

**Science - Year 5**

**Earth and Space – Block 5ES**

# **Space Presenters**

Session 5

Resource pack

## Sample Sundials



## Make your own sundial

### You will need:

thick cardboard

ruler

compass

flat piece of wood

pen

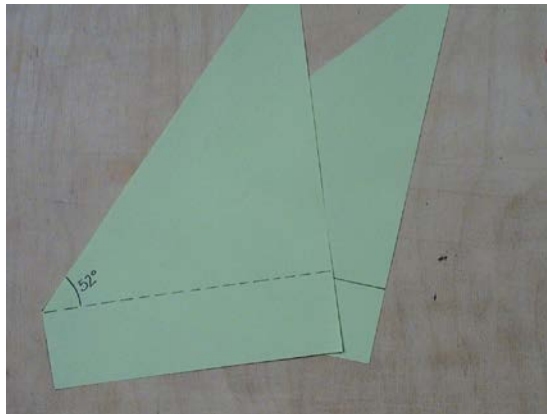
protractor

scissors

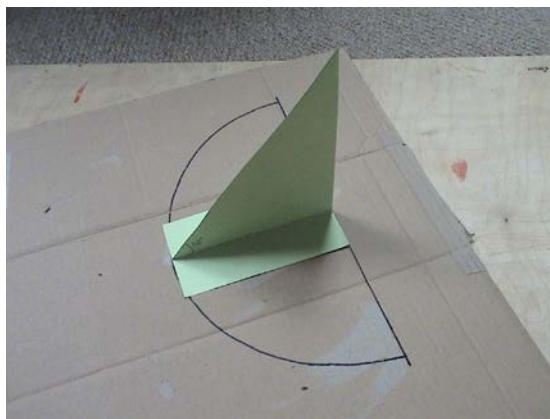
glue or sticky tape

### What you do:

1. Draw the outlines of two marker shapes on to the cardboard and cut them out (52 degree triangles with an extra inch along the base for folding back and sticking).



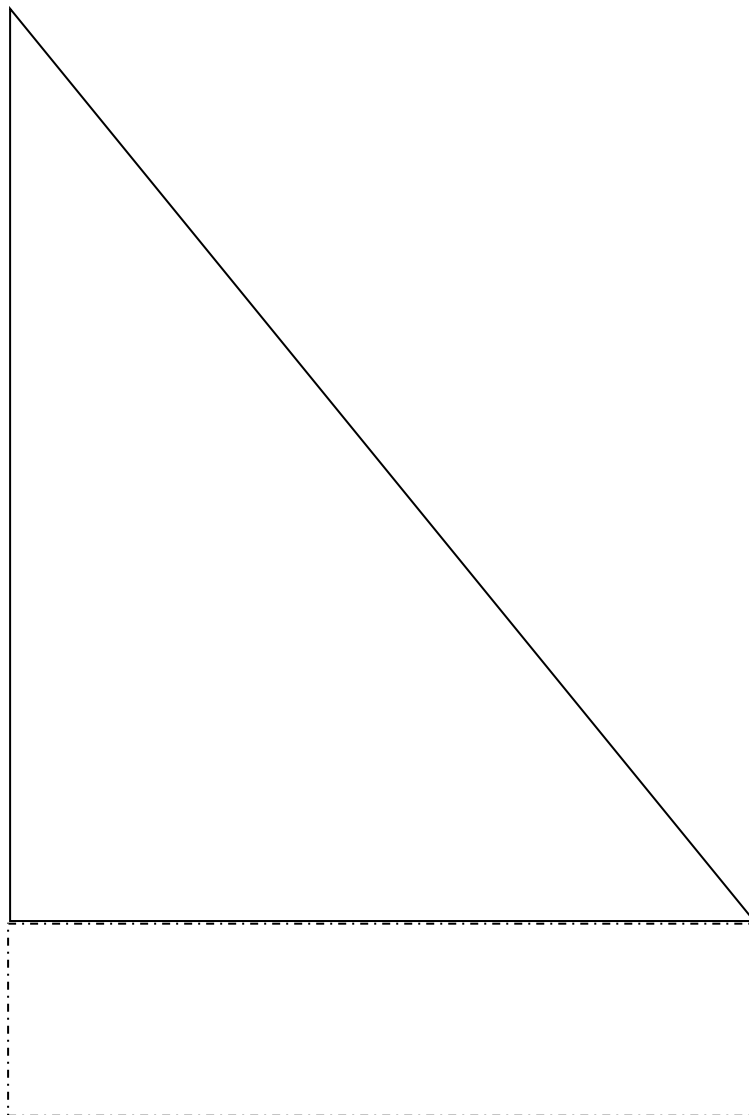
2. Score a line 1 inch in from the base of the triangle (long side) and fold back along the line.
3. Stick the two shapes back to back, leaving the inch section sticking out on both sides (these will be used to glue the marker down on to the wood and to give it stability).
4. Draw a half circle on a piece of wood (same radius as length of marker).
5. Stick the marker down the middle of the semicircle, leaving a quarter of a circle on each side.

