## HISTORY OF THE ATOM

**GENERAL CHEMISTRY 1** 

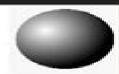
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#### DEMOCRITUS (400 B.C.)

 formulated the term 'atom' and believed that matter can be broken down to it's simplest and smallest substance called atom.



#### ARISTOTLE (300 B.C. - 1800's)

-dismissed the idea of atoms and declared that all matter was made of only four elements: fire, air, water and earth.

 believed that there are only five elements that exist: fire. water, earth and air.



#### **DALTON (1803)**

 he theorized that all matter is made of atoms. Atoms are too small to see. "uncuttable." and indestructible.

 developed the atomic theory; All atoms of a given element are exactly alike and atoms of different elements are different.



BILLIARD BALL ATOM

#### THOMSON (1897)

he discovered the presence of the electron.

 he proposed a model of the atom that is sometimes called the "Plum Pudding" model. His theory was that atoms are made from a positively charged substance with negatively charged electrons scattered about, like raisins in a pudding or chocolate chips in a cookie.



PLUM PUDDING

#### RUTHERFORD (1908)

 he performed an experiment using positively charged particles fired at gold foil.

he theorized that atoms have a small, dense, positively

charged center, which he called the "nucleus".



NUCLEUS MODEL

#### BOHR (1913)

he suggested that electrons orbit in different levels.

he studied the structure of atoms based on rutherfords's discoveries.

 the more energy an atom gives off, the closer it is to the nucleus, the more it absorbs, the farther away.



BOHR MODEL OR THE QUANTUM MODEL

#### MODERN CLOUD THEORY (20th Century)

 according to today's atomic theory, in the electron cloud. electrons whirl around the nucleus billions of times in one second. They are not moving around in random patterns; an electron's location depends upon how much energy the electron has.



COTTON BALL OR MODERN ATOM MODEL



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