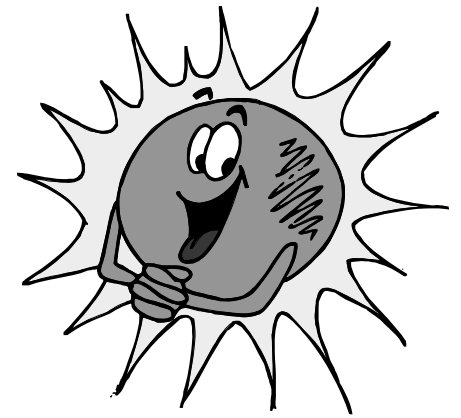


Name _____

How Much Energy?



Question: Do different parts of the world get different amounts of the Sun's energy?

Materials:

Globe

LabPro system with 2 temperature sensors

Computer

Tape

Lamp

Ruler

Procedure:

1. Connect the LabPro to the computer.
2. Tape a temperature sensor to the globe's equator.

This sensor must be plugged into Channel 1 of the LabPro.

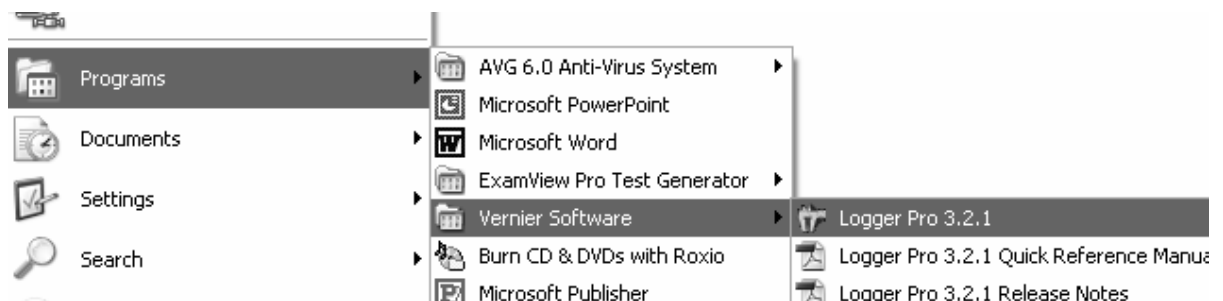
3. Tape the other temperature sensor to the North Pole.

This sensor must be plugged into Channel 2 of the LabPro.

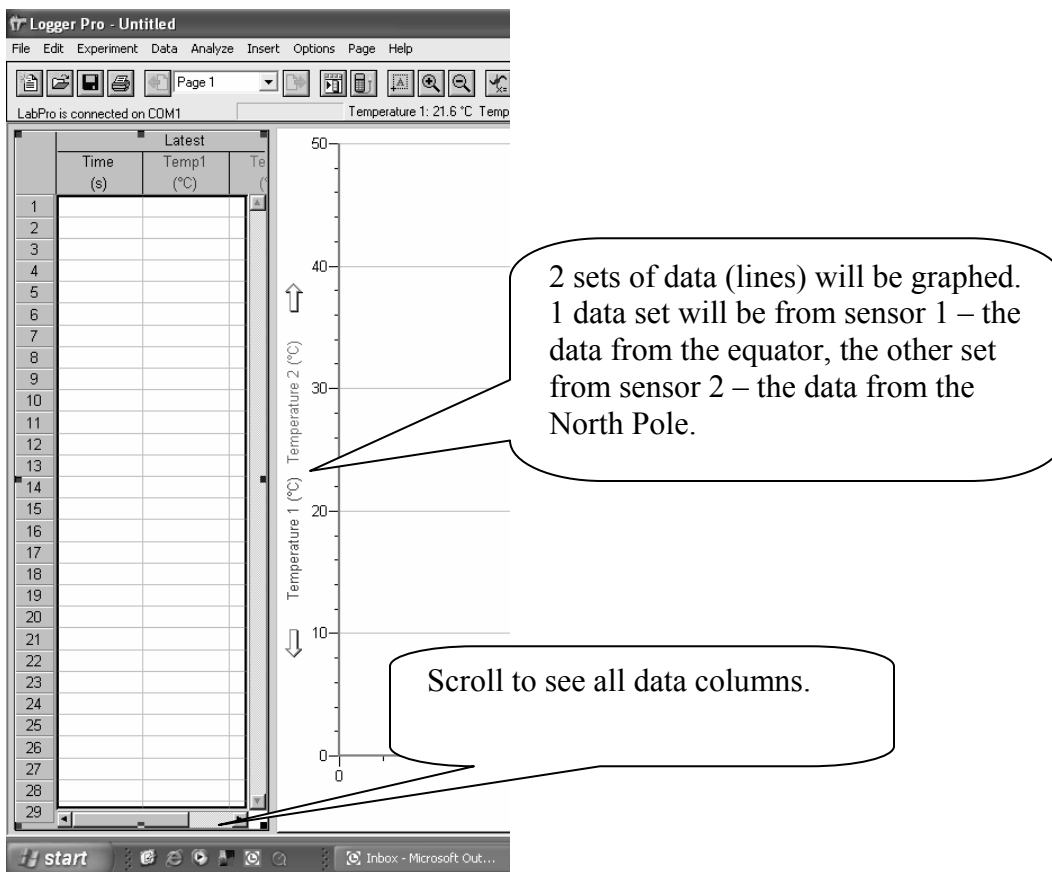
4. Place the lamp **30cm** from the globe, with the tilt of the globe facing the lamp.

