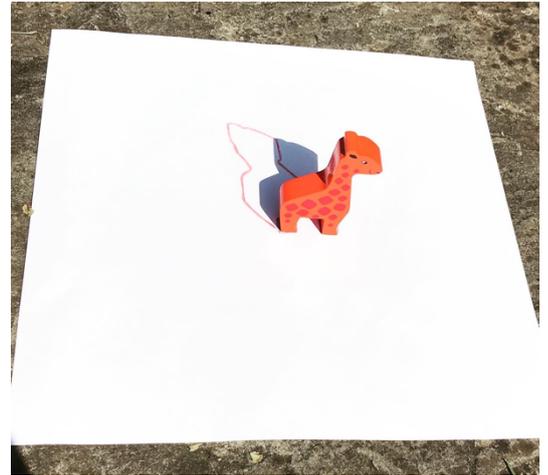


# Moving Shadows

How do shadows change during the day?

You will need

- A small toy
- Paper
- Coloured pencils
- A clock



How to do it

Note: You will need to do this activity on a sunny day. You will need to return to it throughout the day.

- 1) Begin the activity at the start of the morning. Find an open space in full sunlight and lay a piece of paper on the ground. Then place the toy in the middle of the piece of paper so that it stands up vertically.
- 2) Take note of where the shadow of the toy falls by drawing around its outline using a coloured pencil. Label the outline with the time that you have drawn the shadow.
- 3) Return each hour to check the position that the shadow from the toy has been cast in, drawing around it and labelling the drawing with the time. You could use a different coloured pencil for each shadow outline to help them stand out clearly.

What are we learning?

Light travels in a straight line. When we place an object in its path, in this case a small toy, it blocks some of the light, creating a shadow. As the earth rotates, the position of the sun in the sky changes, which changes the length and position of shadows. In the morning the sun rises in the east, and the shadow is longer and cast west. By midday the sun is directly overhead, making the shadow short. In the afternoon the sun is setting in the west and the shadow grows longer again and cast east.

Investigate

A sundial is a device that uses the sun to tell the time. Find out more about how they have been used by many civilizations in history.

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