Station B: Geography

1. **Read the information about geography and list major achievements.** Carefully read and discuss the information below about the ancient Greeks' achievements in the field of geography. Then, list three major ancient Greek achievements in the field of geography in the Station B section of **Student Handout 4.1A**.

The Greeks studied and wrote about the earth's surface, developing a science that they called *geography*. Geography comes from the Greek word for earth (*geo*) and the Greek term for "process of recording" (*graphy*). At first geographers simply wrote about and mapped the earth's physical features, crops, and natural resources. Geographers prepared this information based upon reports from travelers. However, as Greek trade increased, military campaigns began, and settlers sailed to distant colonies, a need arose for more accurate maps.

Several important theories in the field of *astronomy,* or the study of planets and stars, helped geographers. First, the astronomers correctly believed that the earth is a sphere. Second, they identified the location of the *equator,* an imaginary line that divides the earth into two halves, the Northern and Southern Hemispheres. Finally, they identified two imaginary lines—the Tropic of Cancer and the Tropic of Capricorn—that marked the tropic regions north and south of the equator, where it stays hot all year.

One of the greatest Greek geographers was Eratosthenes (pronounced eh-rah-TOSS-then-eez), who earned the title "father of geodesy," the science of earth measurement. He calculated the length of the equator, or the circumference of the Earth, to be 25,200 miles, remarkably close to today's measurement of 24,805 miles. With this figure, Eratosthenes constructed a map of Europe, Asia, and Africa that included imaginary horizontal lines, called *parallels of latitude,* and imaginary vertical lines, called *meridians* (pronounced muh-RIH-dee-inz) *of longitude*. Parallels of latitude show how far north or south of the equator a place is located. Meridians of longitude show how far a place is east or west of the prime meridian, which is located in modern-day Greenwich, England. Any place on the earth can be located on a map by noting where its line of latitude and its line of longitude cross, or *intersect*. For example, the city of Santa Fe, New Mexico, is located at approximately 35°N latitude and 105°W longitude.

Maps have become much more specialized since the time of ancient Greece. For example, among the many types of maps used today are those that show political boundaries, geological formations, ocean currents and depths, crops, population, and rainfall.

2. **Complete the following task and record your findings.** Carefully examine the map of the United States and identify the city located nearest each intersection of the latitude parallels and longitude meridians listed below. Record the names of the cities on **Student Handout 4.1A**.

   (1) 40° North latitude, 120° West longitude
   (2) 35° North latitude, 85° West longitude
   (3) 45° North latitude, 100° West longitude
   (4) 30° North latitude, 90° West longitude
   (5) 45° North latitude, 75° West longitude