

8.4: Simple Gas Laws

Learning Objectives

- Learn what is meant by the term *gas laws*.

Researchers in the 1600s to 1800s were able to perform experiments which showed relationships between properties of gases. The results of these experiments are called the gas laws. A **gas law** is a simple mathematical formula that allows you to model, or predict, the behavior of a gas. We will start by introducing the simple gas laws, which only relate changes in one measurable property to changes in one other measurable property. Later, we will show a few ways in which we can relate 3, or even all 4 of these properties.

As you are introduced to these gas laws, focus more upon the relationship itself than the details of when that relationship was discovered, and after whom that relationship was named. The following lists some things to consider while learning these gas laws:

- If one property increases, does the other property increase or decrease?
- How do you show this relationship mathematically?
- What behaviors of real gases can help you remember this relationship?
- What connection can you make between this relationship and kinetic molecular theory?

If you are able to consider these questions, it might be easier to learn these gas laws than if you view them simply as a list of equations to memorize.

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