

Name:

Period:

Date:

Web Assignment: Seasonal Temperatures

Go to <http://team9titans.weebly.com>

Run your mouse over "Miss Pluchino (Physical Science)" in the left menu bar.

Click on "Science Web Assignments"

Click on the "Seasonal Temperatures" link.

A new window will open. Click on "continue to interactive" (top right)

Make sure the Earth's axis is tilted to 23.5° .

Click the arrows near the months to change the month.

Click on the cities to see where they are on the Earth.

1. What is the temperature on Earth and the distance between the Earth and the Sun in Anchorage, AK during:

	Temperature		Distance (km)
	$^\circ\text{F}$	$^\circ\text{C}$	
a. January	16	-9	147,200,000
b. April	36	2	150,000,000
c. July	59	15	152,000,000
d. October	34	1	148,900,000

2. in Quito, Ecuador:

	Temperature		Distance (km)
	$^\circ\text{F}$	$^\circ\text{C}$	
a. March	58	14	149,200,000
b. August	58	14	151,300,000
c. December	58	14	147,200,000

3. in Melbourne, Australia:

	Temperature		Distance (km)
	$^\circ\text{F}$	$^\circ\text{C}$	
a. February	67	19	147,800,000
b. June	50	10	152,000,000
c. September	52	11	150,200,000
d. November	59	15	147,700,000

4. in Chicago, IL:

	Temperature		Distance (km)
	$^\circ\text{F}$	$^\circ\text{C}$	
a. May	59	15	151,400,000

Now tilt the Earth to 0° and answer these questions.

5. What is the temperature on Earth and the distance between the Earth and the Sun in Anchorage, AK during:

	Temperature		Distance (km)
	° F	° C	
a. January	26	-3	147,204,333.6
b. April	26	-3	150,345,889.5
c. July	26	-3	152,006,426.6
d. October	26	-3	148,909,749.7

6. in Quito, Ecuador:

	Temperature		Distance (km)
	° F	° C	
a. March	59	15	149,029,428
b. August	59	15	151,333,235.6
c. December	59	15	147,159,454.2

7. in Chicago, IL:

	Temperature		Distance (km)
	° F	° C	
a. May	37	3	151,422,994.4

8. in Melbourne, Australia:

	Temperature		Distance (km)
	° F	° C	
a. February	52	11	147,204,333.6
b. June	52	11	152,036,345.8
c. September	52	11	150,181,331.8
d. November	52	11	147,772,805.6

9. Pick Anchorage, AK, Chicago, IL, or Melbourne, Australia and explain why the temperatures are different at 0° and 23.5° ?

If the axis is tilted then at times throughout the year the sun hits certain parts directly or indirectly. If hit directly, temperatures are warmer; if hit indirectly, temperatures are cooler. At 0° tilt, the sun hits the same place with the same amount of light throughout the year so no changes in temperature occur.

10. Why weren't you asked to compare the distances when asked to explain the temperature differences between the changes in the tilt of the Earth?

Distance that small does not affect temperature.

11. Why couldn't you pick Ecuador to explain the temperature differences between the changes in the tilt of the Earth?

Ecuador is near the equator so the temperatures experienced there are similar year round.