

# Conceptualizing Climate and Climate Change Assessment Instrument

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

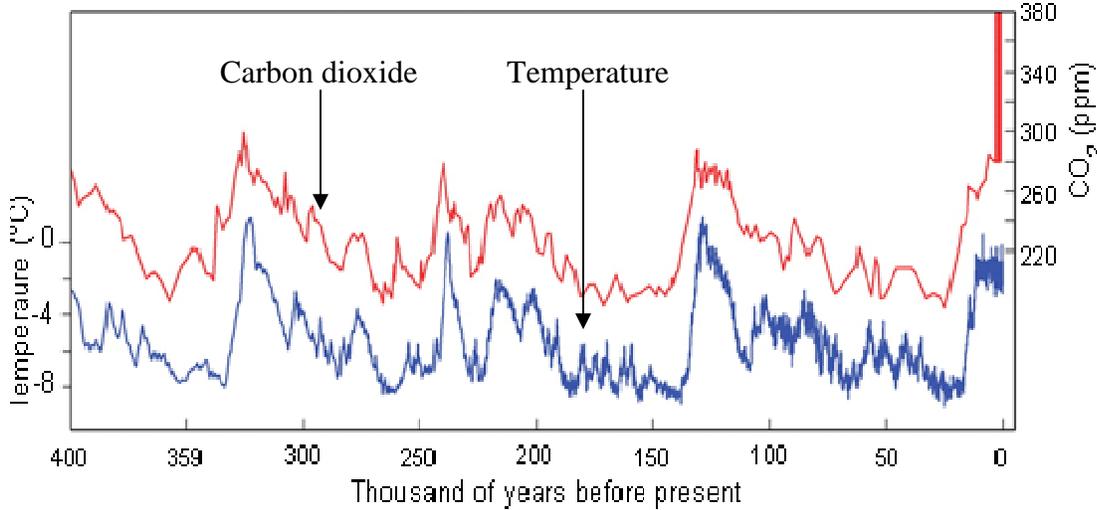
Class/subject: \_\_\_\_\_ Grade: \_\_\_\_\_

Gender: \_\_\_\_\_ Ethnicity: \_\_\_\_\_

Hometown: \_\_\_\_\_ Date: \_\_\_\_\_

**Directions:** Carefully read each question and then write or draw your answer in the space below each question. Answer in complete sentences and avoid using nonspecific terms such as “it”.

1. The graph below shows the change in temperature and atmospheric carbon dioxide (CO<sub>2</sub>) over the past centuries. The left axis shows temperature and the right axis shows carbon dioxide. The bottom axis shows years from the present (0) to the past. Scientist often use these data to talk about global warming and climate change. How do you think these data support scientists' view that the climate is warming?



The top red line is carbon dioxide (CO<sub>2</sub>).  
The bottom blue line is temperature.

---

---

---

---

2. If there were no increase in carbon dioxide (CO<sub>2</sub>) levels, would our climate change? \_\_\_\_\_

a) If yes, what other factors besides carbon dioxide would cause our climate to change?

---

---

---

---

b) If no, why wouldn't our climate change?

---

---

---

---

3. Some scientists think that the Earth's climate is getting warmer.

a) If these scientists are correct what will happen to the oceans? Explain why you think this would happen.

---

---

---

---

b) If these scientists are correct, what things about the Earth's weather will change? Explain why you think this would happen.

---

---

---

---

c) If these scientists are correct what will happen to plants and animals? Explain why you think this would happen.

---

---

---

---

d) If these scientists are correct what will happen to people and society? Explain why you think this would happen.