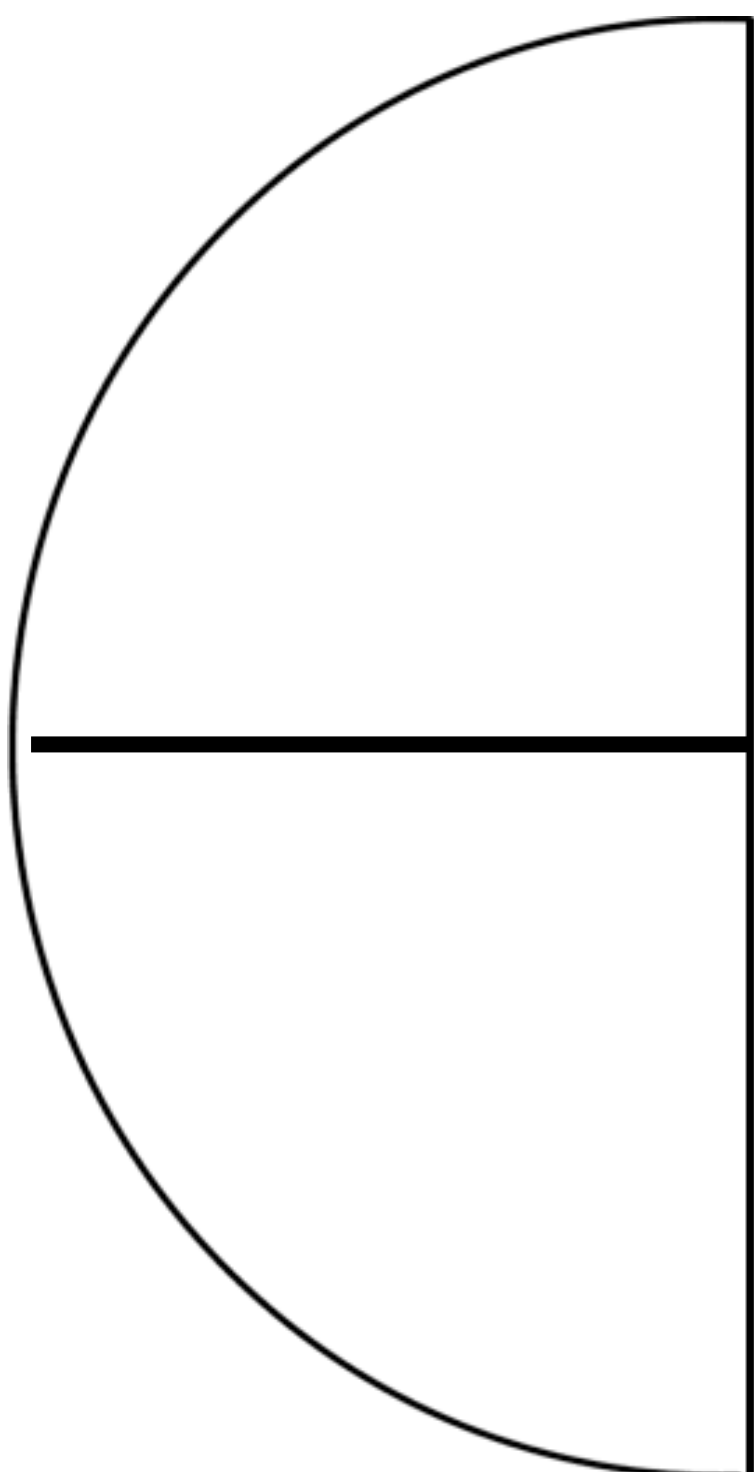


6. Using a compass, point the marker towards the south and position the sundial on a flat surface.

7. Mark the position of the shadow cast by the sun on the semicircle every hour, on the hour.

Enlarge and Photocopy to make marker template:



