Waves Lesson Plan

Physics

*note: to be followed by light and sound lessons*

- Introduction (~3 minutes)
  - What are some examples of waves? What do waves do?
  - Definition: displacement is when something moves from its original place

- Types of Motion (~10 minutes)
  - Definition: parallel motion is when two things are moving in the same direction
  - Definition: perpendicular motion is when two things are moving in different directions (up and down versus side to side)

- Types of Waves (~10 minutes)
  - Definition: longitudinal waves are waves where the displacement is parallel to the direction of motion. Example: sound waves
  - Definition: transverse waves are waves where the displacement is perpendicular to the motion of the wave. Examples: light and ocean waves

- Activity: Modeling Waves (~20 minutes)
  - Have students use slinkys in pairs to model the different types of waves. Transverse waves should be easy, but the compression waves can be more complicated, they must bunch the slinky up at one end and then release it. The wave is much more subtle than transverse waves, where they simply move the slinky up and down to get waves in the middle.

- Conclusion (~10 minutes)
  - Talk about how different types of waves are used in different things that we sense. For example, light and sound. Solidify the idea that waves move in different ways, which is why we sense light and sound differently!