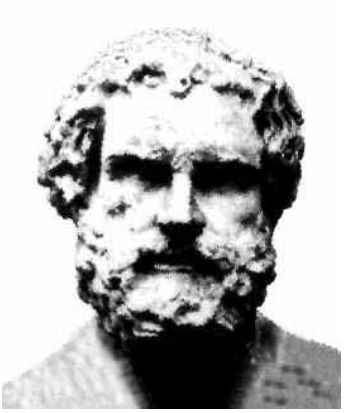
Atomic Theory – Matter Book pgs 83 - 91 **Name** _____

The Greek Model – Democritus 400 B.C.



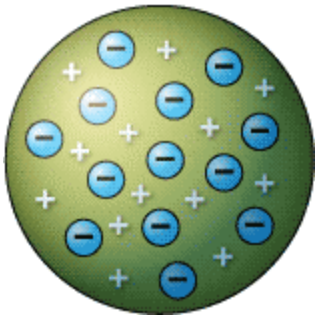
"Democritus concluded that matter could not be divided into _____ and _____ pieces forever. Eventually the smallest piece would be obtained. This piece would be indivisible. The word atom comes from the Greek work "Atomos" meaning _____ or _____."

Dalton Model – Early 1800's
List the 4 basic ideas of Dalton's atomic theory:

John Dalton

_____
_____
_____
_____
_____
_____
_____
_____
_____

Plum Pudding Model- J. J. Thomson 1897



Discovered that the atom is divisible and negatively charged particles he called _____. Today they are known as _____. He also reasoned that positive charges existed in the atom to make the atom neutral, but could not find them.

Describe the Plum Pudding Model Thomson proposed: _____
_____
_____
_____
_____

Gold Foil Experiment - ErnestRutherford Model 1908

Describe the gold foil experiment: _____
_____
_____
_____

Rutherford concluded that atoms were mostly made of _____ _____ and proposed that the atom had a small, dense, positively charged center called the _____.

Where did Rutherford propose that the electrons were located?
_____

Bohr Model - Niels Bohr 1913

According to Bohr's model, where are the electrons?
_____
_____
_____
_____

Wave Model – Modern Day

Electrons do not have a _____ path around the _____ and it is impossible to determine the exact location of an electron. The probable location of an electron is based on how much _____ the electron has.

"According to the modern atomic model, an atom has a _____ _____ nucleus surrounded by a large region in which there are enough _____ to make the atom _____ ."