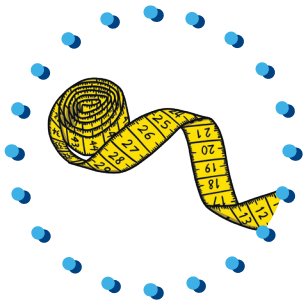
Disclaimer

This resource is provided for informational and educational purposes only. As this resource refers to outdoor activities, outdoor learning and sun, you must ensure that an adequate risk assessment is carried out prior to using this resource. Outdoor areas provide great opportunities for playing and learning, but you should always check any environmental risks before taking part in outdoor activities, and only proceed if it is safe to do so. You should ensure that children wash their hands after being outside, and are respectful of nature, taking care of animals and plants. Children should be told of the dangers of looking directly at the sun and reminded not to do so. Sensory activities can engage children in their play and learning, but supervising adults should check for allergens and assess any potential risks before an activity and only proceed if it is safe to do so. If you are unsure, always speak to a suitably qualified health professional. Twinkl is not responsible for the health and safety of your group or environment. It is your responsibility to ensure the resource and the information/activity it contains are safe and appropriate to use in your situation.

Shadow Tracking

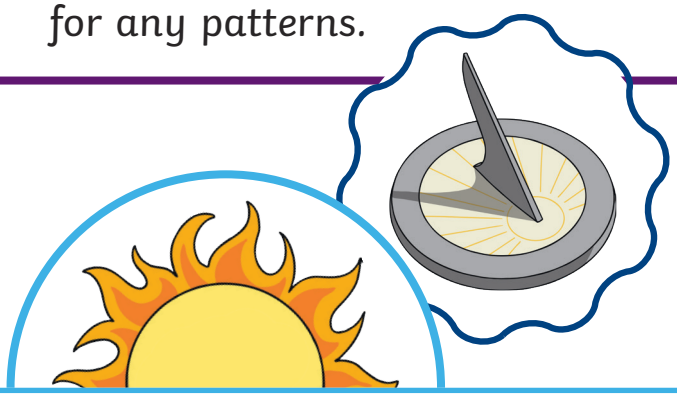
You will need:



- **chalk**
- **clock or watch**
- **tape measure**
- **recording sheet**
- **an outside spot on a sunny day**

Method

1. You will need to work with a partner for this activity. Find an open space on the playground where you will have enough space to draw around your shadow. Use the chalk to mark an 'X' in the middle of this space.
2. On each hour (e.g. 10 o'clock) stand on the 'X' and look for the shadow of your body on the ground.
3. Get your partner to draw around your shadow using the chalk.
4. Label the time next to your shadow.
5. Repeat this for as many different hours as you can during the school day. You can use the tape measure to measure the length of each shadow and record this on the Shadow Tracking Recording Sheet.
6. Observe all your shadow drawings/measurements and look carefully for any patterns.



The Science

Your shadow drawings will create a human sundial. The sundial is an ancient design that was used in many places around the world to tell the time. A sundial works by using the Sun's light to create shadows, which can then be tracked throughout the day. During the day, it seems like the Sun moves across the sky; however, it doesn't actually move but seems to because the Earth is always rotating (spinning).

Shadow Tracking Recording Sheet

Time of Day	Length of Shadow

Can you describe the size and shape of each of the shadows?

What time of day had the longest shadow?

What time of day had the shortest shadow?

Can you predict where the shadow would be for a time that you did not track?

What do you think causes a shadow?

Why do you think the shadows change throughout the day?

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