Student Worksheet #1: The Clouds Below

Name:

How do meteorologists predict and forecast our weather? Meteorologists use weather instruments to measure factors such as temperature, humidity, wind speed and direction, and air pressure. All of these can be measured on the Earth's surface (surface readings), but how do they get the images from space? The answer is satellites! Use this Web site:http://cimss.ssec.wisc.edu/satmet/modules/sat_basics/orbits.html to learn the two types of weather satellites used to produce the day and night cloud images that indicate the weather below.

1. Define satellite:
2. What does POES stand for?
3. What does GOES stand for?
4. What is the difference between POES and GOES?
5. How high above the Earth does each of these satellites orbit?

Click "Continue" to go to the next page (Geostationary Orbit)

6. Draw a diagram of a geostationary orbit:
7. Why is a geostationary satellite orbiting over the equator?
8. List the four geostationary satellites and their views of Earth:
9. Why are four geostationary satellites needed?

Click "Continue" to the next page (Polar Orbit)

10. Draw a diagram of a polar orbit:
11. Explain the orbital path of polar satellites: Note: In reference to satellites, the term "swath" means the path covered by one satellite as it orbits from pole to pole.

Click "Continue" to go to the next page (Satellite Remote Sensing Instruments)

12. Define radiometer:
13. What is the function of the two imagers on weather satellites?
14. What is the advantage of having infrared images?

Now, go to this Web site to view GEOS and POES images: http://cimss.ssec.wisc.edu/satmet/modules/sat_basics/images.html

15. As you scrolled from left to right over the GEOS visual image, what changed?
16. Think about how satellites view clouds from above, what are the advantages of satellite images?