"Don't trust ATOMS."   Name: _____

"They make up everything!"   Date: _____

BIG IDEAS

Big Idea #1: Pure substances consist of identical molecules.
Big Idea #2: Pure substances can change state and density.

Everyday materials are often homogeneous (solutions) and heterogeneous mixtures. 6
Matter can be classified as pure substances or mixtures.7
Elements consist of one type of atom, and compounds consist of atoms of
different elements chemically combined.7
The kinetic molecular theory and the theory of the atom explain the behavior of
matter. 8

KEY WORDS	
Pure Substance	Kinetic Energy
Atom	Condensation
Element	Evaporation
Compound	Solidification
Mixture	Melting
Particle	Sublimation
Molecule	Density
State	Distinguish*

- Matter is made up of tiny moving particles with empty space between the particles.

- Matter exists in one of four possible states (three are very common).

- Heating or cooling matter changes the average kinetic energy of the particles.

- Matter can be classified as a pure substance or as a mixture.

- All the particles in a pure substance are identical to each other.

- Elements are pure substances consisting of only one kind of atom.

- Compounds are pure substances consisting of two or more kinds of atoms.

- Mixtures are made of two or more pure substances that have been mixed together.

- A physical change involves a change in size, shape or state.

D	R	M	KNOW
			I can summarize the Particle Model of Matter.
			I can distinguish between what chemists mean when they use the word **particle** compared to when they use the word **molecule.**
			I can distinguish between what chemists mean when they use the word **element** compared to when they use the word **compound.**
			I can distinguish between what chemists mean when they use the word **pure substance** compared to when they use the word **mixture.**
			I can list the different kinds of matter and give examples of each.
			I can list the three most common states of matter.
			I can summarize the Kinetic Molecular Theory.
D	R	M	DO
			I can use the particle model of matter to distinguish between **elements**, **compounds**, and **mixtures**.
			I can use the particle model of matter to describe the arrangement of particles for each common state of matter.
			I can use the Kinetic Molecular Theory to explain how a substance changes density when heated or cooled.
			I can use the Kinetic Molecular Theory to explain how a substance changes state when heated or cooled.