

Science Week 4: Enquiry Type - Observation over Time

Question



How does a shadow change over time?

Shadows change due to the Earth rotating on its axis. Attach a thin object to your window, eg a pen, ruler or opaque tape. Place a piece of white paper on the windowsill directly below the object. Make sure the object is in the centre of the page. A shadow should appear on your paper. Draw around the shadow and label it with the time. Check on the shadow every hour or half hour throughout the day, each time drawing and labelling the shadow.

Question

Predict

Observe

Record

Analyse

Report

Younger Children

Look at the shadows that you have drawn. When was the shadow longest? When was it shortest? Create a labeled drawing showing how you set up your experiment.

Older Children

Use your observations to make a sundial. What distance is there between each hour? Is each hour the same distance apart? Would the clock be correct all year around? Would your clock work if it were used in a different country eg. Australia, South Africa, Algeria?

Challenge

Can you make a shadow puppet theatre?

About this type of Scientific Enquiry

Observation over time enquires help us to identify and measure events and changes in the natural world as well as physical processes. This enquiry type requires using observation, reasoning and analysis skills.

Jane Goodall used observation over time to research how chimpanzees behave.

NASA carried out a 'Year in Space' experiment to find out the effect of gravity on humans.

Since 1840 a bell has been ringing at Oxford University to test its battery duration.