---

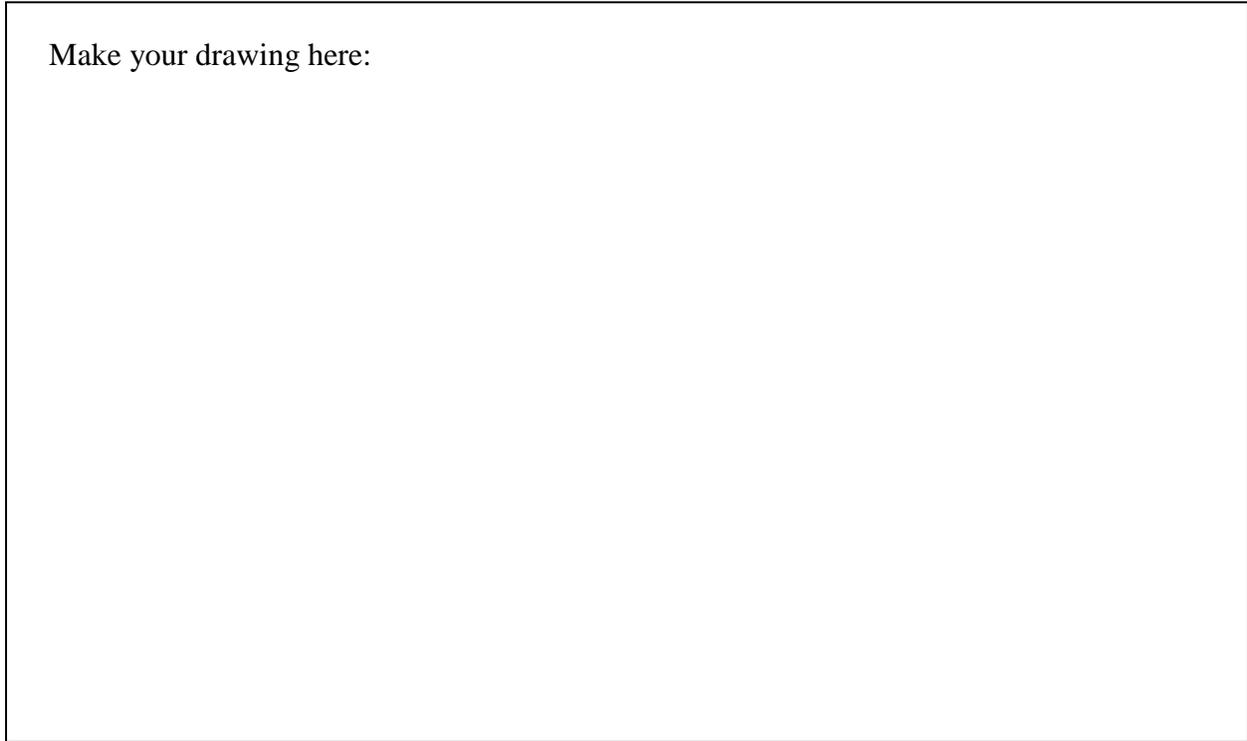
---

---

---

4. Draw your understanding of the greenhouse effect; you can also use words to label parts of your drawing. In the space below your drawing, explain your drawing and explain how you know this.

Make your drawing here:



Write your explanation here:

---

---

---

---

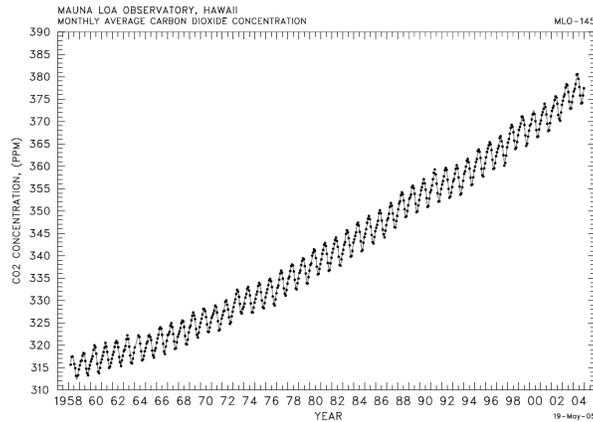
Explain how you know this:

---

---

---

5. The graph below shows the change in carbon dioxide (CO<sub>2</sub>) levels at the Mauna Loa Observatory in Hawaii. Answer the following questions based on this data.



a) List the natural processes that might cause the carbon dioxide (CO<sub>2</sub>) levels to change.

