

Brian Fannon #2

Lesson Plan = Discussing the electromagnetic spectrum is fine when dealing with visible light, but actually explaining a wave can be difficult. For this class, I used several dissecting trays about 30 cm wide and 80 cm long, and several blocks of wood cut to fit the short side to create a wave generator. We first explored how a wave propagates through the water, using several floating objects to demonstrate that the water itself moves only a short distance, while the energy is transferred through it, and talked about how this relates to an electromagnetic wave. Then, we used several boards in various configurations to see how waves may deflect, bend, speed up or slow down in water, and discussed this relationship to electromagnetic waves. This lab turned out to be a little wet and messy, but the students did stay involved, and we have been able to refer back to specific examples several times in later classes.

E.Q.: I can understand how waves move through space to transfer energy.

SCOS GOALS & OBJECTIVES: To understand the electromagnetic spectrum and how it works, how we perceive it, and how we use it.

ACTIVATING STRATEGIES: To visually demonstrate a physical process that we cannot see, wave motion, and allow experimentation with different variables to allow personal experimentation.

INSTRUCTIONAL PROCEDURES: A lab exercise using water as a medium to create waves, and several items of different shapes to allow distortion of the wave, followed by discussion and written work on how the waves reacting, and compare this to electromagnetic waves and how they would react to similar circumstances.

ASSESSMENT STRATEGIES: Written assignment, quiz the next week, followed by discussion and moderated Q&A by the students.