

Woodland sundials and cone weather stations

Sundials were used to tell the time long before clocks and watches were invented, by ancient civilisations such as the Maya of Central America, the Ancient Greeks, the Ancient Egyptians and the Romans. They are still used by many people today.

You will need:

- A stick (as straight as possible)
- A collection of objects from the woodland such as cones, and twigs
- Sunshine!

1. Decorate your stick with paint or wool.
2. On a sunny day, at 9 or 10 o'clock, go outside and look for a bright sunny patch on the ground. Push your stick into the ground and look for where the stick's shadow falls on the ground.
3. Place one of the woodland objects midway along the shadow.
4. Set a timer for an hour so that you will remember to come and place the next object at the right time.
5. Repeat for each hour the sun is shining.
6. Your objects are likely to end up in a line rather than a semicircle because the shadows will change length through the day. You will notice that as the sun rises higher in the sky the shadows become shorter, and as the sun begins to set, the shadows will lengthen again.
7. On the next sunny day you can now tell the time, without using your watch!



Cone weather stations

Watch your cones and predict the weather!

Look for a selection of pine cones on your walk.

When you get back home leave them outside where you can easily see them.

The scales will open and close depending on how much moisture there is in the air (humidity).

When the humidity is lower, when there is less moisture in the air, the scales open up. This is the cone getting ready to release its tiny winged seeds. It needs to release the seeds on a dry day so that they can be dispersed by the wind.



When the humidity starts to rise, when there is more moisture in the air, the scales begin to close up again.