

Name _____

Teacher _____

Date _____

Class/Period _____

Let's See What You Might Already Know about Climate Change

Directions: Clearly indicate (with a circle or check) the letter of the response that you think is the best answer.

1. The greenhouse effect is:

- (a) caused by human activity
- (b) a natural atmospheric process
- (c) a result of the Industrial Revolution
- (d) found mainly in floral shops

2. Atmospheric heat trapped by greenhouse gases mostly comes:

- (a) directly from the sun
- (b) from the earth's surface, which is heated by the sun
- (c) from heat-producing chemical reactions in the atmosphere
- (d) from volcanic activity

3. Atmospheric greenhouse gases trap:

- (a) heat radiating from Earth, sending some of this energy back toward Earth.
- (b) sunlight, sending some of this energy back to the Earth's surface.
- (c) heat and sunlight, sending most of this energy back to the Earth's surface.
- (d) sunlight, creating a chemical reaction that releases even more energy

4. Two greenhouse gases that trap significant amounts of heat are:

- (a) nitrogen and oxygen
- (b) methane and water vapor
- (c) helium and sulfur
- (d) hydrogen and argon

5. If there is a heat wave in Prince George's county next week, then most scientists would say that:

- (a) global warming is the cause
- (b) many heatwaves would need to be examined before determining the cause
- (c) local temperatures over one week tell us more about weather than about climate.
- (d) climate has no relationship with weather.

6. What are most responsible for the recent rise in atmospheric greenhouses gases?

- (a) spray bottles and carbonated beverages.
- (b) transportation, electricity, heating, air conditioning, farming
- (c) volcanic activity and other natural processes
- (d) abandoned farmland converted into forests

7. Natural factors that most affect the Earth's climate include:

- (a) volcanic activity, the sun's energy output, and oceanic phenomena
- (b) forest fires, lightning, and wind
- (c) earthquakes
- (d) day to day changes in the weather.

8. Methane, as a greenhouse gas, is a problem because it:

- (a) traps more heat than water vapor and carbon dioxide
- (b) is found in greater concentrations than other greenhouse gases
- (c) is highly explosive
- (d) can cause severe air pollution that smells very bad

9. Most computer climate models of *climate change*:

- (a) predict the amount of precipitation in the near future.
- (b) predict the strength, speed and direction of threatening weather events.
- (c) predict the long-term future of the Earth's temperature, precipitation, and sea levels.
- (d) predict the Earth's temperature, precipitation, and sea level over the next few hours.

10. Two things that act as positive feedbacks in the climate system are:

- (a) water vapor and aerosols
- (b) water vapor and clouds
- (c) water vapor and melting ice
- (d) water vapor and volcanoes

11. Climate scientists call processes which decrease heat in the atmosphere:

- a) negative feedbacks
- b) vicious cycles
- c) positive feedback
- d) thermogenesis mechanisms

12. As sea ice melts:

- a) less heat is emitted into the atmosphere
- b) more ocean is revealed, reflecting more of the sun's energy
- c) more ocean is revealed, absorbing more of the sun's energy
- d) heat energy is released from the melting ice

13. Which of the following is a growing problem for many cities?

- (a) less electricity use in the winter
- (b) less snow in the winter
- (c) longer growing season in Northern latitudes
- (d) rising sea levels

14. In the future, most climate scientists predict that there will be:

- (a) fewer hurricanes, but the strength of hurricanes will increase.
- (b) fewer hurricanes, and the strength of hurricanes will lessen.
- (c) more hurricanes, and the strength of hurricanes will increase.
- (d) Hurricane activity and strength of hurricanes will not change.

15. How has climate change affected glaciers?

- (a) All glaciers worldwide have been shrinking.
- (b) All glaciers have remained the same.
- (c) Most glaciers are growing.
- (d) Most glaciers have been shrinking.

16. With warmer temperatures since the 1960s, crop yields have:

- (a) stayed the same
- (b) decreased
- (c) increased, but droughts have become more common
- (d) become more uncertain

17. Severe weather is increasing the most in:

- (a) North America
- (b) South America
- (c) Africa

(d) Australia

18. Oceans levels are rising, and this is mainly due to:

- (a) increased amounts of precipitation
- (b) melting of arctic glaciers
- (c) thermal expansion of water as oceans get warmer
- (d) melting of Antarctica

19. What is the expected relationship between severe heat events and heart attacks?

- (a) No relationship between severe heat events and heart attacks.
- (b) More severe heat events mean more heart attacks.
- (c) More severe heat events mean fewer heart attacks.
- (d) Fewer severe heat events mean more heart attacks.

20. A critical aspect to protecting public health from climate change is:

- (a) developing new medicines.
- (b) preparing for extreme weather events.
- (c) nothing
- (d) going to the gym at least five times a week.

21. A negative health outcome that becomes more likely from increasing air pollution is:

- (a) increased food borne disease, such as salmonella
- (b) increased water borne diseases, such as cholera
- (c) asthma and other respiratory diseases
- (d) malaria and other vector borne diseases

22. In Maryland, asthma affects:

- (a) between 10,000 and 50,000 people
- (b) between 100,000 and 400,000 people
- (c) between 400,000 and 700,000 people
- (d) between 1,000,000 and 1,300,000 people

23. Malaria, a disease spread by mosquitos, is a:

- (a) food borne disease
- (b) air borne disease
- (c) water borne disease

(d) vector borne disease

24. The country that emits the most carbon dioxide (CO₂) per person is:

- (a) The United States
- (b) China
- (c) Russia
- (d) India

25. One way to reduce your carbon footprint is to:

- (a) drive more often and walk less.
- (b) fly more often and drive less.
- (c) consume more locally produced red meat and less vegetables.
- (d) consume more locally produced vegetables and less red meat.

26. The country that emits the most greenhouse gases is:

- (a) The United States
- (b) China
- (c) Russia
- (d) India

27. One way to reduce your carbon footprint is to:

- (a) order everything through Amazon
- (b) eat more red meat and less chicken
- (c) take more showers and less baths
- (d) switch to LED light bulbs

28. Most of our electricity is generated through:

- (a) wind powered turbines
- (b) photovoltaic solar power
- (c) water powered turbines
- (d) coal powered turbines

