

BUILDING A SUNDIAL

The sun **appears** to move round the sky in a uniform way, making a complete circuit in 24 hours (of course it is actually the Earth rotating on its axis that causes the effect)

You can make a simple sundial using a vertical stick which will cast a shadow and watching how the shadow moves during the day.

You can set up the sundial in any way and using any materials that work for your situation.

A simple sundial can consist of any vertical stick in a sunny spot with some way of marking where the shadow falls at any particular time.

This may be as big as a garden cane in the middle of a lawn, using perhaps stones as markers, or as small as a nail in a block of wood or a cocktail stick in a piece of Bluetack on a sheet of paper, on a sunny window sill, using a pencil to mark the shadow positions.

Or you may want to make something more solid and permanent

Whatever suits you, but the important things are that the stick is rigid and won't get accidentally knocked by a pet or family member and that it gets sun for a fair part of the day.

Draw an arc or semi circle with the stick at the centre and the middle of the semicircle on the side of the stick where the sun is around the middle of the day. Ideally the radius wants to be about same as the length of the shortest shadow

Mark the points where the shadow crosses the arc on the hour each hour (you could do it over a few days if necessary, if you forget a few or it clouds over).

You now have your clock and can divide the gaps between the hour marks to give say quarter hour marks.

SOME EXAMPLES



You should notice that the shadow tip follows a curved path. The shadow starts out long in the early morning when the sun is in the East, gradually shortens then starts to lengthen again into the afternoon and evening as the sun moves West.

The point at which the shadow is at its shortest is midday and the shadow will point exactly due North.

That should actually occur not at 12.00 but at 1.00pm because we are currently on British Summer Time but the sun doesn't know that.