

# Test Review: Motion of Atoms and Molecules

Name \_\_\_\_\_

What is Diffusion?

Give another word that means the same thing:

Can diffusion happen in liquids?

Give an example:

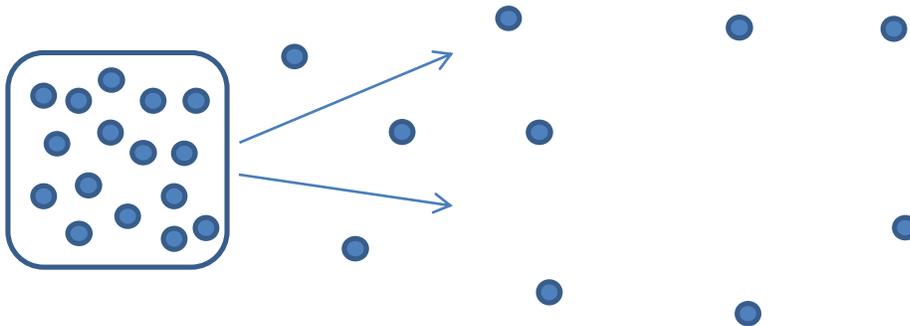
Can diffusion happen in gases?

Give an example:

Is a temperature change required for diffusion to occur?

What happens to the rate of diffusion if temperature is increased?

What happens to the rate of diffusion if temperature is decreased?



Mass=

Volume=

Density=

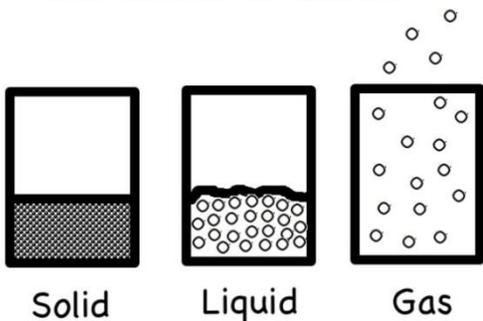
All Matter is made of \_\_\_\_\_ or \_\_\_\_\_.

The molecules in solids are \_\_\_\_\_ and are moving \_\_\_\_\_.

The molecules in liquids are \_\_\_\_\_ and are moving \_\_\_\_\_.

The molecules in a gas are \_\_\_\_\_ and are moving \_\_\_\_\_.

## The States of Matter



Solid

Liquid

Gas

COLD

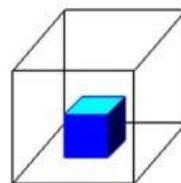
Warm

Hot

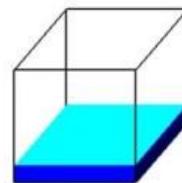


## Phases of Matter

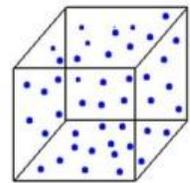
Glenn  
Research  
Center



Solids  
hold a  
certain  
shape

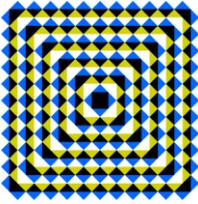


Liquids  
take the  
shape of  
their  
container

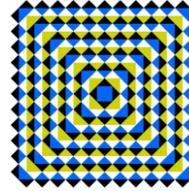


Gases  
take the  
shape of  
their  
container

Expansion



Contraction



Look at these illusions. Expansion happens with molecules become \_\_\_\_\_. They start to move faster and spread further apart. Remember that expansion=increased volume (the object takes up more \_\_\_\_\_).

Contraction happens when molecules are \_\_\_\_\_, (temperature decreased). The molecules slow down and move closer together. Contraction=decrease in volume.

Give 3 examples where builders or engineers have to build something so that it can contract in the winter and expand in the summer.

Particles move \_\_\_\_\_ when they get cold.

Particles move \_\_\_\_\_ when they get warm.

Matter (atoms, molecules, particles) are ALWAYS \_\_\_\_\_ (at least a little)

REMEMBER: Molecules themselves do not get bigger or smaller, only the space inbetween them.

Less Dense things \_\_\_\_\_ where they are placed.

More Dense things \_\_\_\_\_ where they are placed.

Why does an egg float in salt water but sink in fresh water?

What tool do you use to measure length?

What tool do you use to measure the volume of a square solid?

What tool do you use to measure the volume of a liquid?

What process do you use to measure the volume of a funky shaped solid?

What is the formula used to calculate volume if you know the length of 3 sides?

If two objects are the same mass (heaviness) but A is bigger (more volume) will it be more dense or less dense B?

If two objects are the same volume (size) but A is heavier (more mass) will it be more dense or less dense than B?

What formula do you use to calculate DENSITY?