---

---

---

---

b) Explain how these natural processes might cause the carbon dioxide levels to change.

---

---

---

---

c) List the human activities that might cause the carbon dioxide levels to change.

---

---

---

---

d) Explain how these human activities might cause the carbon dioxide levels to change.

---

---

---

---

e) What could you do to lower the level of carbon dioxide in the atmosphere?

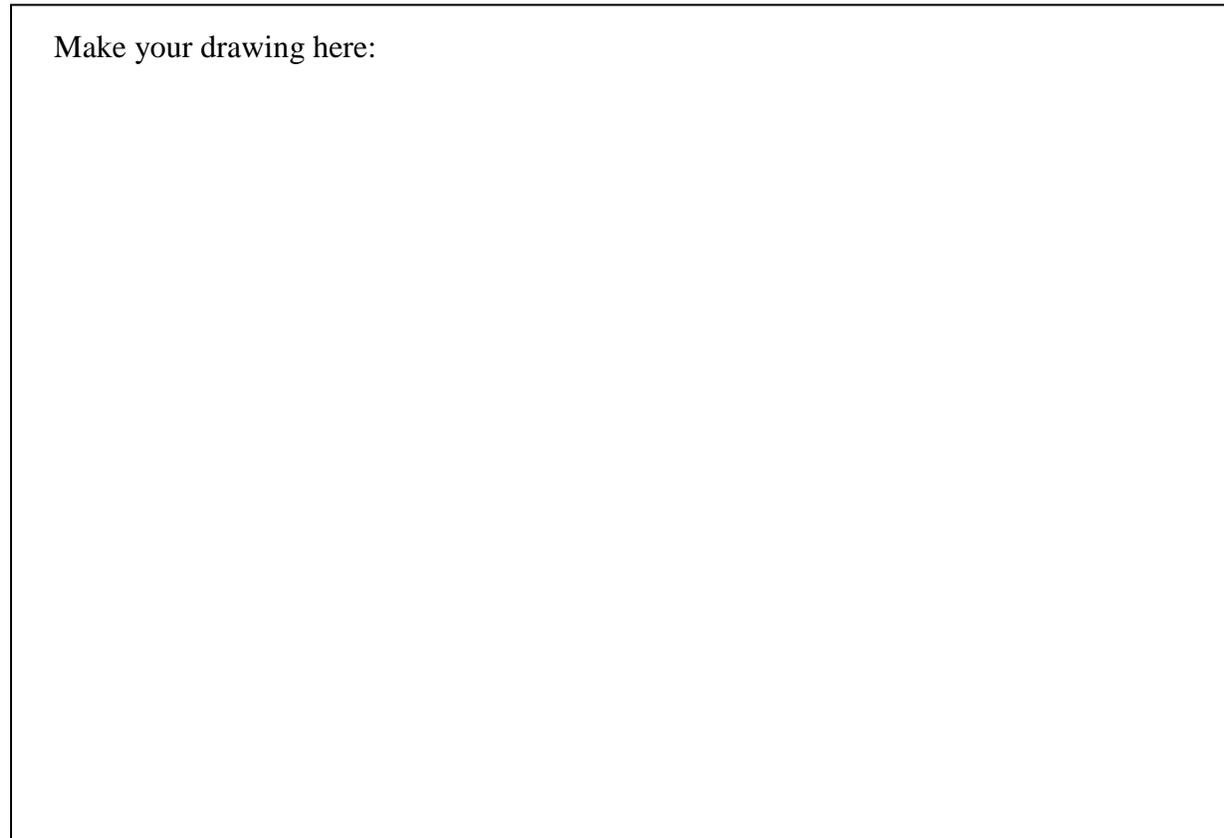
---

---

---

6. Draw your understanding of the water cycle; you can also use words to label parts of your drawing. In the space below your drawing, explain your drawing.

Make your drawing here:



Write your explanation here:

---

---

---

Explain how you know this:

---

---

---

