

Science Wave Energy

Grade: Middle School

Prerequisite skills/knowledge:

Grades 4-5 PS3B *Energy can be transferred from one place to another.*

Grades 4-5 PS3D *Sound energy can be generated by making things vibrate.*

Sub skill/knowledge:

Vibrations in materials set up wavelike disturbances that spread away from the source.

Sub skill/knowledge:

Waves move differently through different mediums.

Sub skill/knowledge:

Wave behavior can be described in terms of how fast the disturbance spreads and in terms of the distance between successive peaks of the disturbance (wave lengths).

Sub skill/knowledge:

Sound waves are the reason we can hear things.

Big Idea Standard 6-8 PS3F

Energy can be transferred from one place to another through waves. Waves include vibrations in materials. Waves move at different speeds in different materials.

Later big ideas that build on this big idea include:

9-11 PS3A *Energy can be transferred or transformed but not created or destroyed.*

9-11 PS3B *Kinetic energy is the energy of motion. The kinetic energy of an object is defined by the equation: $E_k = \frac{1}{2}mv^2$*

