Name Date

**Location Systems Lab**

**Purpose**

To use latitude and longitude coordinates to locate places on a globe.

**Required Equipment and Supplies**

globe

**Discussion**

To determine the location of a position on Earth’s surface lines of latitude and longitude are used. Latitude and longitude are a grid of reference lines superimposed on Earth’s surface and cross at right angles. Lines of latitude are referenced from the equator (0°) and go up or down to the respective poles. Latitudes north of the equator are ° N and latitudes south of the equator are ° S. Lines of longitude are referenced from the prime meridian (0°) and go left or right. Longitude lines go from 0° to 360° both east and west (270° E is 90° W), though it is convention to use 0° to 180° in either direction.

**Procedure**

1. Use a globe to locate the appropriate land mass, ocean, or sea given the latitude and longitude in the Latitude and Longitude Table located in Data & Observations.

2. Use a globe to give the latitude and longitude of the locations given in the Locations Table located in the Data & Observations.

**Data & Observations**

**Latitude and Longitude Table**

|  |  |
| --- | --- |
| **Latitude and Longitude** | **Land Mass, Ocean, or Sea** |
| 42° N, 71° W |  |
| 40° N, 135° W |  |
| 71° S, 30° W |  |
| 23.5° N, 90° W |  |
| 20° S, 35° E |  |
| 47° N, 3° E |  |
| 0°, 180° |  |
| 40° S, 165° E |  |
| 24° N, 37° E |  |
| 21° N, 80° W |  |

**Locations Table**

|  |  |
| --- | --- |
| **Location** | **Latitude and Longitude** |
| Washington State |  |
| Hawaii |  |
| Japan |  |
| London, England |  |
| Paris, France |  |
| Egypt |  |
| Maine |  |
| Florida |  |
| Alaska |  |
| Brazil |  |

**Analysis**

1. Is it easy or difficult to find a location on a globe given latitude and longitude? Explain

2. How many degrees of longitude wide is the top of the United States from Washington to Maine?

3. How many degrees of longitude wide is the bottom of the United States from Washington to Florida?

4. How many degrees of latitude high is the top of the United States from Washington to Florida?