

Name:

Date:

Class:

Vocabulary List Answer Key

Provide definitions for the vocabulary terms listed below. Refer to this list throughout the project.

Particulate matter: A microscopic solid or liquid compound that may be natural or human-made. Very small particulate matter may be a conglomerate of gas-phase compounds; larger particulate matter can be dust or pollen.

Carbon dioxide (CO₂): A colorless and odorless gas. A gas-phase pollutant. Composed of 1 carbon atom and 2 oxygen atoms. Generated by the respiration of animals and the combustion or burning of fuels that contain carbon. Abbreviated as CO₂.

Nitrogen dioxide (NO₂): A gas-phase compound made of 1 nitrogen atom and 2 oxygen atoms. It is formed during high-temperature combustion from the nitrogen that exists in the air. High-temperature combustion also produces nitrogen monoxide (NO). The sum of the amount of NO and NO₂ is the amount of NO_x present; in other words NO_x is a term that includes both NO and NO₂.

Volatile organic compound (VOC): An organic chemical that has a high vapor pressure at ordinary room temperature, such that it volatilizes (enters the gas phase) at room temperature and pressure. An example is formaldehyde (CH₂O, 1 carbon, 2 hydrogens, and 1 oxygen atom). Abbreviated as VOC. VOCs are also gas-phase compounds. VOCs also include products of incomplete combustion (when a carbon-fuel is not completely burned, resulting in only CO₂).

Ozone (O₃): A pale blue gas with a distinctively pungent smell. It is a secondary pollutant formed by NO_x and VOCs in the presence of sunlight. Dangerous to human health at ground level, but high in the stratosphere it protects humans from harmful UV rays. Mnemonic: “good up high, bad nearby.”

Carbon monoxide (CO): A colorless, odorless and tasteless gas. A compound that is a product of incomplete combustion, and is dangerous to human health. Composed of 1 carbon atom and 1 oxygen atom. Abbreviated as CO.

New Terms

Independent variable: The variable in your research study that you choose and then modify or change to examine the outcome or impact on the dependent variable(s).

Dependent variable: The variable in your research study that you observe or measure to see how it changes with respect to your independent variable.

Experimental control: Factors other than the independent variable can affect the dependent variables of a study, which can lead to incorrect interpretation of the results. You can control for these factors by designing a study that minimizes the impact of other factors (such as through strategic locations or timing) or use a “control group” that is similar in every way to the experimental group with the exception of the independent variable. The purpose of an experimental control is to minimize the effects of variables other than the independent variable.

Improved cook stove: An affordable stove designed for cooking and/or heating in developing country settings, with the objective to curb smoke emissions from open fires inside dwellings (and thus, improve health conditions) and reduce fuel consumption per meal.

Intervention study: A type of study that examines the impact of replacing a traditional method with a new technology. During an intervention study, data is collected while one group continues to use traditional methods, while another group uses the new technology.