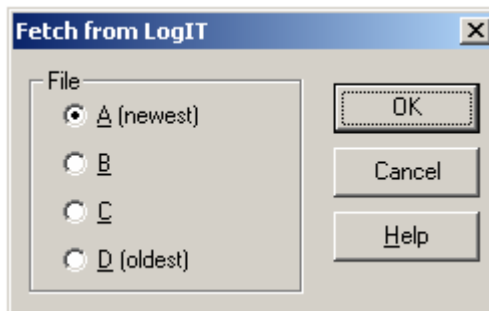


Open RM Favourites folder, then look inside the Datalogger folder.



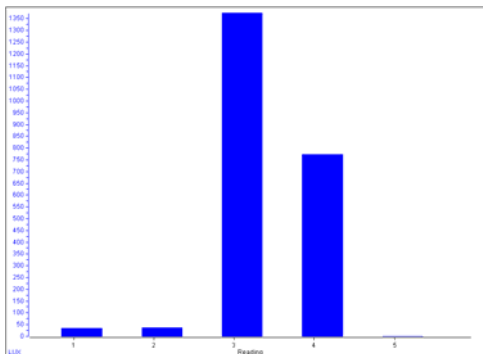
Step 6

Click OK to fetch the data.



Step 7

On the top right of the graph display, click to remove the tick from the temperature and sound sensors. Now the graph will only display the light data. If the bars are tiny, you will need to press the magnifying tool.



The bars on the graph will be in the order that the snapshots were taken. Where was the highest light reading? Were your guesses right? The graph can be printed out for pupils to add labels and write about their findings.

2. Using the snapshot to record how much light passes through materials with varying degrees of transparency

You need:

LogIT Explorer

A computer and connecting USB cable (see 'An introduction to using the LogIT Explorer datalogger' document)

A selection of different coloured samples that let light through, eg tissue paper, crepe paper, cellophane, etc.

A torch

Now here's what to do:

Step 1

Do not plug the datalogger into the computer.

Stick the datalogger to the table with blutack. Bluetack the torch in front of it, so that it is shining at the light sensor (in the pupil of the 'eye'). If you have a bright torch, check from the datalogger display that the reading is not "<19999" (which is over the maximum). If it is, adjust the position of the torch until the reading is less than that.

Once the experiment has started, the position of the torch and datalogger should not be changed, or it will not be a fair test.

Step 2

- Switch on the datalogger with the Green start button.
- Press the blue menu button twice until it says "Press Green to start snapshot >"
- Press the Green button. You should see it say "Logging started" and then the display returns to normal.

Step 3

Look at the materials. For younger pupils, 3 samples will be enough. Hold them up to the light and see which ones let most light through. Try to agree the order of transparency and place them in that order.

Step 4

Start to take snapshot readings. Place the first sample over the light sensor and then press the Green button once. You should see it say "Storing readings". Continue with the rest of the samples.

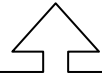
Step 5

Very important! Remember to press the Red button to stop logging. You will see it say "Logging stopped".

Step 6



LogIT Lab Level 1



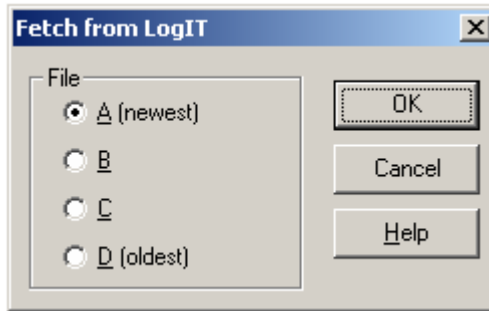
Open RM Favourites folder, then look inside the Datalogger folder.

Connect the datalogger to the computer. Double click to open LogIT Lab Level 1 (or 2). Click the Fetch button.



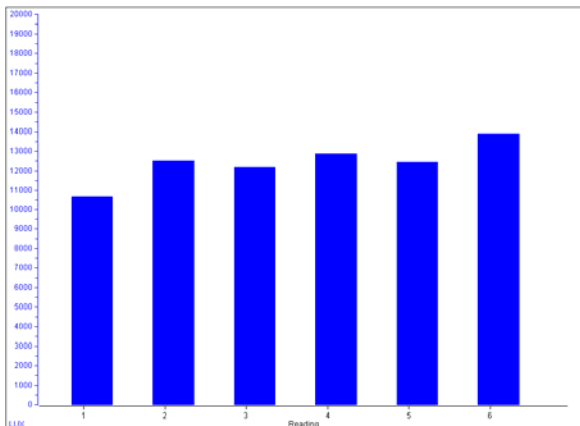
Step 6

Click OK to fetch the data.



Step 7

On the top right of the graph display, click to remove the tick from the temperature and sound sensors. Now the graph will only display the light data. If the bars are tiny, you will need to press the magnifying tool.



The bars on the graph will be in the order that the snapshots were taken. If you ordered the materials correctly, the bars will be in the correct order. Were you right? The graph can be printed out for pupils to add labels and write about their findings.