

WKS
Avogadro's Principle

NAME _____
Period _____ **Date** _____

1. Describe what Avogadro's Principle means.

2. What does STP stand for and what are the conditions it describes?

3. What is the molar volume of a gas at STP?

4. What is the volume of a container that holds 2.4 mol of gas at STP?

5. How many moles of CO are in 26.8 L of CO at STP?

6. If a balloon will rise off the ground when it contains 0.0226 mol of helium in a volume of 0.460 L, how many moles of helium are needed to make the balloon rise when its volume is 0.865 L? Assume that temperature and pressure stay constant.

7. How many grams of carbon dioxide gas are in a 1.0-L balloon at STP?

8. What volume will 0.416 g of krypton gas occupy at STP?

9. Calculate the volume that 4.5 kg of ethylene gas (C₂H₄) will occupy at STP.

10. **Thinking Critically** Think about what happens when a bottle of carbonated soft drink is shaken before being opened. Use the gas laws to explain whether the effect will be greater when the liquid is warm or cold.