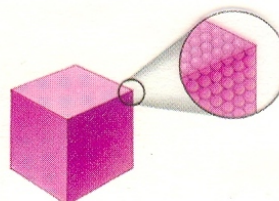


Elements and Compounds

Particle Theory of Matter

Democritus, 2000 years ago

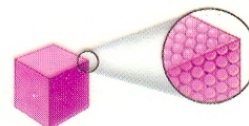
1. All matter is made up of tiny particles.



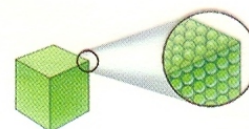
Oct 19-8:16 PM

2. All particles of one substance are the same. Different substances are made of different particles.

substance A

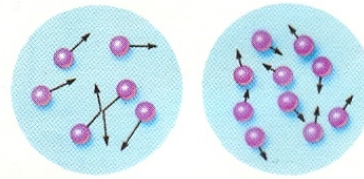


substance B



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3. The particles are always moving. The more energy the particles have, the faster they move.



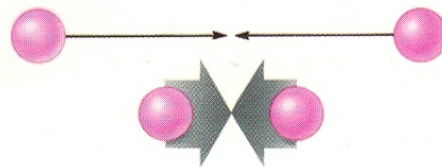
hot

cold

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4. There are attractive forces between the particles. These forces are stronger when the particles are closer together.

particles far apart—force weak



particles close together—force strong

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Elements or Compounds

Scientists asked the question: If there are such things as pure substances, what are they?

-a pure substance can be either a compound or an element

Elements

-are pure substances that cannot be broken down into simpler substances

Compounds

-are pure substances that consist of one or more elements in a fixed proportion

Atoms or Molecules

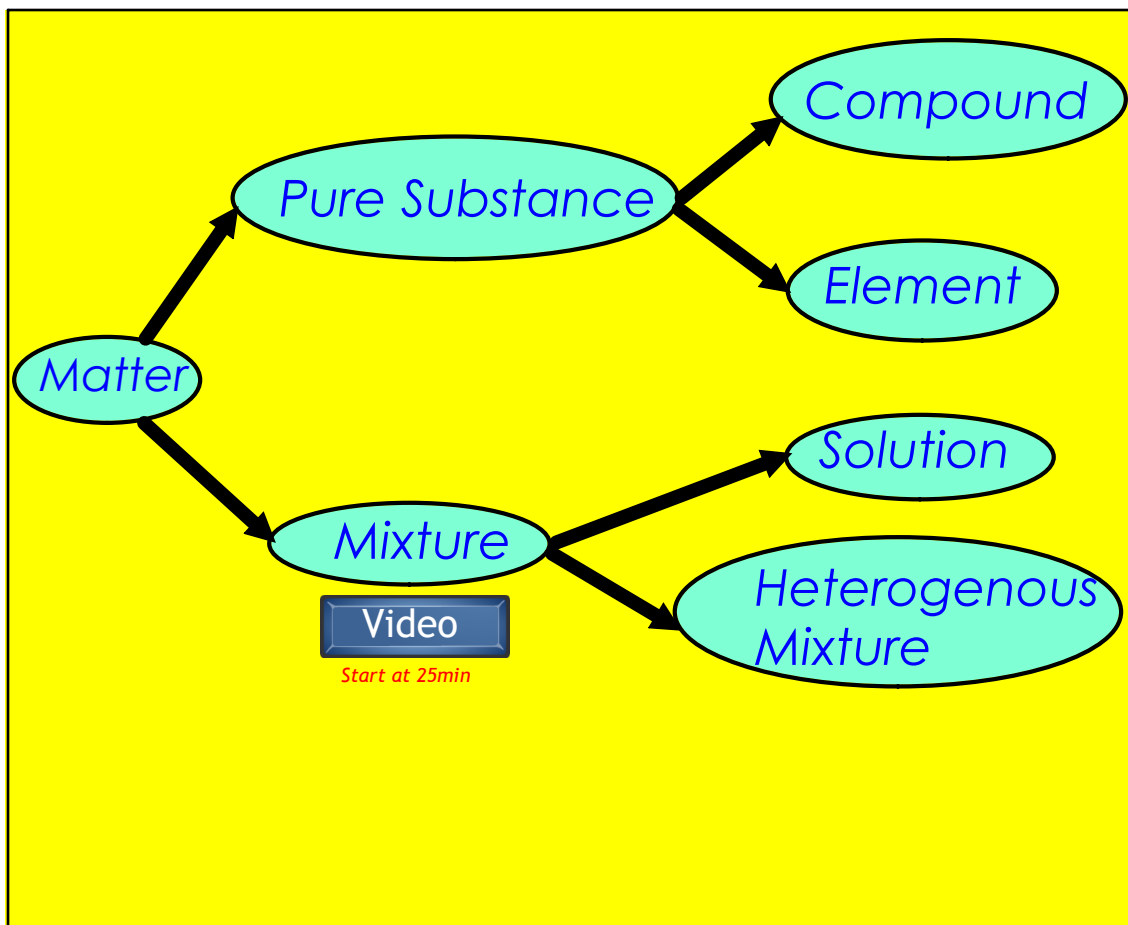
-scientists use the term "atom" to refer to the particles that make up each element

-atoms join together in combinations to create molecules

-molecules can contain two atoms or many thousands

-atoms of the elements can combine in many different ways to create many different substances

Oct 24 - 8:19 PM



Oct 19-8:06 PM