Instructor: Charlotte A. Ruddy (2002 Science Teacher Workshop participant)

School District: Vernon Township, NJ

Lesson Title: Super Heroes

Subtitle: Types of Ionizing Radiation

Grade: Sp. Ed. 8th(Resource Center

Subject: Science

Objectives: The students will recognize the types of ionizing radiation and the characteristics of each type.

Materials: Vocabulary list: Ionizing radiation
Alpha particle
Beta particle
Gamma Ray

Notes and discussion that will include each type of ionizing radiation and the characteristics of each.

Gamma Ray—Travel very quickly through both air and body
Lose small amounts of energy as they travel
Source of external radiation
Stopped by thick cement or lead

Beta Particle—Travel quickly
Lose a small amount of energy during travel
Penetrates a small distance through tissue
External effect on skin
Source of external radiation
Can be stopped by aluminum foil

Alpha Particle—Heavy, very energetic
Rapidly loses energy as they travel in short distances directly to the body tissues.
Does not penetrate broken skin
Principal source of internal radiation exposure
Can by stopped by sheet of paper

Procedure:
Divide the students into groups (4-6). Tell students they will be doing a super hero skit based on ionizing radiation. They must use the vocabulary words above at some time during their skit. The premise: The world is being invaded by Alpha Particles, Beta Particles and Gamma Rays. All world governments have joined together to fight the evil triplets. The super heroes emerge to block them from destroying the earth.

While in groups, the students should be encouraged to brain storm, write a brief script, and discuss any costumes and/or props they can make or bring in.

After several practices, have the students perform—for added excitement videotape.