

Name: _____

Benchmark Date: _____

Sound Unit Study Guide

Essential ideas:

- Sound is a form of energy
- Sounds are produced from vibrations
- Sound is created when waves cause molecules to vibrate through a medium
- Sound needs a medium to travel through (gas, liquid, or solid)
- In a vacuum (no matter), sound cannot be made because there is no medium to travel through
- The more vibrations per second, the higher the pitch
- The more energy a sound has, the greater the volume
- The surface of different materials affects its ability to absorb, reflect, and transmit sound

Essential questions:

- How does length affect pitch?
- How does tension (stretched tight or loose) affect pitch?
- How does width affect pitch?
- What happens to the sound if the frequency of the vibration decreases? Or increases?
- What does a picture of a sound wave's volume look like?
- How does a sound wave change if it gets louder? Softer?
- What factor affects volume?
- How is intensity related to volume?
- How is frequency related to pitch?
- What medium can sound travel through the quickest?
- What type of material absorbs sound the best?
- What type of material reflects sound best?
- How is an echo created?

(Flip for vocabulary terms)

Vocabulary for Sound Unit

Waves – a disturbance that carries energy from place to place

Energy – the movement of molecules

Molecule – the smallest particle of a solid, liquid, or gas

Matter – anything that has weight or takes up space

Vibration – a repeated back-and-forth or up-and-down movement of matter

Transmit – to cause energy to travel through a gas, liquid, or solid

Absorb – to take in, or receive energy

Volume – loudness of a sound

Pitch – how high or low a sound is

Sound wave - molecules that are bumping together from a vibration and carrying energy as they travel

Intensity – the amount of energy a wave carries per second

Amplitude – (volume) a measure of the sound wave..

the distance from the rest position to the crest or trough

Decibel – the unit of measurement for volume of a sound

Frequency – the number of vibrations in a sound wave that occur per second

Timbre – the overall quality of sound.

Reflection – the bouncing back of a wave

Echo – sound that bounces back off of a surface.

(The echo is not as loud as the original sound because whatever surface it's bounding off does absorb some of the energy.)