

Name _____ ANSWER KEY _____

Date _____

Worksheet 4

Grade 6

Gas Behavior 2.3

Boyle's Law

Constant = Mass

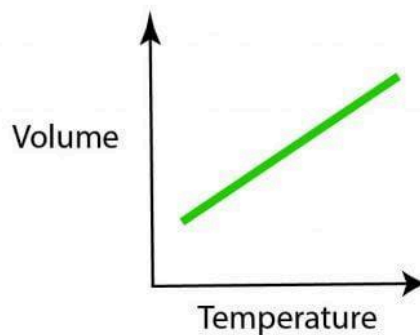
Pressure and Volume are
Inversely Proportional

Charles's Law

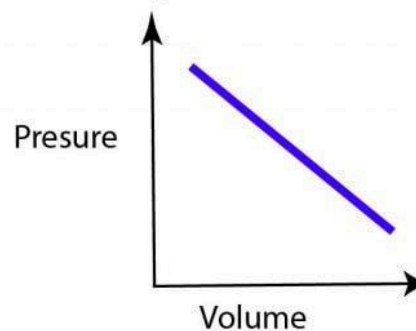
Constant = Pressure

Temperature and Volume
are directly proportional

Charles' Law



Boyle's Law



Important vocabulary

Boyle's Law the law that states that the volume of a gas is inversely proportional to the pressure of a gas when temperature is constant.

Charles's Law the law that states that the volume of a gas is directly proportional to the temperature of a gas when pressure is constant.

pressure the amount of force exerted per unit area of a surface.

temperature a measure of how hot (or cold) something is; specifically, a measure of the average kinetic energy of the particles in an object.

volume a measure of the size of a body or region in three-dimensional space.



1. temperature, volume, and pressure
2. The balloon goes from a warm temperature in the house to a cold temperature outside. The volume of the balloon will decrease outside because the gas particles move more slowly and exert less pressure. The air particles in the balloon take up less space.
3. 9 L; according to Charles's law, at constant pressure, volume is directly related to temperature.
4. The volume will double. According to Boyle's law, at constant temperature, volume is inversely related to pressure.
5. The volume, temperature, and pressure of a gas are all related. If there is a change