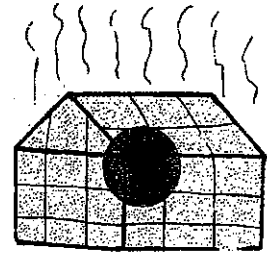


## The Greenhouse Effect

Sunlight is radiant energy that has traveled from the sun to the earth. How does this energy interact with the atmosphere and earth? Use the data below as a model to find out how the atmosphere is warmed.



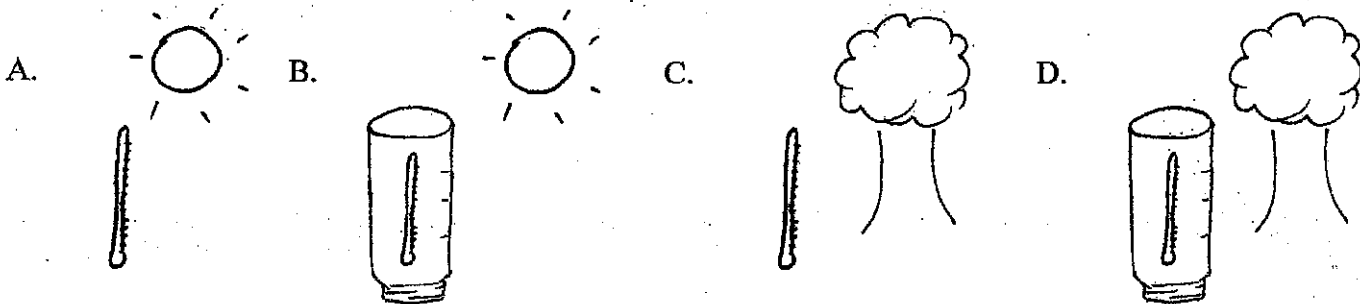
Four thermometers were set up to measure the temperatures in four different circumstances.

**Thermometer A** was left in the sun, nothing underneath it and nothing covering it.

**Thermometer B** was left in the sun, so that it would receive the same amount of sun as thermometer A, with nothing underneath it, but it was covered with a glass jar.

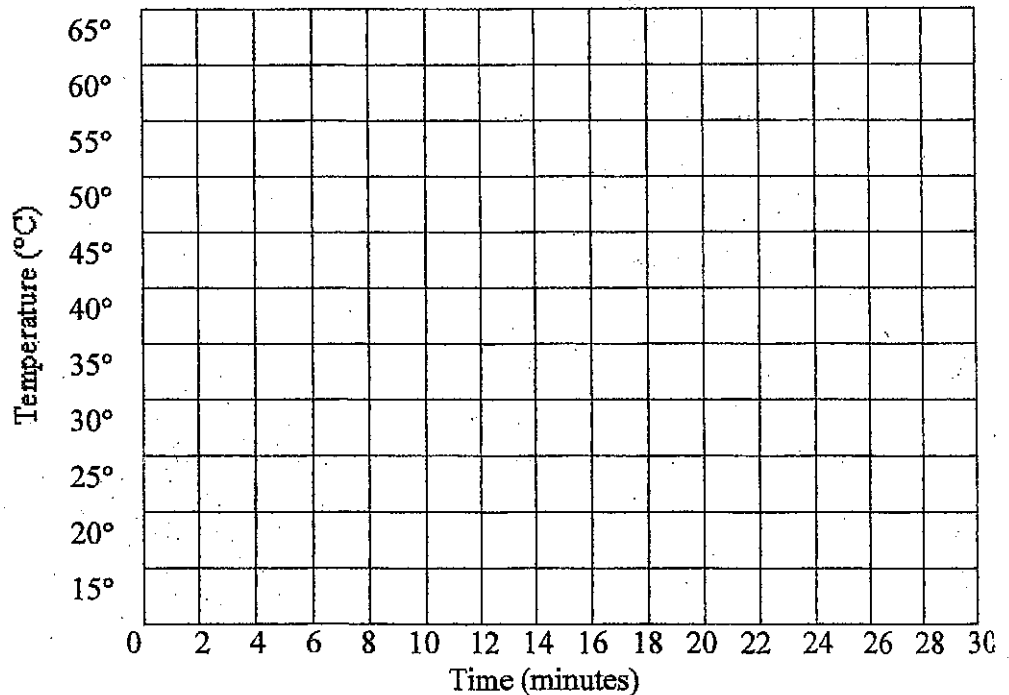
**Thermometer C** was left in the shade, nothing underneath it and nothing covering it.

**Thermometers D** was left in the shade right next to thermometer C, so it had the same amount of shade, it had nothing underneath it, but it was covered with a glass jar.



The temperature was recorded on these four thermometers for thirty minutes. The temperature recordings are marked in the data table below. Graph them to see the trends or the temperatures.

Time Min.	Temperature, °C			
	A	B	C	D
0	40	40	36	36
2	42	43	36	36
4	45	44	36	37
6	43	46	37	37
8	42	48	37	37
10	42	51	37	37
12	42	53	37	37
14	42	55	37	37
16	42	57	37	38
18	42	59	38	38
20	42	60	38	38
22	42	60	38	38
24	42	60	39	39
26	42	62	39	39
28	42	62	39	39
30	43	63	39	40



**Questions:** answer the following questions based on the lab and your notes.

1. What are the two main gasses that make up our atmosphere?
2. The earth has not always had oxygen in it's atmosphere, how did it get there?
3. What gasses are found in our atmosphere, and act like the glass from a greenhouse?
4. The glass Jar in this Lab was a model. What does it represent?
5. Look at your graph. Where did the air warm up the most?
6. What was the purpose of placing thermometer A in the sunlight but not in the jar?
7. What was the purpose of thermometer D?
8. Explain what happened to the air inside the jar.(explain in words, then draw a picture in the space below.)

