# NOVA: Decoding the Weather Machine

Name: _____

Guiding Question: How will climate change affect us through the weather we experience, and when?

1. Evidence of climate change falls into 10 different categories, listed below. If global temperatures are increasing, predict what would be observed. (circle the appropriate word).
    a. land surface temperature would be ( increasing / decreasing )
    b. sea surface temperature would be ( increasing / decreasing )
    c. air temperature over land would be ( increasing / decreasing )
    d. air temperature of the ocean would be ( increasing / decreasing )
    e. ocean heat content would be ( increasing / decreasing )
    f. sea levels would be ( rising / falling )
    g. specific humidity would be ( increasing / decreasing )
    h. glacial mass would be ( increasing / decreasing )
    i. northern hemisphere snow cover would be ( increasing / decreasing )
    j. arctic sea ice would be ( increasing / decreasing )

2. What are greenhouse gases? What do greenhouse gases do?

3. How did we discover the greenhouse effect?

4. What does the Keeling Curve measure? What does it show?

5. What seems to be increasing the amount of carbon dioxide in our atmosphere?

6. The land plays a role in absorbing carbon. How?

7. The ocean absorbs heat. Why?

8. What is happening to the ice at the poles?

9. Is there a cause and effect between the poles and sea levels? Explain.

10. What is a climate refugee? Why should we care?

11. How have we created climate models?

12. What do the models show?

13. What can we do to adapt to our changing climate?

14. How can we mitigate the effects of climate change?