

Name: \_\_\_\_\_

Period: \_\_\_\_\_

## Atmosphere Review

### Section 1 know:

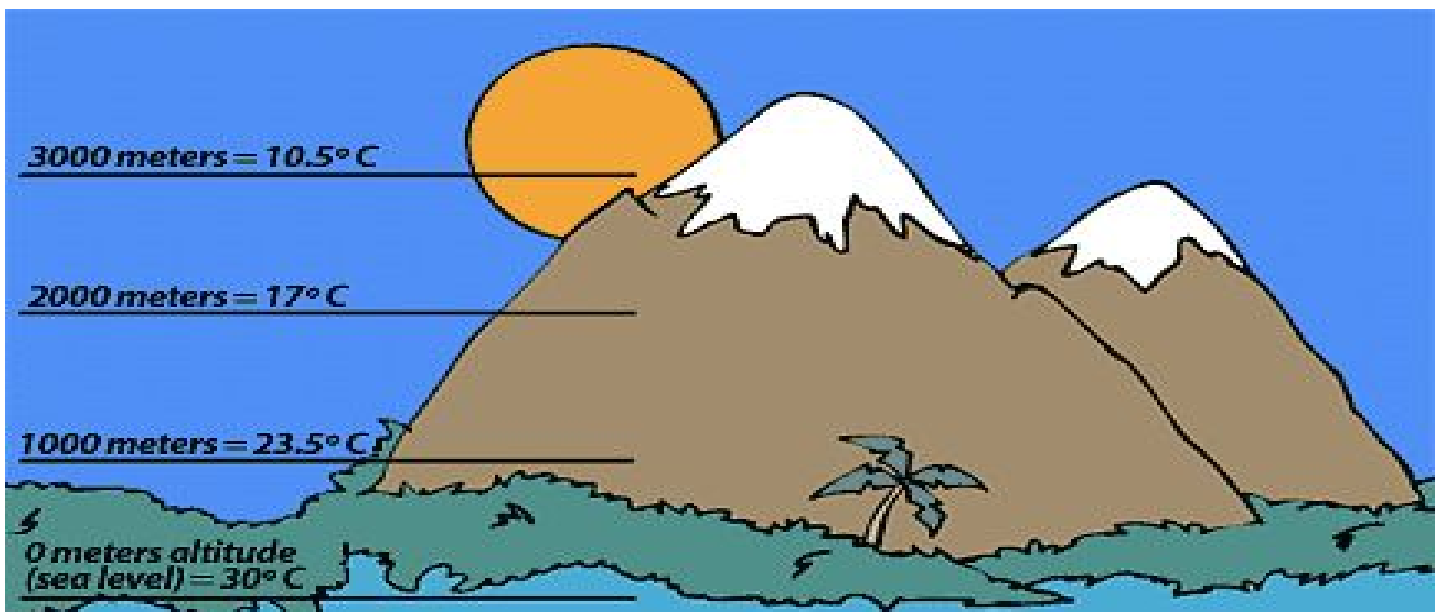
Atmosphere  
Air pressure  
Altitude  
Troposphere  
Stratosphere

Ozone  
Mesosphere  
Thermosphere  
Ionosphere  
Water vapor

### Section 2 know:

Radiation  
Conduction  
Convection  
Temperature inversion

Greenhouse effect  
Reflect  
Stability



### 1. Use the picture above to answer the following questions:

- At what altitude would the temperature be the lowest? \_\_\_\_\_
- At what altitude would the air pressure be the greatest? \_\_\_\_\_
- At what altitude would there be the lowest amount of gas molecules? \_\_\_\_\_

