Map Basics

Geology   Mr. Traeger

Name: _____   Period: _____   Date: _____
Partner's Name: _____

Purpose
The purpose of this activity is to become acquainted with the basic concepts of maps, namely latitude and longitude.

Materials
- Google Earth®
- Chapter 3 in your textbook.
- Metric Ruler & Pencil

Part A: Map Basics
Answer the questions that follow.

1. What is a map?

2. Are maps as accurate as a globe? Why or why not?

3. Draw the four cardinal directions below. Hint: **N**ever **E**at **S**oggy **W**affles. Also give compass numbers in degrees.

4. Define the word **scale**.

5. Discuss the advantages and disadvantages of the 3 main types of map projections.

Projection Type	Advantages	Disadvantages
Mercator Projection		
Gnomonic Projection		
Polyconic Projection		

6. What is a hemisphere?	If you look at a globe, how many hemispheres are there on the Earth?

7. In mapping, what is a degree? How many kilometers are equal to a degree?	How many minutes in a degree?	How many seconds in a minute?

8. What is latitude?	What axis would you use to measure latitude if you were in math class? *x* or *y*?	How many degrees of latitude are there on the Earth north or south of the equator?

9. What is longitude?	What axis would you use to measure longitude if you were in math class? *x* or *y*?	How many degrees of longitude are there on the Earth east or west of the prime meridian?

10. Where is the equator?	What is the latitude at the equator?	What is the longitude at the equator? Careful here: tricky question

11. Where is the prime meridian?	What is the latitude at the prime meridian? Careful here: tricky question	What is the longitude at the prime meridian?

Part B: Finding Yourself Using Latitude and Longitude Coordinates

Use Google Earth® to find the following locations/coordinates. Fill in the blanks as necessary.

Place Name/City	Latitude (+ = ° North/ - = ° South)			Longitude + = ° East/ - = ° West)		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
1.	+ 34	11	34.96	- 118	10	42.38
2. The Louvre Museum/ Paris, France						
3.	+ 35	21	45.08	+ 138	43	49.91
4.	-33	51	25.23	+ 151	12	54.75
5.	+ 40	41	21.68	- 74	02	45.54
6. Half Dome, Yosemite NP, CA, USA						
7.	+29	58	44.22	+31	08	04.51
8. Galapagos Islands, Ecuador						
9. Kilauea Crater, Hawaii, USA						
10.	+51	28	55.88	0	00	00.00
11. South Pole						

12. You walk 30 Km due south, 30 Km due east, and 30 Km due north. You find that you arrive at the same place where you started from. Where are you? (1° of latitude = 111 Km = 69 miles)