

# Brunswick School Department

## Science

### Grade 7: Wave Energy

Adopted:

#### **Unit Overview**

In this unit, students investigate the parts of a wave and how they relate to the wave's energy. The focus is on light waves and sound waves and their transmission. Students will explore how objects can absorb, reflect, and/or transmit these types of waves and how human technology makes use of them.

#### **Essential Understandings**

- Simple waves have a repeating pattern with a specific wavelength, frequency, and amplitude.
- Waves transfer energy without transferring matter

#### **Priority Standards and Performance Indicators**

(as based on Next Generation Science Standards)

##### **P.S. S-2 Demonstrate an understanding of how structure influences function**

**d.** Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

#### Next Generation Standards Addressed in this Unit

- MS-PS4-1 Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.
- MS-PS4-3 Integrate qualitative scientific and technical information to support the claim that digitized signals (sent as wave pulses) are a more reliable way to encode and transmit information.

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**Examples of Formative / Summative Assessments**

- Sketch a Wave
- Labs
- Activities
- Quizzes
- Discussions
- Handouts
- Home work
- Wave Assessment

**Sample Texts and Materials/Resources**

University of Colorado PhET simulations

PBS Learning Media

Video clips involving sound waves and light waves