**2. Label the 4 major layers of the atmosphere on the image below.**

**a.** Which layer of the atmosphere heats up due to the presence of the ozone layer? \_\_\_\_\_

**b.** What major layer of the atmosphere is missing from the image below? \_\_\_\_\_

Layer A

\_\_\_\_\_

Layer B

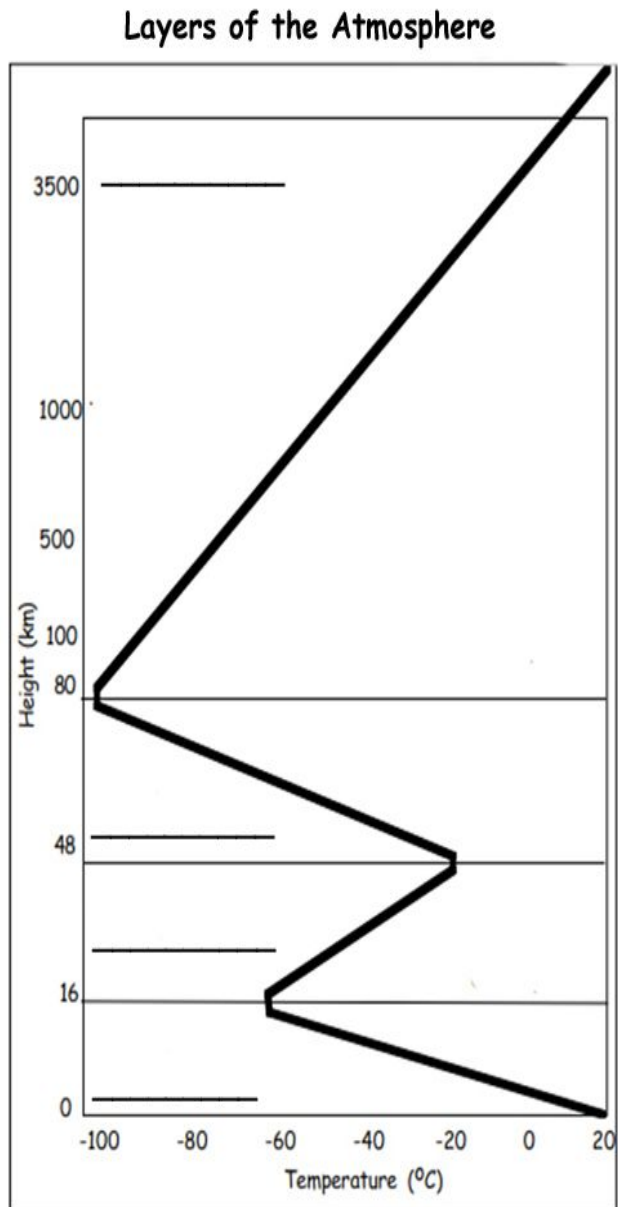
\_\_\_\_\_

Layer C

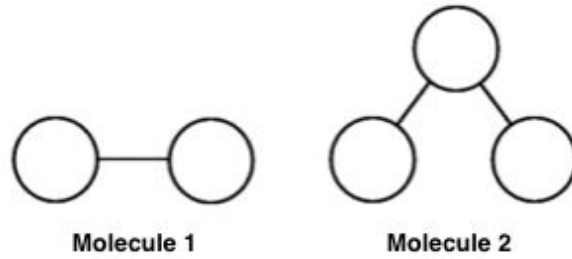
\_\_\_\_\_

Layer D

\_\_\_\_\_



3. Label the oxygen ( $O_2$ ) vs the ozone ( $O_3$ ) molecule on the diagram below:



- a. Oxygen is found \_\_\_\_\_
- b. Ozone is found \_\_\_\_\_

4. The gaseous composition of the atmosphere includes:

78% \_\_\_\_\_

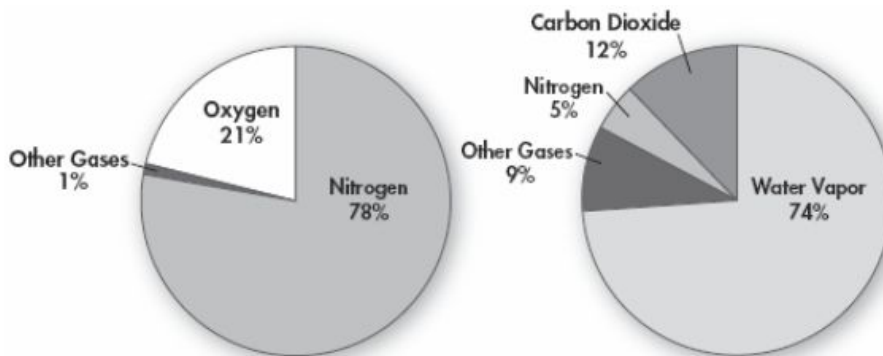
21% \_\_\_\_\_

1% \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

7. The two graphs below show gaseous composition of the atmosphere. Label them as either “present day Earth” or “ancient Earth.”

