Atoms
Study Guide
7th grade

A. The modern atomic model is based on the principles of _____.
B. Greek philosophers who studied the smallest particles of matter were called _____.
C. The atomic theory of matter was developed by _____.
D. The positively charged particle in the nucleus of an atom is the _____.
E. The passage of an electric current through a gas was used by J. J. Thompson in experiments that led to the discovery of the _____.
F. The nucleus of an atom was first discovered by _____.
G. The theory that electron are located in specific energy levels was first proposed by _____.
H. The number of protons in the nucleus is called the _____.
I. The sum of the protons and neutrons in the nucleus of an atom is called the _____.
J. Radioactive decay is caused by the _____.
K. The _____ is the center of the atom.
L. Atoms of the same element that have the same number of protons but different number of neutrons are called _____.
M. The subatomic particles that are neutral are called _____.
N. A (An) _____ is the negatively charged particle.
O. According to the modern atomic theory, _____ can move from one energy level to another.
P. A _____ "glues" the protons together in the nucleus.
Q. _____ is the force of attraction which exists between all objects.
R. The particles smaller than an atom are called _____ particles.

S. The atomic _____ of an element never changes.

Name	Atomic Number	Mass Number
Hydrogen	1	1
Helium	2	4
Carbon	6	12
Nitrogen	7	14
Oxygen	8	16
Fluorine	9	19
Sodium	11	23
Aluminum	13	27
Sulfur	16	32

T. How many neutrons are found in an atom of aluminum?

U. How many protons are found in an atom of Fluorine?

V. How many electrons are in Sodium?

W. What unit is used to measure the mass of an atom?

X. Explain why carbon has a mass number of 12 and an atomic mass of 12.011.

Y. Describe the electron arrangements of the following elements: hydrogen, helium, carbon, sodium, and sulfur.