

Physical Science 9  
Chapter 9:  
Radioactivity and Nuclear  
Reactions

Section 9.2:  
Nuclear Decay

# Nuclear Radiation

--The particles and energy released from a nucleus that undergoes radioactive decay are called nuclear radiation.

--The particles of nuclear radiation are alpha particles and beta particles; the energy is gamma radiation.

# Alpha Particles

--An alpha particle is composed of two protons and two neutrons. (  ${}^4_2\text{He}$  )

--Alpha particles are the least damaging type of radiation (they can't penetrate through a sheet of paper), but can still damage molecules in your body.

--Smoke detectors use alpha particles to produce ionized air which conducts a small electric current; smoke particles absorb the ions and cause the alarm to go off.

# Beta Particles