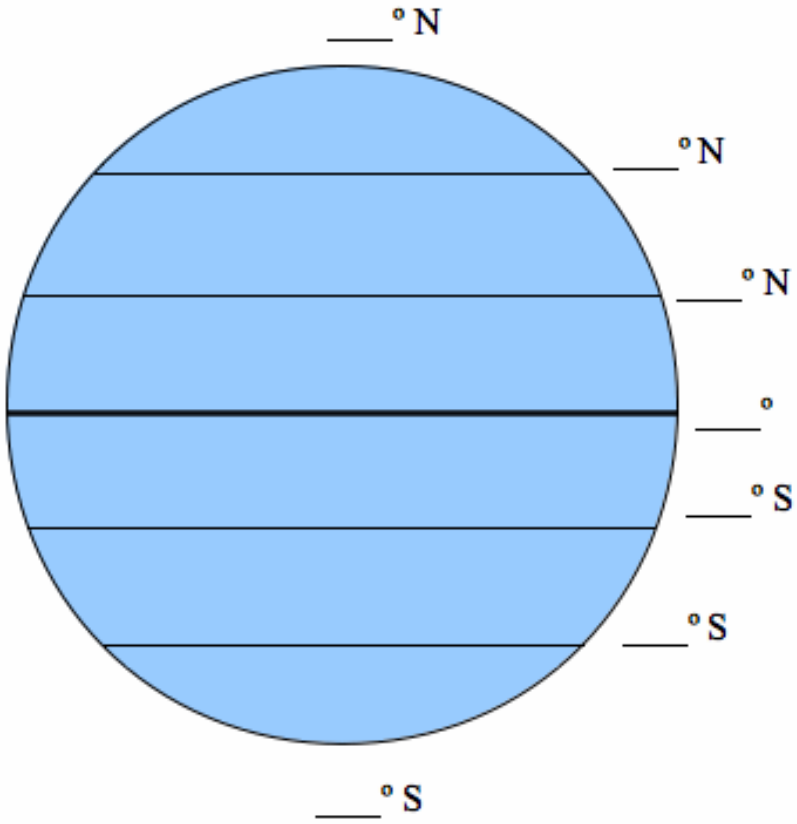
Grades 5–8 Lesson Plan:
LATITUDE AND LONGITUDE

Latitude lines are imaginary lines that run horizontally around the globe. They measure north or south of the equator– 0º at the equator and 90º at the North and South poles. Places located north of the equator have a north (N) latitude address and those south of the equator have a south (S) latitude address. The equator splits the globe into the northern and southern hemispheres.

Longitude lines are imaginary lines that run vertically around the globe. They measure east or west of the Prime Meridian. The Prime Meridian (0º) and the 180º line split the earth into the Western and Eastern Hemispheres. Places located east of the Prime Meridian have an east longitude (E) address and those west of the Prime Meridian have a west longitude (W) address.

