

# Longitude Clues Worksheet 2010

Using Sunrise Clues to Estimate Longitude

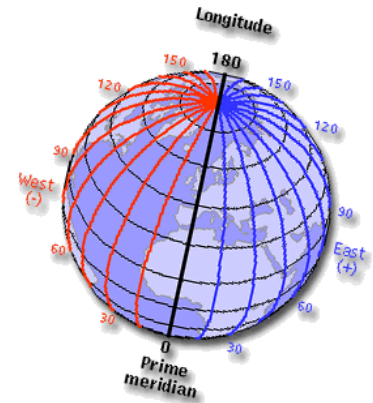


**Mystery Class #:** \_\_\_\_\_

## 1. Locate Greenwich, England on the map.

Greenwich, England is on the prime meridian at 0 degrees longitude. On the morning of March 20, 2010, the sun will rise in Greenwich at 6:03 UT.

- Mark the location of Greenwich on the map.
- Write the time of sunrise at Greenwich beside the prime meridian.



## 2. Record sunrise time for the Mystery Class.

Look up the sunrise time for this Mystery Class on the "Sunrise on the Equinox" table. Remember: Universal Time includes the time *and date in Greenwich*.

<b>Place of Sunrise</b>	Greenwich, England	Mystery Class #: ____
<b>Time of Sunrise (UT)</b>	6:03 March 20	

## 3. Is the Mystery Class east or west of Greenwich?

The Earth spins to the east. A location with sunrise time *before* Greenwich is *east* of Greenwich; a location with sunrise *after* Greenwich is *west* of Greenwich. Sunrise at this Mystery Class occurred \_\_\_\_\_ (before/after) sunrise at Greenwich, so I know this Mystery Class is \_\_\_\_\_ (east/west) of Greenwich.

## 4. How much time between sunrise at Greenwich and the Mystery site?

The length of time between sunrise at this Mystery Class and sunrise at Greenwich is \_\_\_\_ hours and \_\_\_\_ minutes. (Caution: This may not be a simple subtraction or addition equation. Pay attention to the date of the sunrise time too.)

## 5. For how many minutes does the Earth spin between sunrise times?

The Earth will spin for \_\_\_\_ minutes between the time sun rises at this Mystery Class location and the time the sun rises at Greenwich. (Clue: convert your answer in #4 above to minutes.)

## 6. How many degrees longitude from Greenwich?

The Earth spins 1 degree longitude every 4 minutes. I estimate the longitude of this Mystery Class to be: \_\_\_\_ degrees \_\_\_\_ (east/west) of Greenwich.