

Name _____

CR/NCR

Birch Aquarium Field Work
Feeling the Heat, Climate Change Exhibit

Directions: Complete this scavenger hunt while exploring and investigating the Climate Change Exhibit. This will be collected at the end of the day by your chaperone and then given to Mr. Curtis for credit.

- 1). How have scientists been able to track CO₂ levels for the last 650,000 years?
- 2). According to the map, how much CO₂ (parts per million) were in our atmosphere:
 - a. 500,000 years ago?
 - b. 100,000 years ago?
 - c. Today?
- 3). How much has the CO₂ level grown from 600,000 years until today?
- 4). By what percent has CO₂ increased since the Industrial Revolution?
- 5). Check out the Warmer World Map. What are some observations you can make from this map?
- 6). How much higher have annual average temperatures climbed in the last 50 years in the Arctic?
- 7). Explain who Charles David Keeling is and what does he do for a living.
- 8). What do experts believe is a safe amount of CO₂ to have in the atmosphere?
- 9). How much CO₂ keeps us in the comfort zone?

- 10). Describe the greenhouse effect.
- 11). What are the three fossil fuels that increase CO₂ levels?
- 12). How much has the sea level risen over the 20th Century?
- 13). In San Diego, each foot of sea level rise allows waves to reach how many feet further up the shore?
- 14). Scientists found that this is causing a longer dry season in California?
- 15). What effect does less plankton in the ocean have on other animals?
- 16). At what rate are many species moving towards the pole?
 - a). Why do you think they are moving towards the poles?
- 17). What do you notice has happened to the North Pole from 1979 to 2012?
- 18). What is happening to the world's glaciers all over the world?
- 19). What are 3 sources (adds to) of CO₂, and what three sinks (removes) of CO₂?
- 20). What does an Argo float do?

21). What are aerosols?

a. How do aerosols relate to climate change?

22). How much of CO₂ is dissolved in the ocean?

a. The extra CO₂ is changing the ocean's chemistry, which is called _____
_____?

23). Why are the shells of many marine species affected by climate change?

24). Under Connect the Dots: You, CO₂, and Corals, click on coral bleaching. What causes reefs to get bleached?

25). Check out the Boundless Energy exhibit (you will find this exhibit outside). What are some ways we could power our lives in healthy and sustainable ways?

Spicy Challenge: Write 3 facts from the Inside the Plastic Vortex