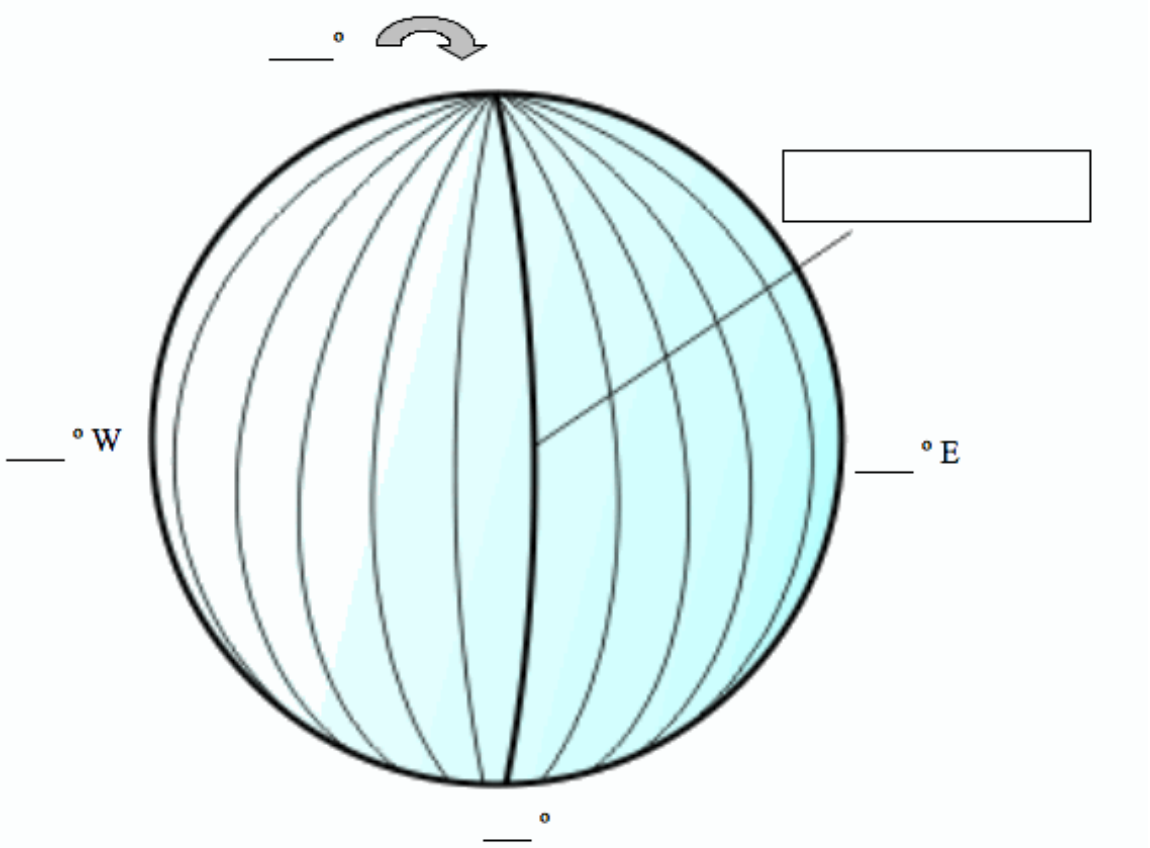
---

1. Fill in the blanks on the globe below. Label the equator, northern hemisphere, and southern hemisphere.



2. Fill in

the blanks on the globe below. Label the prime meridian, eastern hemisphere, and western hemisphere.



The combination of latitude and longitude lines create a grid system that are used to determine the exact location of anything, anywhere on earth. Each location on the globe touches a line of latitude and a line of longitude. The crossing of the latitude and longitude lines is called a **coordinate**.

Using google earth, find the latitude and longitude coordinates of your house.

Find a city that lies directly on, or very close to, the equator.

Tracking your Drifter Using Longitude and Latitude

Record the time and position of your drifter as you track it's course.

START	TIME	POSITION		TIME	POSITION
Day 1			**Day 8**		
Day 2			**Day 9**		
Day 3			**Day 10**		
Day 4			**Day 11**		
Day 5			**Day 12**		
Day 6			**Day 13**		
Day 7			**Day 14**		

How far did your drifter travel?

A nautical mile is a unit of measurement used by sailors and oceanographers. One *minute* of latitude corresponds with one nautical mile. Thus, one degree of latitude is equal to 60 nautical miles.

1. In the first day, how many degrees of latitude did your drifter cross?
    1a. How many nautical miles is that?

2. After one week of drifting, how many degrees of latitude did your drifter cross?
    2a. How many nautical miles is that?

How fast did your drifter travel?

Now that you know the distance your drifter has traveled, calculate its average velocity.

$$V = \text{Distance} / \text{Time}$$

3. What is your drifter's average velocity after the first day of drifting?
    3a. After the first week?

Discussion questions:

What sort of things could influence your drifter's velocity or direction?

Some drifters can travel hundreds or thousands of miles but stay close to shore and do not enter the open ocean. Why is that so?