E-Labs Electromagnetic Spectrum (S.W.A.T.)
Post-mission Lesson Plan (45-50 minutes)

I. Introduction

The material contained within this lesson plan is meant to be used as a final assessment of knowledge gained during the pre-lab and e-lab on the electromagnetic spectrum.

II. Objective:

Students will use new knowledge of the electromagnetic spectrum to complete a PowerPoint quiz game.

III. Key Vocabulary:

- **Amplitude-** the height of a wave
- **Electromagnetic spectrum-** waves that have both an electric and magnetic component and can travel through matter or a vacuum. The seven different types include radio waves, microwaves, infrared, visible light, ultraviolet, x-rays, and gamma rays.
- **Frequency-** number of crests that pass a given point within one second
- **Radiation**- energy transmitted as electromagnetic waves
- **Wave-** a disturbance that travels through a medium from one location to another location transferring energy.
- **Wavelength-** the length of a wave from crest to crest

IV. Materials:

- Computer access for each student or small group
- S.W.A.T. Post-lab PowerPoint
- Completed S.W.A.T. Journal

V. Lesson Sequence:

1. Review with students the information learned in the e-lab. Have students refer to their lab journals, and ask them to discuss what new knowledge they gained over the course of the waves pre-lab and e-lab lessons.
2. Have students open up the Post Lab PowerPoint and view it in slideshow mode. Ask students to answer the questions on the slides by clicking on the correct type of wave. Instruct them to use the buttons at the bottom right corner to move to the next question when they have answered it correctly (Note: using the 'enter key' or 'down arrow 'button is not recommended as students may end up on the wrong slide). This activity can also be used as a game for the whole class to participate in at once.
3. Have students write down the questions and correct answer to hand in at the end of the class.