



Instructor: Margaret Yelenik (2003 Science Teacher Workshop participant)

School District: Long Branch

Lesson Title: Radioactivity, Nuclear Reactions, and the Sun

Grades: 8

Subject: Physical Science

Overview: The students have completed the units of the Atomic Structure & Isotopes. They are starting a unit on Energy Transformations, which includes Nuclear Energy as a source of energy. They have completed their drawing and understanding of a nuclear power plant reactor.

Students will understand how the Sun is a nuclear reactor. Understand how atoms and ions in the Sun's atmosphere absorb energy through resonance and how we can understand the Sun's interior by studying its resonant frequencies.

Materials & Resources:

- Reading of and "Interview with Sol"
- PowerPoint presentation of the Sun as a Nuclear Reactor.
- Activity Sheet: Resonance Rings
- File folders
- Cardboard sheet (20 X 30 cm)
- Masking tape
- Scissors

Lesson:

1. Students read "Interview with Sol" to the entire class as selected by the teacher.
2. Teacher will give the PowerPoint presentation as a question and answer session with the students.
3. Students will construct the Activity, Resonance Rings, as a group. They may use different types of materials other than the file folders as a method of comparison. Each group will then explain how they can study the Sun's interior through resonant frequencies.
4. Extra credit or other activities: Complete the "For Further Research" at the bottom of the page.