

# Trivia Mingle

(Cut out the individual questions/answers into slips of paper for the kids to use to quiz one another)

1. The wealthiest 10% of people on Earth own \_\_\_\_ percent of the world's wealth.
- a. 30%
  - b. 52%
  - c. 65%
  - d. 88%

Answer: D. The richest 10% of the global population holds 88% of the world's wealth. The richest 1% alone owns 50% of the world's wealth.

2. Oceans have become 30% more acidic since the beginning of the Industrial Revolution. Ocean acidification impacts the health and food supply of which creatures?
- a. Oysters and clams
  - b. Coral reefs
  - c. Plankton
  - d. Humans
  - e. All of the above

Answer: E. Ocean acidification makes it harder for marine organisms whose bodies are built of carbonate to form their shells or skeletons. This includes coral reefs, shellfish, and plankton, but also impacts the rest of the marine food web, including humans.

3. NASA's chief climate scientist, James Hansen, first testified before U.S. Congress on the need to take action on global warming in what year?
- a. 1960
  - b. 1988
  - c. 1997
  - d. 2005

Answer: B. James Hansen testified to a Senate panel on June 23, 1988 (almost 30 years ago!) that warmer temperatures in recent years could be attributed to a long-expected warming trend as a result of burning fossil fuels.

4. More frequent heat waves and lower air quality can threaten the health of vulnerable people, including:

- a. Children
- b. The elderly
- c. Those without access to air conditioning
- d. Those without access to health care
- e. All of the above

Answer: E. Children are more active, making them more susceptible to heat waves. Elderly people are often confined to their homes, also making them more vulnerable. Poor people without access to health care or air conditioning are also at risk.

5. By 2025, \_\_\_\_\_ people in Africa will experience water scarcity due to climate change.

- a. 1-2 million
- b. 10-20 million
- c. 75-250 million
- d. 1-2 billion

Answer: C. By 2025, close to 230 million Africans will be facing water scarcity, and up to 460 million will be living in water-stressed areas. Climate change intensifies the water cycle -- warm air holds more moisture, increasing both precipitation and evaporation.

6. Which of the following impacts of climate change contribute to people being displaced from their homes? (Choose all that apply.)

- a. Deterioration of agricultural land
- b. Water shortage
- c. UV ray exposure from hole in ozone layer
- d. Natural disasters such as floods
- e. Conflict over increasingly scarce resources

Answer: A, B, D, E. Climate change can make problems like water shortages, limited resources, weather disasters, and conflicts worse, causing more people having to leave their homes to find safety. The ozone hole is a problem unrelated to climate change (and has largely been stabilized since the 1990s).

7. The people most often displaced by extreme weather events are:

- a. Poor people
- b. People of color
- c. Women
- d. All of the above

Answer: D. Poor people and people of color are more likely to live in marginal areas more susceptible to flooding or drought. Women are more likely to be impacted by extreme weather because they are often less mobile than men due to their role in child and home care. Lack of power and decision-making ability in many cultures also impact women's ability to adapt to extreme weather.

8. \_\_\_\_\_% of African-American people in the U.S. live within 30 miles of a coal-fired power plant.

- a. 13%
- b. 27%
- c. 68%
- d. 94%

Answer: C. This is compared to 56% of whites. Power plants are typically located near low-income communities and communities of color, which means the air pollution from those plants affects those people the most.

9. The poorest half of the world's population produces \_\_\_\_ of the world's carbon emissions.

- a. 5%
- b. 10%
- c. 25%
- d. 50%

Answer: B. The world's poorest 3.5 billion people (50% of global population) produce only 10% of total global carbon emissions. The richest 10% of the world's population produces approximately 50% of total carbon emissions.

10. Climate change increases the spread of vector-borne diseases from mosquitoes and other insects. These diseases include: (Choose all that apply.)

- a. Malaria
- b. Cholera
- c. Zika
- d. Lyme Disease
- e. Dengue Fever
- f. West Nile Virus

Answer: A, C, D, E, F. As temperatures warm, mosquitoes and other insects carrying disease can survive in places they previously couldn't, at higher elevations and higher latitudes. By 2085, between 220-400 million more people will be at risk from malaria and 3.5 billion more people at risk from dengue fever. Most of these people are in developing countries. Cholera is not a vector-borne disease; it is spread primarily through water. However, increased flooding and warmer temperatures could also increase the spread of cholera.

11. In the United States, what is one of the leading reasons that students miss school?

- a. Snow days
- b. Asthma
- c. Ditching
- d. The flu

Answer: B: Every year asthma causes more than 14 million absences from school. Poor children, children of color and children in inner cities experience more emergency room visits, hospitalizations, and death due to asthma than the national average.

12. Which is an impact of natural gas fracking?

- a. Methane in drinking water causing tap water to be flammable
- b. Leaking of methane, a greenhouse gas 80 times as powerful as CO<sub>2</sub>
- c. Earthquakes from pumping wastewater back into wells
- d. All of the above

Answer: D. All of these impacts have occurred as a result of fracking. Over a 20-year period, methane is 80 times as powerful as CO<sub>2</sub> at trapping heat.

13. Up to \_\_\_% of natural gas extracted from wells leaks out at the well site.

- a. 2%
- b. 3%
- c. 9%
- d. 25%

Answer: C. It is extremely difficult to measure how much natural gas might be leaking from a gas well (or from a gas pipeline) because natural gas is a colorless, odorless gas. Without instruments set up nearby to measure it, it escapes into the atmosphere unnoticed. One study from Cornell University places the figure at 9%.

