

LINCOLN PUBLIC SCHOOLS
Science Learning Expectations: Grade 4:

PHYSICAL SCIENCE:

Forms of Energy
Sound

Mass Standard

Recognize that sound is produced by vibrating objects and requires a medium through which to travel. Relate the rate of vibration to the pitch of the sound.

Big Ideas

- All sound comes from a source that vibrates at different rates.
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Key Outcomes

- Students will demonstrate an understanding of **sound** by explaining how sound is produced and how pitch and volume are regulated.
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Essential Knowledge and Skills

Students will know:

- How to use scientific inquiry* to access, explore and explain their understanding of core knowledge
- Sound travels in waves
- Sound is a form of energy
- Vibrations in the air are what we hear.
- Sound travels in waves and can be described by the wavelength and frequency of the waves
- The frequency of sound is the number of vibrations in a given unit of time
- Pitch is determined by the frequency of a vibrating object
- Objects vibrating faster have a higher pitch than objects vibrating slower
- Sound must travel through a medium (solid, liquid, gas).
- Produce sounds that vary as to: high, low. Loud, soft, and differ in tone

* Scientific Inquiry Standards are embedded in each unit of study