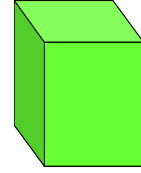
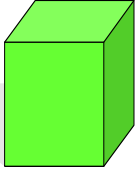


TELLING THE TIME IN HOT DESERTS



When light hits an opaque object, a shadow is created. The shadow will change according to where the light source is located.

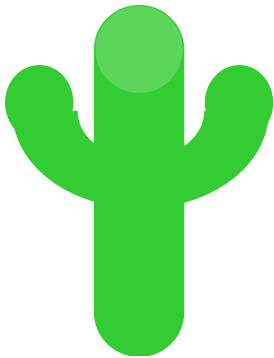
In the natural environment the sun is the main light source and as it shines on various objects on the ground, shadows are created. As the sun moves across the sky the shadows change shape, size and direction. Once man realised this, he was able to create an instrument for measuring the time of day. It was called a sundial. The first known sundial was built in Egypt around 800 BC.

Hot deserts often experience over 350 days of sunshine per year so they are an ideal place for studying shadows. If you were in a desert without a watch you would be able to guess the time by looking at the shadows.

OVER TO YOU:

1. Brainstorm the meaning of the word opaque. What is its antonym? What does semi opaque mean?
2. Place an object eg a small can on a large piece of white paper in the sun in the playground. Every hour, trace around the shadow that is created and write the time in the shape created. Do not move the object.
3. What disadvantages could there be in using a sundial to tell the time?
4. Try to find out how many days of sunshine per year your area receives.
5. Have fun creating crazy shadows by arranging different objects together in the sun.

Imagine you are in the desert and are watching the sun and the shadows it creates throughout the day. Draw a shadow to match the time of day shown on each of the cactus pictures below.



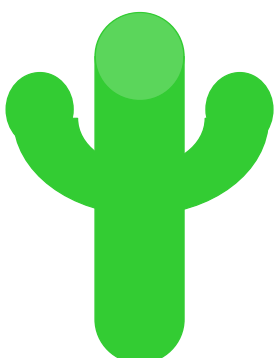
9.00 am



11.00 am



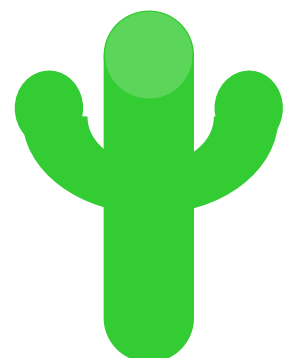
12.00 midday



1.00 pm



2.00 pm



4.30 pm