



The Environment: Quiz Answers

1. The carbon dioxide content of the atmosphere has varied widely over millions of years but never has it changed so rapidly as in the last three centuries. By how much has the CO2 concentration in the atmosphere increased since the acceleration of the Industrial Revolution in the mid-1700s?

40%

2. Climate scientists around the world are hastening to better understand how the atmosphere will respond to the over 38 billion tons of heat-trapping carbon dioxide gas that human activities release yearly into the atmosphere. When were the first calculations made of how human discharges of carbon dioxide might affect global temperatures?

1896

3. Researchers seek to advance scientific understanding by presenting their evidence in peer-reviewed scientific journals. Based on these published reports, what percentage of scientists actively involved in climate research agree that climate-warming trends over the past century are extremely likely due to human activities?

97%

4. Cities of all sizes occupy only 3% of the Earth's land area and are home to over 3.6 billion people. What percentage of the world's population is forecast to live in cities by 2050?

70%

5. Nearly 90% of the carbon dioxide that human activities release into the atmosphere is from the burning of fossil fuels – coal, oil, natural gas. How much of the world's energy do cities consume?

70%

6. By comparing modern-day observations with temperature and precipitation records going back to the 1870s, climatologists are already detecting significant changes in the behavior of Minnesota's climate. What is one of the most significant ways in which climate change currently endangers the MSP region?

More extreme rainfalls

7. Because of their lack of vegetation, abundance of dark surfaces, and concentrated use of energy, cities tend to be much hotter than surrounding rural areas, especially on summer days. How might cities lessen the impact of their urban heat islands?

Both of the above

8. Buildings are responsible for 40% of all energy consumption in the U.S. By how much has the Science Museum of MN reduced its annual heating needs by capturing and reusing heat energy given off by equipment within its building?

75%

9. The Regional Indicators Initiative is a project catalyzed by the Urban Land Institute Minnesota, launched through the Regional Council of Mayors, and designed and operated by LHB, Inc. that collects and analyzes data on energy use, water consumption, vehicle miles traveled, and solid waste for 27 Minnesota cities to help them improve their efficiency and sustainability. According to this data, what sector is responsible for the largest portion of greenhouse gas emissions in Regional Indicators Initiative cities?

Non-travel energy use

10. Cities of all sizes are engines of innovation and are increasingly taking leadership responsibility for responding to the challenges of climate change. What are some ways cities are making themselves more livable for more people while reducing their environmental impacts?

All of the above (and more!)