

Name \_\_\_\_\_

## The Road to Pollution: Understanding Vehicular Emissions

### Open-Ended Response Answer Key

1. Carbon monoxide is a colorless, odorless gas produced by vehicles when fuel is burned incompletely in the engine. It forms when there is insufficient oxygen available for complete combustion of the fuel.
2. Nitrogen oxides emitted by vehicles can have harmful effects on human health and the environment. They contribute to the formation of smog and acid rain, which can irritate the eyes, nose, and throat and damage crops, forests, and bodies of water. Additionally, nitrogen oxides can react with other chemicals in the atmosphere to form ground-level ozone, which can exacerbate respiratory problems and cause lung damage.
3. Volatile organic compounds (VOCs) are chemicals that evaporate into the air from gasoline and other vehicle fuels. Vehicles emit VOCs through processes like fuel evaporation and combustion. Examples of VOCs emitted by vehicles include benzene, formaldehyde, and toluene.
4. Investing in cleaner transportation options, such as electric or hybrid vehicles, can contribute to reducing vehicular emissions by decreasing the reliance on traditional gasoline-powered cars. This is important because vehicular emissions contribute to air pollution, which can harm human health and the environment. By reducing emissions, we can improve air quality, mitigate climate change, and protect public health.

