

Lab: Ground Temperature

BIOLOGY

Background: All bodies emit radiation when their temperatures is above **absolute zero**. The higher the temperature of the body is, the more radiation that is emitted. When the Sun rises, the radiation (mostly **visible light**) is absorbed by the ground, which causes the temperature of the ground to increase. At the same time, the ground is emitting **infrared radiation**, which causes the temperature to decrease. The ground's temperature is at a maximum when the amount of infrared radiation emitted is equal to the amount of visible light absorbed.

The table below shows the average number of daylight hours for the 15th day of each month in a region located in the continental United States. It also shows the average monthly temperature.

MONTH	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Hours of Sunlight	9	10	11	12	14	15	14	13	12	11	10	8
Average Temp °C	-4°	-5°	1°	8°	13°	19°	22°	21°	18°	11°	4°	-3°

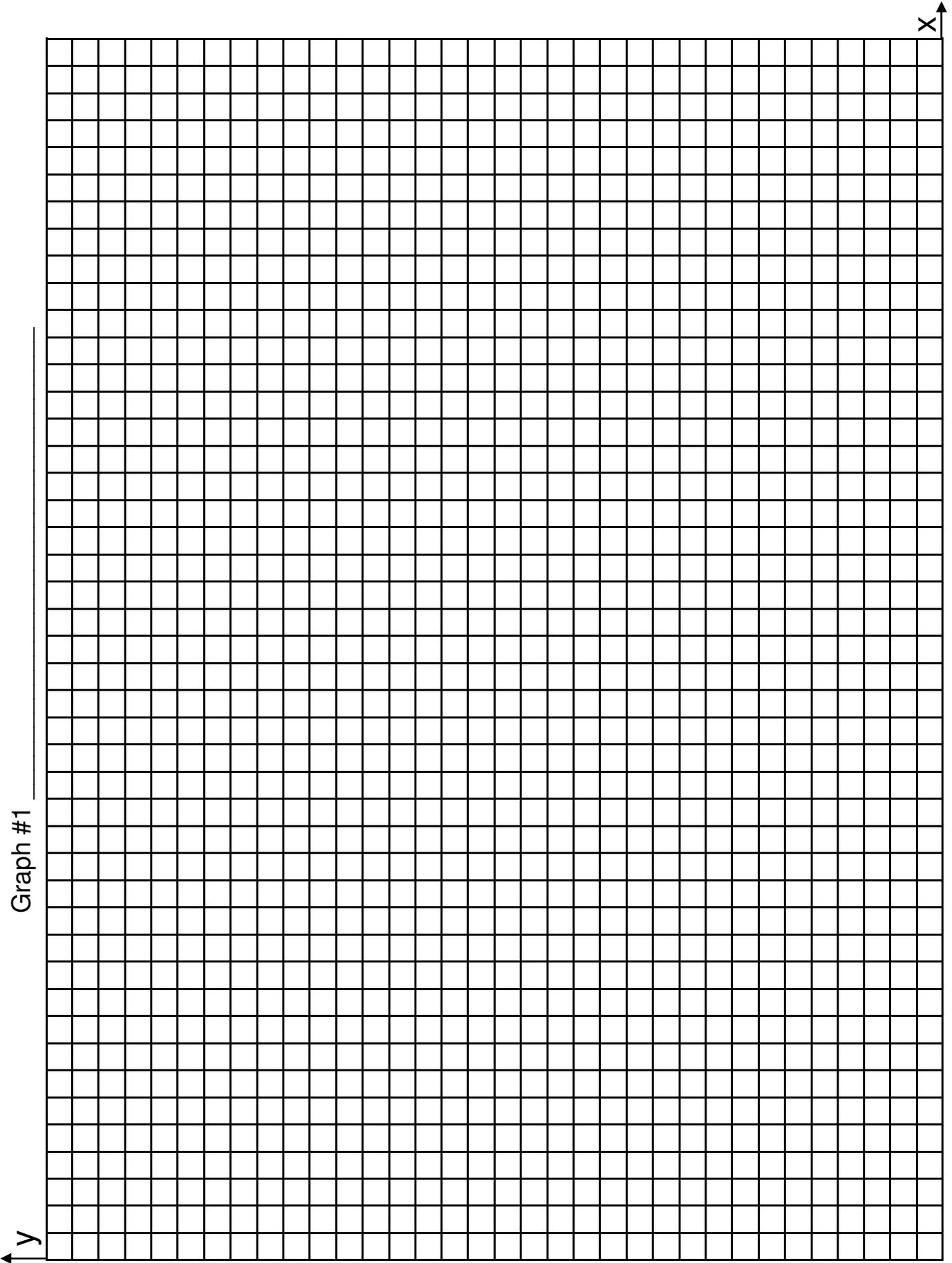
Procedure:

1. Construct a **line graph** showing the **hours of sunlight** versus the **average temperature** on graph #1. **Make sure you title the graph and label each axis.**
2. Construct a **line graph** with the **months** on the horizontal axis (independent axis) and the **hours of daylight** and the **temperature** on the vertical axis (dependent axis) **Make sure you title the graph and label each axis**

Conclusion Questions:

1. How would you describe the relationship between hours of sunlight versus average temperature?
2. How can the temperature be warmer in June and July when we are the furthest from the Sun?
3. Why is the amount of daylight greatest in June, but the highest temperatures in July?
4. Where in the continental United States do you think this data came from?

Graph #1



Graph #2

