

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