Graph 1 \_\_\_\_\_

Graph 2 \_\_\_\_\_



**8. What happened to all the water vapor in ancient Earth?**

**9 Where did the present day oxygen come from?**

**10. Use the following terms to label each example:**

conduction  
convection  
radiation

- a. The sun shines on you through a window in your home. \_\_\_\_\_
- b. You drink a cup of hot apple cider and it warms your throat. \_\_\_\_\_
- c. You hold a bowl of hot soup that warms your hands. \_\_\_\_\_
- d. Hot air from the heater warms the air above it. \_\_\_\_\_
- e. Light from a lamp shines on you and warms you up. \_\_\_\_\_
- f. A pot of food gets heated up by sitting on a hot burner. \_\_\_\_\_
- g. Steam from a hot bowl of soup warms your face as you lean over it.  
\_\_\_\_\_

**11. Two things can happen to the radiation that Earth receives from the sun. What are they?**

**12. Absorption of solar energy causes the Earth's temperature to \_\_\_\_\_, whereas reflection of solar energy causes the Earth's temperature to \_\_\_\_\_.**

**13. Match the correct word for each definition. Use: a. conduction b. convection c. radiation**

\_\_\_\_\_ heat transferred through a liquid or a gas

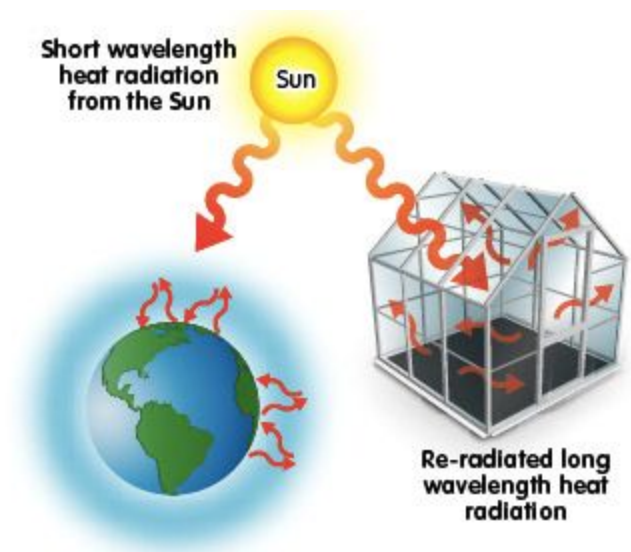
\_\_\_\_\_ heat transferred directly from one solid to the next through direct contact.

\_\_\_\_\_ heat transferred through electromagnetic waves

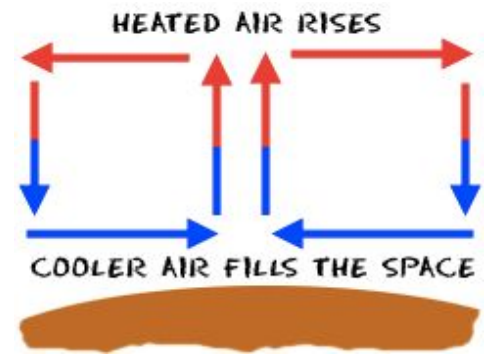
**14. Describe the function and cause of the greenhouse effect?**

**15.** Currently, the concentration of carbon dioxide in Earth's atmosphere is about 400 parts per million. During the Cretaceous Period, about 110 million years ago, the concentration of carbon dioxide in Earth's atmosphere was about 2,000 parts per million. **Based on your knowledge of the greenhouse effect, how do you think the average temperature on Earth 110 million years ago compared to the temperature in modern times?**

**16. How is the greenhouse effect that the atmosphere experiences similar to an actual greenhouse?**



17. How are air circulation patterns within the atmosphere created?



18. Describe the importance of radiation balance.