

Earth in Space Diagram: Drawing directions

1. With the paper in horizontal (landscape) mode, write your name in the bottom right.
2. Make a small dot in the center of the page. That's the center of your Earth!
3. Use a compass to draw a large circle around that dot (radius=8 - 9 cm).
4. Draw a vertical line through the center of your circle.
5. Lightly draw a horizontal line through the center.
6. Draw a line 23.5° from the vertical line... it should go through the circle's center and extend beyond its edges on both sides. Label this line **AXIS** and label the top and bottom **N** and **S**, respectively.
7. Construct a line perpendicular to the axis running through the center point. Label this **EQUATOR**.
8. Draw two lines **parallel to the equator** on either side that meet the ends of the horizontal line you drew in step 5. Another way to do this is to measure 23.5 degrees above the equator on either side of the Earth and connect these two points. Then do the same thing south of the equator. Label the one in the Northern hemisphere 23.5°N - **TROPIC OF CANCER** and the one in the Southern hemisphere 23.5°S - **TROPIC OF CAPRICORN**.
9. Draw two lines parallel to the equator on either side that meet the ends of the vertical line you drew in step 4. Label the one in the Northern hemisphere 66.5°N - **ARCTIC CIRCLE** and the one in the Southern hemisphere 66.5°S - **ANTARCTIC CIRCLE**.
10. Choose a side of your paper from which the sun is shining and draw some parallel sun rays coming toward the Earth (labeled **SUNLIGHT**)
11. Using the vertical line you drew in step 4 as the dividing line, add shadow to one side of your Earth. That's the line between day and night. Label this line **CIRCLE OF ILLUMINATION**

12. Decorate your Earth!

Answer the following Questions

1. What day of the year is depicted by your diagram? How do you know this?
2. If you are located at 90 S, how much daylight are you receiving? If you are at 90 N how much daylight are you receiving?
3. What latitude is the the Sun striking the earth at a 90 degree angle?
4. Place a point that is approximately the latitude of NYC. Is this position receiving more hours of daylight or more hours of darkness?
5. On your Earth, you should have a line that connects 66.5 N and 66.5 S that is labeled **Circle of Illumination**. How does this line divide the Earth?