

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Globe - Latitudes and Longitudes

Q1. How does the longitude affect the time?

Ans. \_\_\_\_\_  
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## Globe - Latitudes and Longitudes

Q1. How does the longitude affect the time?

Ans. When the Prime Meridian of Greenwich has the sun at the highest point

in the sky, all the places along this meridian will have mid-day or noon.

As the earth rotates from west to east, those places east of Greenwich

will be ahead of Greenwich time and those to the west will be behind it.

The rate of difference can be calculated as follows. The earth rotates

$360^\circ$  in about 24 hours, which means  $15^\circ$  an hour or  $1^\circ$  in four minutes.

Thus, when it is 12 noon at Greenwich, the time at  $15^\circ$  east of

Greenwich will be  $15/4 = 60$  minutes, i.e., 1 hour ahead of Greenwich

time, which means 1 p.m. But at  $15^\circ$  west of Greenwich, the time will be

behind Greenwich time by one hour, i.e., it will be 11.00 a.m. Similarly,

at  $180^\circ$ , it will be midnight when it is 12 noon at Greenwich.