Name: _____

Period: _____

LONGITUDE AND LATITUDE

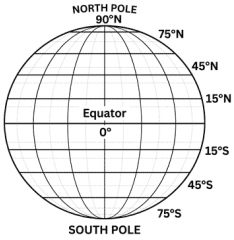
With just two numbers, you can find any place on Earth. The system is so precise, your left hand is in a different location than your right. To understand how this works, we have to go back more than 3,500 years to the Babylonians.

360 Degrees

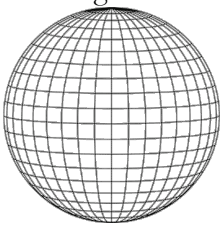
The Babylonians divided a circle into 360 degrees. The symbol for a degree is °. Long before calculators, they worked with fractions. The number 360 was helpful because it can be divided evenly by 2, 3, 4, 5, 6, and 10, so the math was easier.

An ancient Greek thinker named Claudius Ptolemy wrote one of the first books on geography. He explained that a sphere can be measured in degrees. The distance from the equator to either pole is 90 degrees—a right angle. The North and South Poles are 180 degrees apart. Using this system, he gave every place on Earth a unique address. Geographers use it to create lines of latitude and longitude.

Latitude and Longitude



The horizontal lines that circle the globe from east to west are called lines of latitude. They are also known as parallels because they run in the same direction as the equator. The equator is an imaginary line—like a belt around the Earth—that is exactly halfway between the North Pole and the South Pole.



Lines of longitude cross the equator at right angles, and all of them meet at the North and South Poles. They are also called meridians. Meridian comes from a Latin word meaning midday. The sun is directly over each meridian at solar noon—the point halfway between sunrise and sunset.

In 1884, the International Meridian Conference chose to make the line at 0° longitude run through the Royal Observatory in Greenwich, England, though they could have chosen any location on Earth. This line is called the prime meridian.

Meridians are counted east and west from the prime meridian. St. Louis, Missouri, is 90° west of the prime meridian—one-fourth of the way around the Earth. The International Date Line is 180°—as far away as possible—from the prime meridian. When it is noon along the prime meridian, it is midnight along the International Date Line.

Hemispheres

Geographers also divide the Earth into hemispheres. Hemi- is a prefix that means half. Everything north of the equator is in the Northern Hemisphere, and everything south of it is in the Southern Hemisphere. The Western Hemisphere is west of the prime meridian, and the Eastern Hemisphere is east of it. Both extend to the International Date Line. The United States is north of the equator and west of the prime meridian, so Americans live in the Northern and Western Hemispheres. The White House in Washington, D.C., is 77° west of the prime meridian and 39° north of the equator. A location is written with latitude first, then longitude—for example, 39°N, 77°W.

Your Exact Location

Cell phones can identify your exact location using latitude and longitude—even if you move your phone from one hand to the other. The Babylonians divided each degree into 60 minutes and each minute into 60 seconds—the same system we use to tell time. Today, locations are often shown as decimal fractions of a degree. Look at the bottom of Google Earth to see the exact location wherever you place your cursor.

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Fill in the Blanks

Longitude and latitude are i__a__i__a__y lines used by geographers to l__c__te places on Earth. Longitude and latitude are measured in d__g__e__s. The B__b__l__n__a__s divided circles into 360 degrees, and each degree can be divided into m__n__t__s and s__c__n__s. Latitude lines, also called p__r__ll__ls, run e_____ to w_____ and measure distance north or south of the e__u__t__r, which is 0°. The N_____ P_____ is 90° north latitude, and the South Pole is 90° south l__t__t__de. Longitude lines, also called m__r__d__a__s, measure distance east or west of the p_____ m_____, which is 0° longitude. The prime meridian passes through G__e__n__i__h, England. Geographers also divide Earth into h__m__s__h__r__s: Northern, Southern, Eastern, and Western. Together, longitude and latitude provide an e__a__t location for any place on Earth.

Answer in complete sentences

1. How many degrees are in a circle?

2. What is the equator?

3. What imaginary lines parallel the globe from east to west?

*4. The Empire State Building in New York City is at 41°N,74°W. Explain what 41°N,74°W means.

*This is a higher order-learning question. You must answer the question to the best of your ability, but any reasonable answer will be graded as correct

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