Science - Year 5

Earth and Space – Block 5ES

Space

Presenters

Session 5

Resource pack

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Sample Sundials
Make your own sundial

You will need:
- thick cardboard
- flat piece of wood
- scissors
- ruler
- pen
- glue or sticky tape
- compass
- protractor

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 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

<table>
<thead>
<tr>
<th>The sun is in the western sky</th>
</tr>
</thead>
<tbody>
<tr>
<td>The sun is in the eastern sky</td>
</tr>
<tr>
<td>The sun is directly overhead</td>
</tr>
<tr>
<td>The sun has turned a deep orange and pink colour and is spread across the western sky</td>
</tr>
<tr>
<td>The sun has turned a deep orange and pink colour and is spread across the eastern sky</td>
</tr>
<tr>
<td>Shadows are at their shortest</td>
</tr>
<tr>
<td>Shadows are at their longest</td>
</tr>
<tr>
<td>The sun is shining on exactly the opposite side of the Earth</td>
</tr>
<tr>
<td>The sun set a couple of hours ago</td>
</tr>
<tr>
<td>The Earth will turn to face the sun again in a few hours</td>
</tr>
</tbody>
</table>

Possible times of day

<table>
<thead>
<tr>
<th>Morning</th>
<th>Dawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunset</td>
<td>Midday</td>
</tr>
<tr>
<td>Early hours of the morning</td>
<td>Afternoon</td>
</tr>
<tr>
<td>Midnight</td>
<td>Evening</td>
</tr>
</tbody>
</table>