

NAME _____

Using your answers from "THE CONSTANTLY CHANGING SUN," plot the location of the Sun on the circle graph.. Don't let that graph scare you! Each heavy line equals ten million kilometers, and each thin line represents two million kilometers. Start by labeling the outside line "160." Then number in 150,140,130, on the next three heavy lines. You shouldn't need any other inner parts of the circle. The dates on the data were for the first of the month Therefore, each dot should be on the month line. After you have plotted the twelve dots connect them with a smooth curve in pencil. The line represents the orbit of the Earth; it shouldn't be straight or jagged! After you have drawn the orbit, go over it in something darker so you can easily see it.

DISCUSSION

1. In which month is the Earth farthest from the Sun (aphelion)? _____ What is that distance?
_____ million km.

2. In which month is the Earth closest to the Sun (perihelion)? _____ What is that distance? _____
million km.

3. How did your answer to question #3 in "The Reason for the Seasons? (Part One)" compare to the two answers given above?

4. What is the difference between the aphelion and perihelion distances?

Aphelion – Perihelion = Difference

- = **million km**

5. The average distance to the Sun (Y_2) is 150 million km. What percentage is the difference (number 4) of the average distance?

(Answer to #4 \div 150)X100= %

_____ \div 150) X 100 = _____

6. What does the graph and/or the calculations tell you about the Earth's orbit?

7. What conclusion can you draw from the observation that the Sun has a different apparent size in the summer than in the winter?

8. Do the months of warmest weather in the northern hemisphere (us) include the month when the Earth is at perihelion?