Topic: Waves: Surface and Electromagnetic; Wave propagation

Objectives:

1. Students will identify, describe and illustrate a surface wave.
2. Students will identify, describe and illustrate an electromagnetic waves.
3. Students will be able to identify what is needed for each type of wave (transverse, longitude, surface, electromagnetic) to propagate (move energy)

Materials:

- Whiteboard
- Wave posters (illustrations of different waves and their characteristics)
- Blank page of waves types (students will fill in labels)
- Dry erase markers and eraser
- Label cards for each type of wave (crest, trough, compression, etc) characteristics.
- Illustration of the electromagnetic spectrum

Flow of lesson:

1. Review homework reading packet. Make sure that you discuss all the important vocabulary words and important points.
2. Introduce electromagnetic waves by showing an electromagnetic Spectrum. Discuss with students about what this type of wave resembles (transverse or longitudinal) and why?(transverse) and what makes these waves different (an energy wave that has both electric & magnetic field)
3. Introduce the 7 types of waves in the electromagnetic spectrum (Radio, microwave,infared,visible light UV, X-rays, gamma)
4. Hand out a worksheet with waves on it with the labels missing for parts of the wave. Put a wave poster on the board . Put out label cards on the table. Ask for student volunteers to help match the correct labels to the correct parts of the waves. Do this for all types of waves (transverse, longitude, electromagnetic, surface). Have the students fill in their sheets as the activity progresses.
5. Place the names of the wave types on the whiteboard. Ask the student what each type of wave needs to propagate (move energy). (Needs a medium, or can exist in a vacuum,etc,)
6. If time, allow students to simulate transverse and longitudinal waves With Slinkys.