

In science, children were asked to produce a written account of an investigation into the way in which a shadow is affected by a light source. The structure was teacher modelled, but the account is independent. Notes were made during the experiment and these were later edited into a final piece.

Aim Our aim is to investigate if a shadow becomes longer or shorter when the light source is further distance away.

Prediction

My prediction is that the further away the light, the bigger and less clear the shadow becomes because it is further away.

Method Firstly we placed a ruler 2cm in front of a wall. Then we carefully cut a 5 by 3 rectangle and taped it to ruler. Next we put the light source, a torch, on the end of ruler. After we had done that we switched on the torch. When that was done we measured the width of the shadow. We then move the torch 5 cms.

This process is repeated until you've moved the torch to 30cm, in jumps of 5. Each time you must measure the shadow.

The variable that was changed was the light source, the rest, distances from ruler and opaque object, stayed constant.

Results

distances	width
0cm	7cm
5cm	6.4cm
10cm	5.5cm
15cm	5.3cm
20cm	5.2cm
25cm	5cm
30cm	4.9cm

Conclusion

In conclusion, I have learnt that the further away the torch the smaller the shadow becomes and the closer the bigger ^{it} becomes. This happens because the opaque objects are blocking less light rays. When the torch is further, some light rays go off course. Sometimes the brightness can have an large impact on the end results.