

## Decoding the Weather Machine Questionnaire

1. \_\_\_\_\_ of the 10 hottest years on record have occurred within the last decade.
2. Climate change is increasing the risk, or probability, of certain types of extreme weather events. TRUE OR FALSE?
3. Fossils of \_\_\_\_\_ have now been found in places that are famous for ice and snow, like Alaska.
4. Evidence points to the burning of \_\_\_\_\_ as one possible cause of climate change.
5. The four major components of the planet are:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
6. Tyndall's experiment revealed that \_\_\_\_\_ was one of the main gases that trapped heat, while nitrogen and oxygen did not.
7. This gas, and other gases in the atmosphere that trap heat are referred to as \_\_\_\_\_.
8. Coal and oil are made mostly of \_\_\_\_\_.
9. The zigzags of the measurements are not a fault in the equipment, but rather a reflection of the changes in carbon dioxide in the air during the changing \_\_\_\_\_.

10. The measurements from NOAA site in Hawaii has been compiled to form the \_\_\_\_\_ curve.
11. Gas bubbles trapped inside of ice in \_\_\_\_\_ can be sampled and analyzed to tell us what the carbon dioxide conditions were like in the atmosphere hundreds and thousands of years ago.
12. The colder the seawater, the more \_\_\_\_\_ that is encoded into the clam shell.
13. \_\_\_\_\_ cores allow us to measure the earth's climate going back tens of millions of years.
14. \_\_\_\_\_ and \_\_\_\_\_ reflect a similar relationship and change roughly about the same time.
15. Molecules with the same number of protons, but different numbers of neutrons are called what? (not in the video): \_\_\_\_\_.
16. Greg's plane is able to measure the chemical makeup of \_\_\_\_\_ using laser sensors as they fly over the forest.
17. \_\_\_\_\_ are able to hold onto and store approximately 25% of the excess carbon we've released into the atmosphere, which explains why things are not worse in our atmosphere today.
18. The \_\_\_\_\_ are also helping by storing carbon and absorbing heat from the atmosphere.
19. \_\_\_\_\_ floats are used to take all kinds of measurements within the deep ocean, including the chemistry and temperature of the ocean.
20. If the ocean has warmed about half a °F, that translates to about a \_\_\_\_\_ degree change in the atmosphere.

21. The Jakobshavn ice stream is the fastest glacier in the world and is draining vast amounts of ice from the \_\_\_\_\_ ice sheet.
22. For glaciers in contact with the ocean, \_\_\_\_\_ water coming underneath a glacier destabilizes it and causes it to melt and fracture.
23. There is approximately \_\_\_\_\_ feet of sea level rise locked up in the Greenland ice sheet.
24. There is approximately \_\_\_\_\_ feet of possible sea level rise locked up in the Antarctic Ice Sheet.
25. Fossils of ancient \_\_\_\_\_ are found in rock cores in Australia, which explains that that entire landscape was once underwater.
26. The fossil record demonstrates that sea levels could rise up to \_\_\_\_\_ feet higher than they are today.
27. The Marshall Islands are experiencing effects of sea level rise, eventually it will get to the point where they can no longer live there, causing them to have to leave their homes and become \_\_\_\_\_ refugees.
28. A \_\_\_\_\_ tide is one of the year's highest tides.
29. According to retired admiral Ann Phillips, climate change is a \_\_\_\_\_ issue. It is a threat magnifier.
30. Scientists are using a virtual earth to create \_\_\_\_\_ models to predict the future.
31. We are making a lot of progress at making better predictions, but there is an enormous amount about the \_\_\_\_\_ that we don't fully understand.
32. If we want to minimize suffering we need to we need to maximize mitigation and \_\_\_\_\_ .

33.Coral reefs support about \_\_\_\_\_% of all marine life in the sea.

34.If the coral is to survive, it must \_\_\_\_\_ .

35.Whirlpool started to investigate harvesting \_\_\_\_\_ power in order to decrease their energy uses at their factory.

36.\_\_\_\_\_ technician is one of the fastest growing professions in America.

37.Fossil fuels still account for \_\_\_\_\_ % of the world's total power.

38.In order to help the problem, we can't just go zero emissions, but \_\_\_\_\_ emissions.

39.A very simple way to remove carbon dioxide from the air is \_\_\_\_\_.

40.Not \_\_\_\_\_ the soil in a field on a farm helps the soil remain healthier and helps it absorb more carbon.