Name _____ Class _____ Date _____

Chapter 3: Atoms: The Building Blocks of Matter

PowerNotes

3.1 The Atom: From Philosophical Idea to Scientific Theory

KEY TERMS

Write your own definition for this key term.

law of conservation of mass _____

_____

MAIN IDEAS AND SUPPORTING DETAILS

Write three supporting details for each main idea.

Main Idea	Supporting Details
Compounds contain atoms in whole-number ratios.	
Atoms can be subdivided into smaller particles.	

COMPARE AND CONTRAST IDEAS

Write a sentence describing the relationship between Dalton's atomic theory and the modern atomic theory.

_____

_____

_____

_____

3.2 The Structure of the Atom

KEY TERMS

Write your own definition for this key term.

atom _____

MAIN IDEAS AND SUPPORTING DETAILS

Write three supporting details for each main idea.

Main Idea	Supporting Details
Atoms contain positive and negative particles.	
Atoms have small, dense, positively charged nuclei.	
A nucleus contains protons and neutrons.	
The radii of atoms are expressed in picometers.	

3.3 Counting Atoms

KEY TERMS

Write your own definition for each key term.

atomic number _____

isotope _____

mass number _____

mole _____

Avogadro's number _____

MAIN IDEAS AND SUPPORTING DETAILS

Write three supporting details for each main idea.

Main Idea	Supporting Details
All atoms of an element must have the same number of protons, but not neutrons.	
Atomic mass is a relative measure.	
Average atomic mass is a weighted value.	
A relative mass scale makes counting atoms possible.	