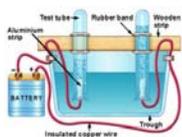


Topic 3 - What Are Elements

- Ancient Greek philosophers thought matter was made out of these four 'elements'...
 - earth, fire, air, water
 - water, air, hotness, coldness
 - wetness, dryness, air, fire
 - fire, wind, earth, water
- One of the procedures used today - credited to alchemists (part pharmacist and part mystic) - is a procedure used to separate mixtures, called ...
 - dissolving
 - distillation
 - desalination
 - disintegration
- Antoine Lavoisier defined elements as pure substances that could not be decomposed into simpler substances by means of a chemical change. In this way he identified 23 pure substances as ...
 - solutions
 - particles
 - elements
 - compounds
- Lavoisier was one of the first chemists to use a balanced view of chemical change, which we now call the **Law of** ...
 - Conservation of Mass
 - Definite Composition
 - Multiple Proportions
 - Combustion
- First suggested by **Albert Einstein** in his famous equation:

$$E = MC^2 \quad (\text{E is Energy, M is Mass, } C^2 \text{ is a large number})$$
 His equation does not follow the law stated by Lavoisier, because mass is ...
 - created by energy
 - destroyed by energy
 - changed into energy
 - increased by energy
- An unknown substance can be identified by measuring a property of the substance (eg. density) and compare it to known values of other substances. If the test property matches a known value, it is likely that substance, because each substance has its own ...
 - range of densities
 - combined properties
 - color and chemical properties
 - unique distinguishing properties
- Allesandro Volta made the first practical battery (the voltaic pile), by piling zinc and copper plates on top of each other, separating them with paper discs soaked in ...
 - electrodes
 - electrolyte
 - pure water
 - animal blood

8.



Using electricity to split molecules into their elements is a process called ...

- electrolysis
- electricity
- electroplating
- electrorefining

9. John Dalton developed a theory that helped explain what happened in the electrolysis of water and was a new way to explain chemical facts and laws.
- All matter is made up of tiny particles called atoms
 - Atoms cannot be created, destroyed, or divided into smaller particles.
 - All atoms of the same element are identical in mass and size. Atoms of one element are different in mass and size from the atoms of other elements.
 - Compounds are created when atoms of different elements link together in definite proportions
- His theory was called the ...
- A. Quantum Theory**
 - B. Atomic Theory**
 - C. Raisin Bun Theory**
 - D. Plum Pudding Theory**
10. An element is made up of only one type of particle, or atom. Each element has its own unique set of distinguishing properties and cannot be broken down into simpler substances by means of a chemical change. A compound is made up of 2 or more elements chemically combined together. Compounds can be broken down into the elements that they are composed of. The common characteristic of elements and compounds is that they are ...
- A. pure substances**
 - B. heterogeneous mixtures**
 - C. homogeneous mixtures**
 - D. solid or liquid solutions**
11. In science, these do not explain anything. They simply describe and summarize what happens.
- A. models**
 - B. theories**
 - C. ideas**
 - D. laws**
12. Smaller particles (subatomic) have been discovered and Dalton's Theory needed to be revised. The model we use today to explain atomic and subatomic particles is the ...
- A. Raisin bun model**
 - B. Planetary model**
 - C. Quantum model**
 - D. Plum pudding model**