

# Climate Change Webquest:

Name \_\_\_\_\_ Per \_\_\_\_\_

**Part 1: Greenhouse Gases** Use the link <https://www.youtube.com/watch?v=Pz0JBSKRhf0> to watch the video.

- 1) What causes the 30% of incoming solar radiation to be reflected back to space?
- 2) What causes the 70% of incoming solar radiation to be absorbed?
- 3) The balance between what two things determines the temperatures of the planet?
- 4) What is making the energy budget out of balance ?
- 5) What creates the greenhouse gasses?
- 6) What do greenhouse gasses block?

**Part 2: NASA: Global Changes** watch Climate Puzzle: <http://www.nasa.gov/multimedia/podcasting/temperature-puzzle.html>

- 1) Last decade is the \_\_\_\_\_ since humans started keeping track.
- 2) Sea levels rose \_\_\_\_\_ and arctic summer sea ice \_\_\_\_\_.

**Three major pieces of the puzzle: incoming sunlight, absorption and reflection.**

- 3) Solar cycle seems to have a \_\_\_\_\_ impact.
- 4) A brighter more reflective planet bounces \_\_\_\_\_.
- 5) Some of the brightest and most reflective parts of our plant \_\_\_\_\_.
- 6) NASA data shows that the sea ice is vanishing into the dark oceans and \_\_\_\_\_.
- 7) Clouds also \_\_\_\_\_.
- 8) But it's hard to know whether clouds \_\_\_\_\_.
- 9) Water vapor is \_\_\_\_\_.
- 10) Describe how greenhouse gasses warm earth: \_\_\_\_\_.

**Part 3: Sea Ice, Sea Level, and Global Temperature** <https://climate.nasa.gov/interactives/climate-time-machine>

**A) Sea Ice: Click the tab. Read the section and use the website to answer the questions below?**

- 1) How has the 'perennial' arctic sea ice changed since the 1980's?

**B) Sea Level: Click the tab. Read the section and use the website to answer:**

- 1) How many meters would the water rise if Greenland ice sheet melts completely?
- 2) Describe what would happen to the east coast and gulf coast if the Greenland ice sheet melts completely?

**C) Average Global Temperature: Click the tab. Read the section and use the website to answer:**

- 1) Write the value of the change in climate temperatures for the US for these years:  
1900 \_\_\_\_\_ 1907 \_\_\_\_\_ 1924 \_\_\_\_\_ 1935 \_\_\_\_\_ 1970 \_\_\_\_\_ 1991 \_\_\_\_\_ 2005 \_\_\_\_\_
- 2) Using the slider, identify the areas of the planet that have had the greatest increase in temperature for the past 20 years:
- 3) From your own understandings, why might this area show the greatest change?

**Part 4: Ozone Hole Recovery** Watch exploring the ozone by NASA at: <https://www.youtube.com/watch?v=qUfVMogldr8>

- 1) What does the ozone do for the earth?
- 2) List and describe the 3 ingredients that create the ozone hole?

**Watch :** <https://www.youtube.com/watch?v=IBu3vltczRw>

- 3) Describe what is happening to the ozone hole and why it is happening: