**GPS, Latitude and Longitude: Notes Taking Guide**

1. GPS is short for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. We use GPS to find the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a position on the earth’s surface.
3. Latitude / Longitude (circle one) indicates North or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the equator.
4. Latitude / Longitude (circle one) indicates \_\_\_\_\_\_\_\_\_ or West of the prime meridian.
5. Label the globe:
6. North Pole / South Pole
7. Equator
8. Lines of Latitude
9. 90° / -90° / 0°



1. Label the globe
	1. Lines of Longitude
	2. Prime Meridian
2. The Equator is the line of 0° degrees \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and divides the earth into the northern and southern \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the line of 0° degrees Longitude and divides the globe into the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hemispheres.
4. The North Pole is \_\_\_\_\_\_\_\_\_ degrees latitude north of the equator.
5. The global positioning system uses GPS satellites and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to find latitude and longitude.
6. The GPS receiver uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (a kind of geometry) to calculate the latitude and longitude.
7. GPS was first tested in 1960 but needed \_\_\_\_\_\_\_\_\_\_\_\_ hour(s) to calculate the position.
8. GPS was invented by the military, but was made public in \_\_\_\_\_\_\_\_\_\_\_ to prevent accidents.
9. Now there are \_\_\_\_\_\_\_\_\_\_\_\_ GPS satellites in orbit around the earth and a smart phone can calculate a position that is accurate to about 10 meters in \_\_\_\_\_\_\_\_\_\_\_\_ minutes.
10. The GPS receiver uses the speed of light, which is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, to calculate the distance between the satellite and the receiver.
11. a. If Los Angeles is 330 miles from Watsonville and you drive at 55 miles/hour, how long does it take you to get to Los Angeles? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. If New York is 3000 miles from Watsonville and you drive at 60 miles/hour, how long does it take to drive to New York? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Calculation of time of travel

Speed of Light ~ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Altitude (distance) ~ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How long does it take a radio signal (same speed as light) to travel from the satellite to the surface of the earth (hint: time = distance ÷ speed)???

1. What could you use GPS for? Today? In a future job?