RADIATION

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The unstable atoms are differ from stable atoms because they have an excess of energy or mass or both. Unstable atoms are said to be radioactive.

In order to reach stability, atoms give off, or emit, the excess energy or mass. These emissions are called radiation. Radiation is an energy that travels through space or matter in the form of energetic waves or particles.

There are types of Radiation: Alpha Radiation (a heavy, very short-range particle and is actually an ejected helium nucleus), Beta Radiation (a light, short-range particle and is actually an ejected electron), and Gamma and X Radiation (highly penetrating electromagnetic radiation).

The affects of ionizing radiation on humans are cancer, sickness of varying types, death, and mutation. Result of the change in DNA which ionizing radiation can cause. Those who are exposed to lower levels of radiation (such as non-ionizing) are unlikely to develop any adverse affects.

The best ways to prevent is to understand the radiation protection principles of time, distance and shielding.
• Time: For people who are exposed to radiation in addition to natural background radiation, limiting or minimizing the exposure time reduces the dose from the radiation source.

• Distance: Just as the heat from a fire reduces as you move further away, the dose of radiation decreases dramatically as you increase your distance from the source.

• Shielding: Barriers of lead, concrete, or water provide protection from penetrating. Some of radioactive materials are stored in water or in concrete or lead-lined rooms. Inserting the proper shield between people and source of radiation will greatly reduce or eliminate the dose you receive.

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