5. Shine the lamp directly on the globe's equator.

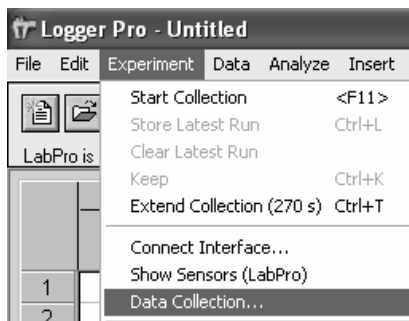
6. Open LoggerPro v3



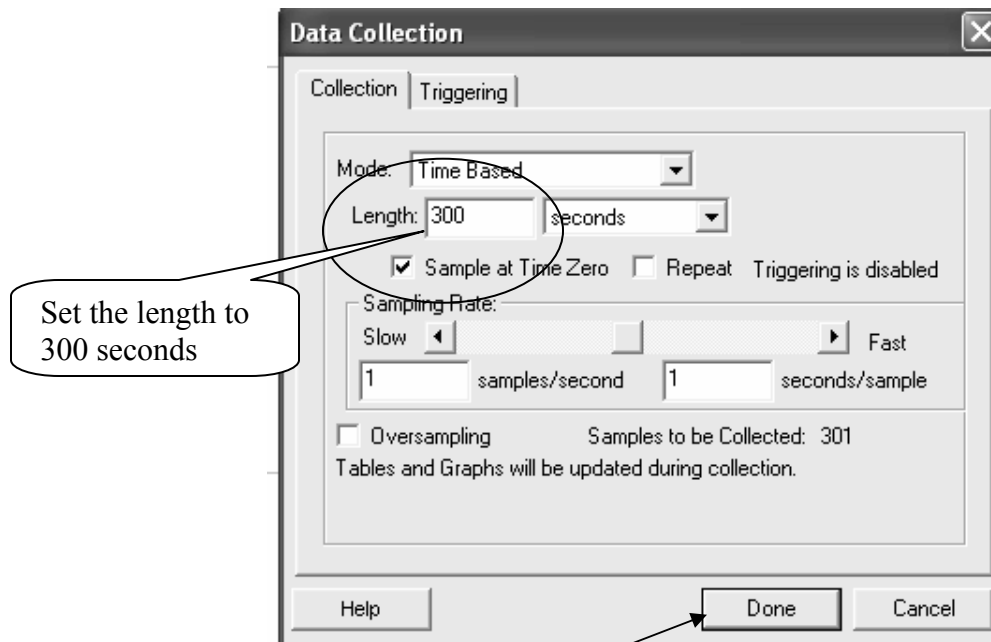
7. The program will auto-sense the T sensors and create a graph and data table ready to use:



8. Go to **Experiment** → **Data Collection**

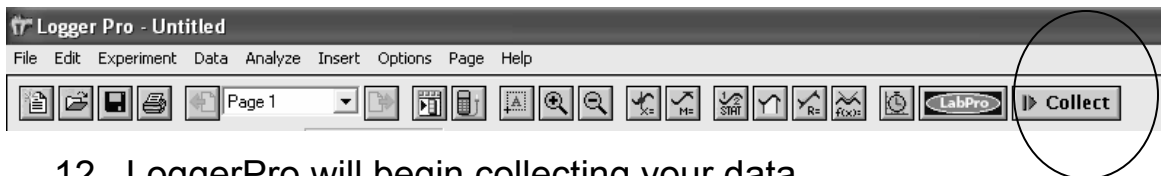


9. Set the data collection like this:



10. Click **Done**.

11. Click **Collect**:



12. LoggerPro will begin collecting your data.

13. When the data collection is finished, print the screen. Follow the screen prompts to put your name in the footer.

14. Each person in your group must print their own data.

15. Staple your data to this lab.

Data Analysis:

1. Which part of the world receives the most energy [heat]?

Explain your answer.

2. The Earth is tilted 23.5 degrees. What would the data look like it were tilted 50 degrees? **Explain your answer.**

3. What would the data look like if the Earth were tilted 10 degrees? **Explain your answer.**

4. Predict what the data would be if a temperature sensor was placed at the South Pole. **Explain your answer.**
