

Summary:

Atomic Structure has been an ever-changing topic since the first scientist began to ponder the nature of matter. Each step begins with a multitude of theories. Slowly these theories are tested, adjusted, scrutinized, and discarded by scientists around the world. Some prove to be true, while most seem to be only a piece of the puzzle. A science curriculum should include the key steps in significant theories. It should also contain the modern and more promising hypotheses of the time.

References:

- Aristotle. Meteorology, 350 B.C., <http://classics.mit.edu/Aristotle/meteorology.1.i.html>
- Holt, Rinehart, and Winston. Modern Chemistry, 1986.
- Smoot, Smith, and Price. Merrill Chemistry, 1993.
- Smoot, Smith, and Price. Merrill Chemistry, 1995.
- <http://www2.slac.stanford.edu/vvc/theory/fundamental.html>
- <http://hepwww.ph.qmw.ac.uk/epp/glossary.html>
- <http://particleadventure.org/index.html>

Earth
Air
Fire
Water

The Nature of Matter

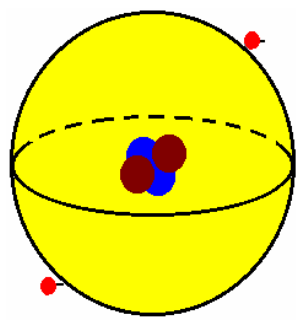
Elementary Particles

Quarks	u up	c charm	t top	Force Carriers	γ photon
	d down	s strange	b bottom		g gluon
Leptons	ν_e electron neutrino	ν_μ muon neutrino	ν_τ tau neutrino	Force Carriers	Z Z boson
	e electron	μ muon	τ tau		W W boson

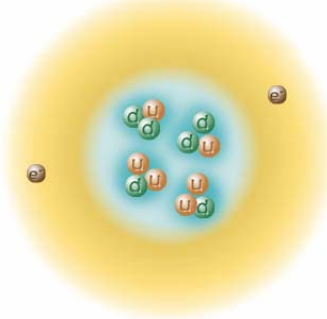
I II III

Three Families of Matter

Yesterday's Atom



Today's Atom



Protons
Leptons
Positrons

Ω \bar{u} Ψ
Up Quarks Red
 β λ μ