14. How is climate change negatively affecting indigenous populations in the United States?

- a. Local plant and animal species that they have historically depended on for food are disappearing.
- b. Traditional medicinal plants are becoming harder to find.
- c. In Alaska, increased thawing of permafrost is causing erosion, flooding, and destruction of buildings.
- d. All of the above

Answer: D. The consequences of climate change have and will threaten indigenous ways of life that have existed for thousands of years. Key concerns include the loss of traditional knowledge due to changing ecological conditions, increased food insecurity due to reduced availability of traditional foods, changing water availability, Arctic sea ice loss, permafrost thaw, and relocation from historic homelands.

15. Which of the following is not an impact of sea level rise?

- a. Beach erosion
- b. Contamination of fresh water
- c. Human displacement and refugees
- d. Increased fish populations

Answer: D. Sea level rise will actually lower fish populations. It disturbs coastal ecosystems like mangrove swamps and salt marshes that act as nurseries for young fish.

16. Boston will suffer the impacts of sea level rise. Low income communities and communities of color in Boston are also more likely to face which additional hazards? (Choose all that apply.)

- a. Air pollution from cars, trucks, and power plants
- b. Inequitable access to healthy food
- c. Toxic pollution of water and soil
- d. Inequitable public services (such as transportation, education, housing)
- e. All the above

Answer: E. While communities of color and poor communities are subject to unequal burdens of environmental hazards and lack of public services, these communities have been at the forefront of fighting for environmental justice reforms.

17. Snowpack in the Sierra Nevada mountains provides \_\_\_\_\_ of the water used by Californians each year.

- a. One-fifth
- b. One-quarter
- c. One-third
- d. Half

Answer: C. California receives most of its precipitation during the winter months, so snowpack serves as an important natural storage reservoir. Because of climate change and increased drought, California's snowpack is projected to decline by 25-40% by 2050.

18. Besides more frequent and intense wildfires, how else is climate change affecting the Pacific Northwest?

- a. Increase in reports of West Nile virus
- b. Decreasing salmon populations
- c. Higher risk of tornadoes
- d. Later snowmelt in the spring

Answer: B. Salmon are very sensitive to climate-related changes in freshwater and ocean conditions. Due to rising stream temperatures, studies suggest that up to one-third of the current salmon habitat in the Pacific Northwest will no longer be suitable by the end of this century.

19. In 2014, coal-fired power plants generated roughly \_\_\_\_\_ tons of coal ash.
- a. 130
  - b. 13,000
  - c. 130,000
  - d. 130,000,000

Answer: D. Approximately 130 million tons of coal ash were generated in 2014 by burning coal for electricity. The coal ash can be dumped in landfills, storage ponds, or into a river. It can also be recycled into concrete. In 2014, the EPA decided not to classify coal ash as hazardous waste, despite its containing toxins.

20. Which element is NOT present in coal ash?
- a. Arsenic
  - b. Fluoride
  - c. Cadmium
  - d. Mercury

Answer: B. Coal ash has been found to contain heavy metals such as mercury, arsenic, and cadmium, all of which can be harmful to human health. Fluoride is also on the World Health Organization's list of top 10 chemicals of public health concern, as too much or too little of it can also be harmful. However, fluoride is not found in coal ash.

21. On average, Hispanic people in the U.S. breathe in \_\_\_\_ pollution than they produce.
- a. 17% less
  - b. An equal amount
  - c. 23% more
  - d. 63% more

Answer: D. Hispanic people in the U.S. breathe in 63% more pollution on average than they are responsible for making. This is from a study published in 2019 that is the first to quantify people's consumer habits with their exposure to pollution.

22. On average, white people in the U.S. breathe in \_\_\_\_\_ pollution than they produce.
- a. 35% less
  - b. 17% less
  - c. An equal amount
  - d. 11% more

Answer: B. White people in the U.S. breathe in 17% less pollution on average than they are responsible for making. They are contributing more overall to creating the pollution, but are not suffering from its impacts as much as people of color. This is from a study published in 2019 that is the first to quantify people's consumer habits with their exposure to pollution.

23. Project Drawdown is a ranking of the top 80 global solutions to climate change in order of how many gigatons of CO<sub>2</sub> they would save by 2050. On this list, educating women and girls would sequester/reduce \_\_\_\_\_ gigatons of CO<sub>2</sub>:
- a. 1.62
  - b. 3.59
  - c. 68.90
  - d. 54.45

Answer: C. Family planning and education could reduce carbon dioxide equivalent emissions by nearly 70 gigatons between 2020 and 2050. This is because women with more education have fewer and healthier children and receive higher wages. They and their families are healthier and better nourished. All of these factors make them better equipped to deal with climate change.

24. If sea levels rise by \_\_\_\_\_, 10 million people in Vietnam and 8-10 million in Egypt will be displaced and forced to migrate.
- a. 1 foot
  - b. 1 meter
  - c. 2 meters
  - d. 4 meters

Answer: B. A 1 meter sea-level rise would cause Vietnam to lose 500,000 hectares of land in the Red River Delta, displacing roughly 10 million people. Egypt would lose at least 2 million hectares of land in the fertile Nile Delta, displacing 8–10 million people, including nearly the entire population of Alexandria. The demise of this historic city would cost the country over \$32 billion.