Teaching Latitude and Longitude Using an Historic Map

The Ball State University Libraries’ Digital Media Repository includes a large collection of historic maps from the GIS Research and Map Collection (GRMC) in Bracken Library. These maps serve as valuable cartographic resources that can be used for numerous purposes in research and learning. The GRMC created this lesson for teaching about latitude and longitude while using a unique historic map. Teachers can download the map or project the map in the classroom to complete the lesson.

Use the map of the world Submarine Cables of the World with the Principal Connecting Land Lines to complete the lesson.

(Note: Country, city, and other geographic names are based on the publication date of the map, 1896).

Lines on the Globe

Map and globe makers create a pattern of lines that circle the earth on a globe or may be shown as parallel lines on a map. The pattern includes lines in a north-south direction and lines in an east-west direction. This pattern is called a grid. The two sets of lines that make up the grid do not actually exist on the surface of the earth. The purpose of these imaginary lines is to help find the exact location of places on earth. These lines are called latitude and longitude.

Lines of latitude are drawn in an east-west direction around the globe. Latitude is the measurement of distance north or south of the Equator. The Equator is the imaginary line that circles the middle of the earth in an east-west direction. It is halfway between the North and South Poles.

Because the lines of latitude are always parallel to the Equator and to each other, they are called parallels of latitude. They are identified by a number of degrees either north or south of the
Equator. Lines of latitude range from 0° for locations on the Equator to 90° North or 90° South for locations at the North or South Pole.

Latitude is only one of the two coordinates needed to locate a place. Lines of longitude circling the globe from north to south, from pole to pole, are also necessary. Lines of longitude are called meridians. Meridians measure distance in degrees east and west of the Prime Meridian. The Prime Meridian is at 0° and passes through Greenwich, England. Meridians range from 0° for locations along the Prime Meridian to 180° for locations halfway around the world from Greenwich, England, in the Pacific Ocean.

By knowing the latitude and longitude of any place on Earth, you can find its exact location. No other place on Earth has this exact latitude and longitude.

Looking at the Submarine Cables of the World with the Principal Connecting Land Lines map, note the large numbers of cables running from Europe to the United States and Canada. What lines of north latitude include most of the cables? Between 40° and 50° north

Which ocean does the Prime Meridian cross? Atlantic

What sea near Norway is crossed by the Prime Meridian? Greenland Sea or North Sea

What is the name of the African desert crossed by the Prime Meridian? Sahara

What three South American countries are crossed by the Equator? Ecuador, Colombia, and Brazil

What U.S. state is crossed (barely) by the 180° meridian? Alaska
What city is located at 40° North and 0°? **Valencia, Spain**

What city is located at 19° North and around 73° East? **Bombay, India (now Mumbai)**

What city is located at 0° and around 9° East? **Libreville**

What islands are located at around 52° South and around 60° West? **Falkland Islands**

What island country is located at around 18° South and around 180° East? **Fiji**

What city is located at around 41° North and 112° West? **Salt Lake City**

What city is located at around 57° North and 135° West? **Sitka, Alaska**

What city is located at around 64° North and 38° East? **Onega, Russia**

What city is located at around 24° South and around 134° East? **Alice Springs, Australia**