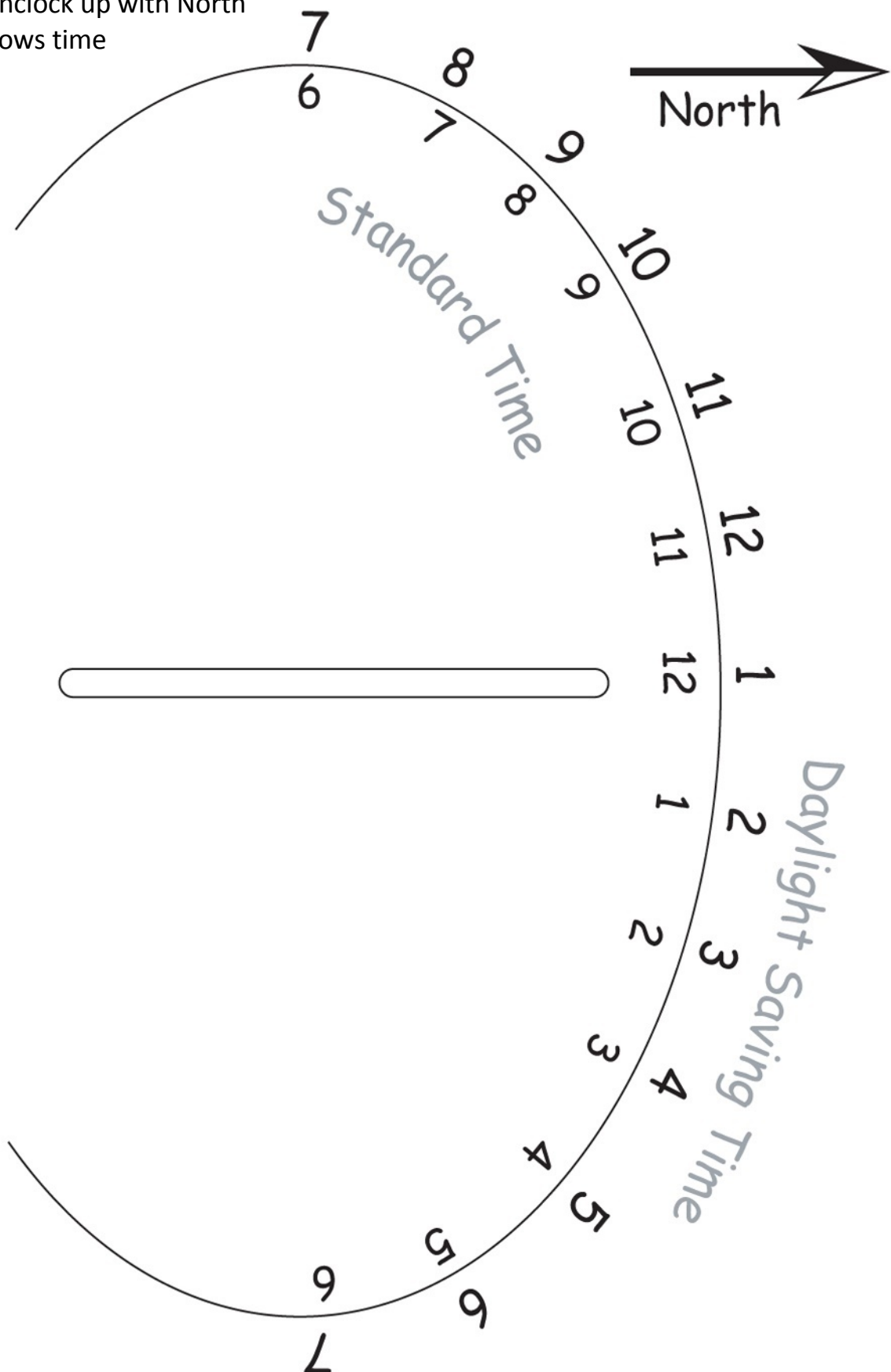


## Using a Sunclock

Put a compass on the ground to find North

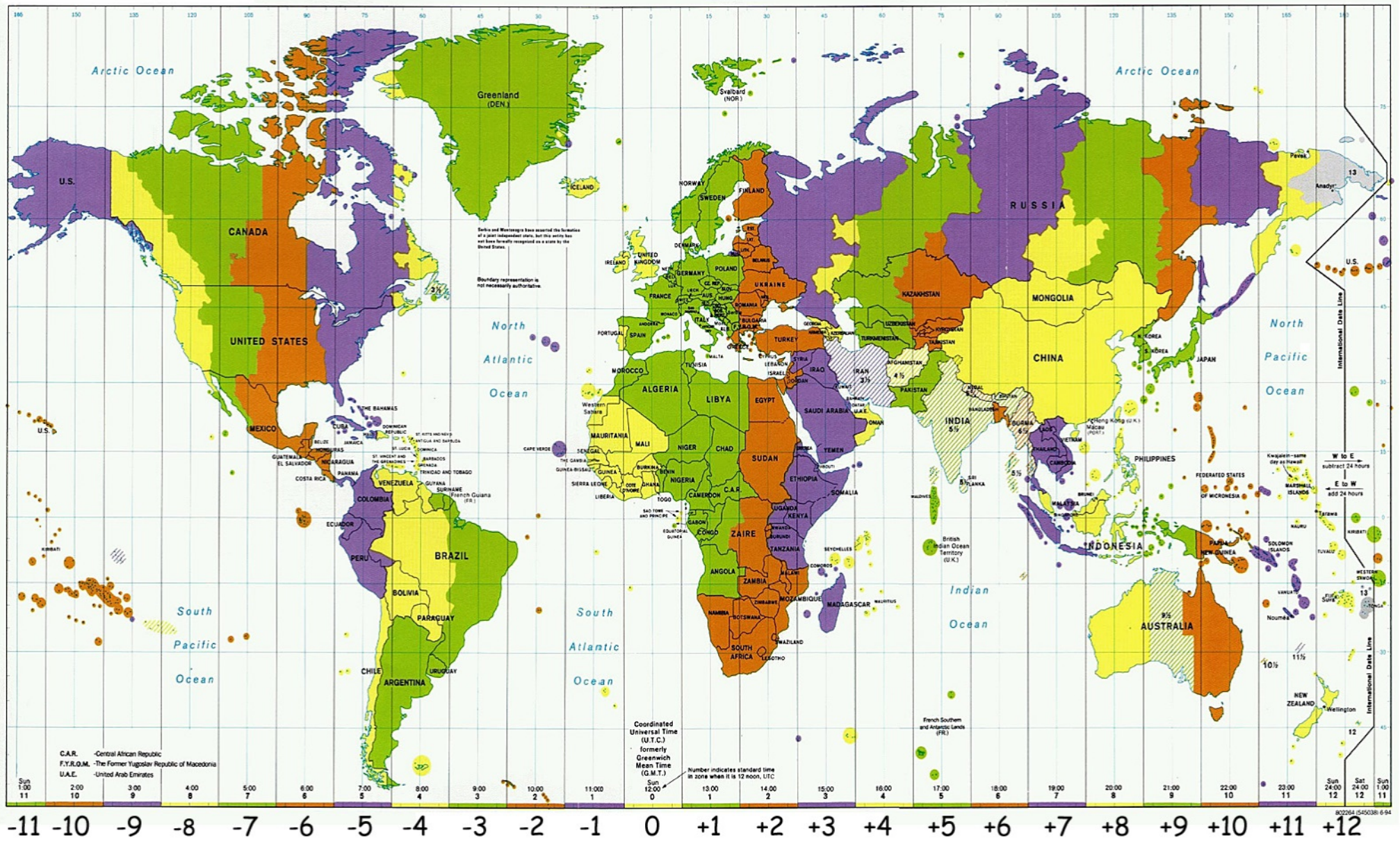
Line the sunclock up with North

Shadow shows time





# Time Zone Map



### **Time of day simulator guidance**

With a torch used as the Sun and four children holding city place cards, the children rotate, while the Sun holding person closes their eyes and says 'stop' at random moments. When stopped, the children try to decide what the time is in each place. Children can also investigate 'if it is midday in the UK then it is X time in X'.

Get chn to pick their own four cities based on the time zone map, but for example might use:

- **Oxford**
- **Dhaka**
- **Auckland**
- **Chicago**



### Time conundrums

The sun is in the western sky	
The sun is in the eastern sky	
The sun is directly overhead	
The sun has turned a deep orange and pink colour and is spread across the western sky	
The sun has turned a deep orange and pink colour and is spread across the eastern sky	
Shadows are at their shortest	
Shadows are at their longest	
The sun is shining on exactly the opposite side of the Earth	
The sun set a couple of hours ago	
The Earth will turn to face the sun again in a few hours	
Possible times of day	
Morning	Dawn
Sunset	Midday
Early hours of the morning	Afternoon
Midnight	Evening