

## Science Virtual Lesson Planner

### Unit 9 The Behavior of Gases and Gas Laws

#### Agenda

#### Learning Target

- Students will understand the kinetic molecular theory of gases and behavior of gases.
- Students will state the equations for Boyle's Law, Charles' Law, Gay-Lussac's Law, and Avogadro's Law.
- Students will state the equations for the Combined Law, Ideal Gas Law, Dalton's Laws of Partial Pressure, and Graham's Law.
- Students will solve for an unknown variable using the other variables.
- Students will understand proportional relationships between pressure, temperature, volume, and moles.

#### Introduction

The behavior of gas molecules depends on their intermolecular forces and the current pressure, temperature, volume, and number of particles. Gas Law equations show the mathematical relationship between variables. Some relationships are directly proportional, and others are inversely proportional.

#### Interactive Instruction

Students will use **CK-12 Flexbook 2.0 - Chapter 14 - The Behavior of Gases** to learn information about the behavior of gases and gas laws. This resource includes problems and practice problems. Teachers can assign this chapter using the External Tool app in Schoology. This icon is located at the bottom of the menu when a user scrolls down to begin Chapter 14 Behavior of Gases.



<https://flexbooks.ck12.org/cbook/ck-12-chemistry-flexbook-2.0/>

#### Labs & Simulations

Students will also be assigned the **Phet Simulation - Gases Intro**. <https://phet.colorado.edu/en/simulation/gases-intro>

Here is the student worksheet: <https://drive.google.com/open?id=12dxIReGY1LBFizNjjBRJCh9Yh6F4uIVT>

Here is the answer key: <https://drive.google.com/open?id=13yzD1szz5HedCTGIM40K0QCbhxxigs68>

## **Formative/Summative Assessments**

The CK-12 Flexbook includes self-check practice problems at the end of each section. Students will complete these problems for a classwork or for a lab grade. The teacher will monitor student progress, offer assistance via ZOOM, and evaluate areas to re-teach once students complete.