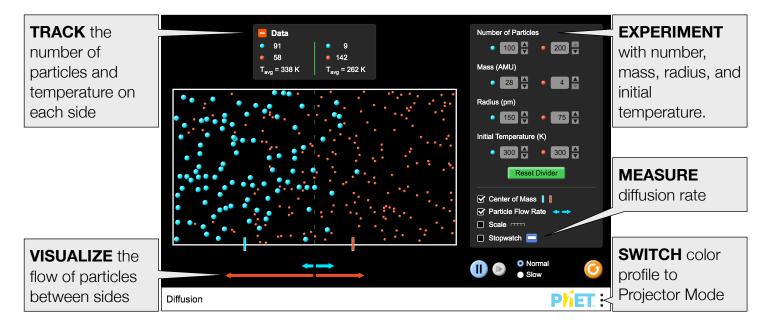
Diffusion

The **Diffusion** simulation allows students to explore how two gases mix. Experiment with concentration, temperature, mass, and radius to determine how these factors affect the rate of diffusion. Use the Center of Mass and Particle Flow Rate representations to determine when the system reaches equilibrium.



## **Insights into Student Use**

**P**<sup>7</sup>**ET** Tips for Teachers

• Students may take some time to discover that they can quickly change values by holding down the arrow buttons.

## **Model Simplifications**

- The particle-particle collisions are modeled as hard sphere collisions. A detailed description of the model can be found here.
- The Particle Flow Rate arrows are proportional to the number of particles that have crossed the midline and is time-averaged over 300 ps.

## **Suggestions for Use**

Sample Challenge Prompts

- Explain how two gases mix.
- Describe what the Particle Flow Rate arrows represent.
- Design an experiment to determine the factors which affect the rate of diffusion.

See all published activities for Diffusion here.

For more tips on using PhET sims with your students, see Tips for Using PhET.