

Gas Laws

Exploration

Learning Goal: Students will be able to describe how pressure and volume are affected by a change in temperature and number of particles.

Answer the following questions

- 1) In terms of temperature, pressure and volume, what is happening when a hot air balloon inflates?
- 2) How are the arrangement of and movement of the particles that make up a gas different than the arrangement and movement of the particles that make up solids and liquids?
- 3) Open the simulation site and explore the Gas Laws simulation for a few minutes.
- 4) Record at least one interesting thing you notice while exploring this simulation. You may record as many things as you like.
- 5) Use the simulation to complete the tables below.

When temperature increases	Volume will...	Why does this happen?	Pressure will...	Why does this happen?
When temperature decrease	Volume will...	Why does this happen?	Pressure will...	Why does this happen?

When particles are added	volume will...	Why does this happen?	Pressure will...	Why does this happen
When particles are removed	Volume will..	Why does this happen?	Pressure will...	Why does this happen

6) Describe the relationships that you find while using the simulation. For example, "When using the simulation, I found that temperature and volume are (directly/inversely) related."