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Unit 2 Worksheet 3

Relationship of Pressure to Volume in Gasses

From your lab you discovered that pressure (P) is related to volume (V) by an inverse relationship.

Notes: If so, then P is proportional to 1/V. We can also say that P\*V=a constant, for any P\*V.

Problems to solve:

1. If the original pressure (P1) is 3 atm and volume of gas changes from 4 mL (V1) to 6 mL (V2), what is the new pressure?
2. A piston has a volume of 300 mL at a pressure of 20 psi. The volume decreases to 150 mL, what is the new pressure?

What is the new pressure in atmospheres?

1. A balloon is inflated to 3 liters and reaches 2 atm of pressure. What will be the new volume if the pressure decreases to 1 atm?
2. A weather balloon has a starting volume at 40 L and 750 mmHg of pressure. When the balloon reaches the upper atmosphere at 310 mmHg, how much has it expanded?