

# Particles in Motion



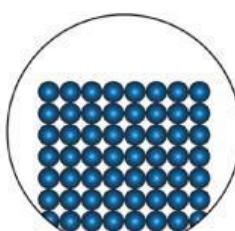
Name:

Date:

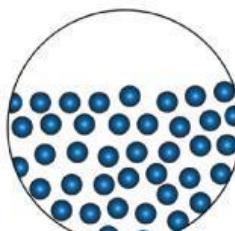
Class:

---

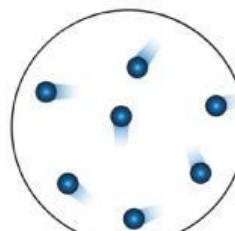
1. Kinetic energy is related to speed of the particles. Which pictures shows particles in the most **random motion**?



Solid



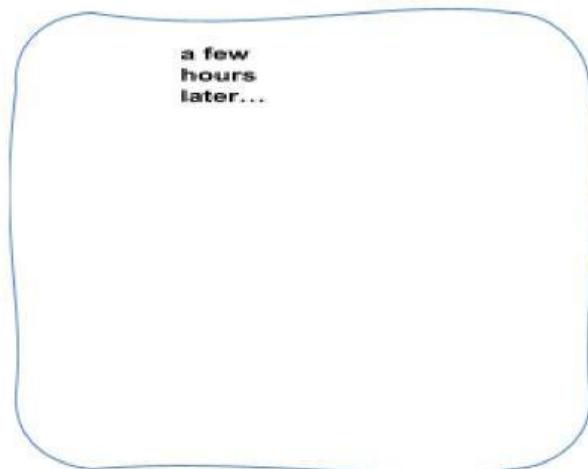
Liquid



Gas

**Hint:** **Random motion** of particles is a movement of particles in all directions and at different speeds. Random motion causes particles to **collide** with other particles.

2. Diffusion is the movement of particles from an area of **higher concentration** to an area of **lower concentration**. Look at this picture. Draw a picture of how you think the glass will look like after a few hours.



**Hint:** Diffusion does not happen right away. Particles keep diffusing until the concentration is the same throughout the glass.

## Particles in Motion



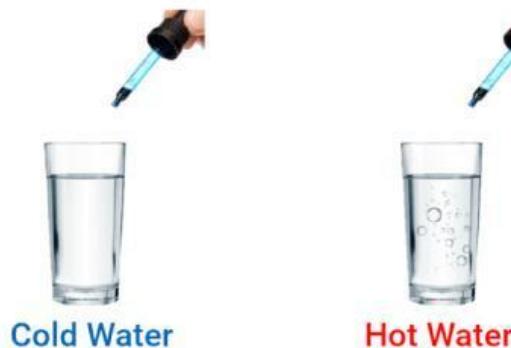
Name:

Date:

Class:

---

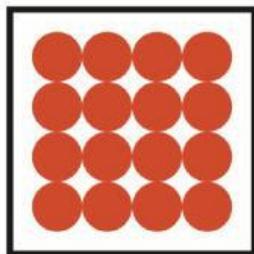
3. Look at this picture. We add a few drops of food coloring in a glass of cold water and another glass of hot water. Draw how you think the food coloring will move in each glass?



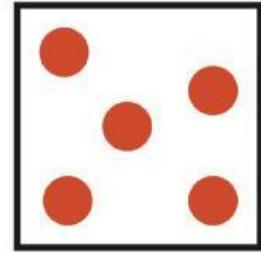
**Hint:** The faster the substance diffuses; the faster particles move.

### Modeling Movement

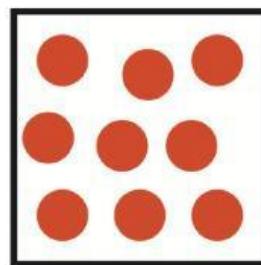
We use motion lines to show that particles are moving. The more motion lines, the faster particles move. Based on this information, draw motion lines for the particles in a solid, in a liquid, and in a gas.



**Solid**



**Gas**



**Liquid**