

## Probing The Earth

### Activity Objectives

- To practice plotting longitude and latitude landing sites on a map of Earth
- To draw conclusions about the Earth based on information gathered by simulated probes

### Materials

- ✓ Pencils

### Background

Scientists base some of what they know about other worlds upon the information gathered by probes which have landed on those worlds. The landing coordinates used in the exercise are those of the different lunar landings.

### Instructions

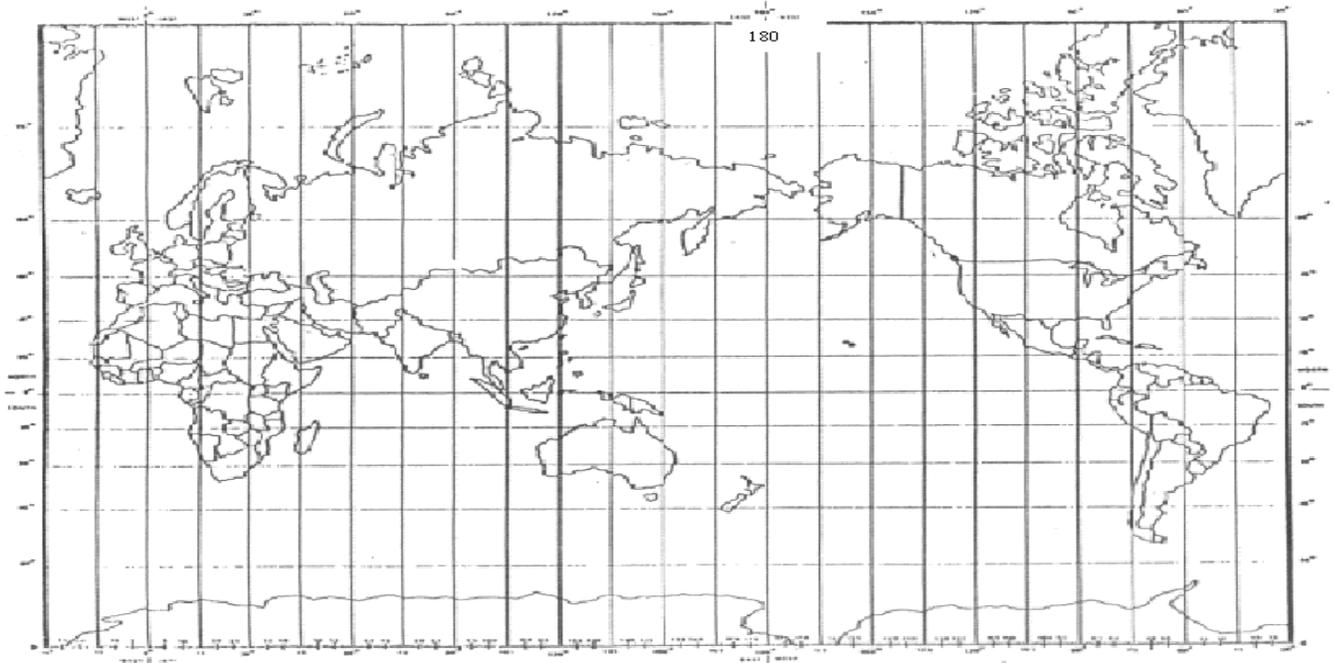
1. Review with the students how to find latitude and longitude on a map.
2. Have students plot the landing points given on the study sheet.
3. What might a person gathering information at these landing sites conclude about Earth? What does this say about data collection? About making generalizations?

### Extension

Using the ceiling in your classroom as the “map” (if you have a grid suspended ceiling), plot longitude and latitude lines overhead. Decide, with your students, which meridian line will be the Prime Meridian and which parallel will be the Equator. Mark them as 0 degree and then plot the meridians and parallels on either side on degrees of your choice. You can use construction paper numbers stapled to a suspended ceiling or hung from it, whatever seems to work the best. After the ceiling has been given its grid system, have students plot the coordinates where they sit, where the desk is, where various objects in the room are located. If the coordinates were given to an extraterrestrial to probe for a good idea of what your classroom was like, what coordinates and how many would have to be given? Talk about the need for sufficient data both in amount of sample as well as in variety of sample.

Assume that Martians have sent space probes to earth. The landing site coordinates are:

- 22°N 48°W
- 44°N 10°W
- 20°N 108°W
- 46°N 110°W
- 46°N 150°E
- 7°N 43°W
- 5°S 5°W



**World Coverage Map Outline**

From the results of these probes, what would be the conclusions about planet Earth? Would this be an accurate representation?

What does this tell you about collecting data?