

## Light and Sound Study Guide

**Directions:** Study the following concepts and information to be prepared for class and assessments.

### Vocabulary:

**Energy:** force or physical power: what living things need to exist and be active

**Light:** a form of energy that most often acts like a wave and illuminates or brightens objects

**Shadow:** an area of darkness created when light is blocked by something

**Absorbed:** soaked up; added, placed, or taken into something

**Reflected:** bounced back off a smooth surface

**Transmitted:** sent, passed along, or spread through a material

**Refraction:** the act of light changing direction or bending as it travels through different objects or substances

**Translucent:** describes an object that allows some light to pass through, so that you are able to see the form of an object but not a clear image

**Transparent:** describes an object that is clear allowing most light to pass through for a clear view of what is on the other side

**Opaque:** describes a material that absorbs light and prevents it from shining through; not transparent

**Lens:** a specially curved piece of glass or plastic used in tools and instruments such as glasses, cameras, binoculars that makes objects seem larger and closer by focusing the light.

**Concave:** curving inward; shaped like the inside of a bowl

**Convex:** curving outward; shaped like the outside of a bowl

**Plane:** flat or level (plane mirrors)

**Prism:** a transparent, often triangular, object used to refract and divide white light into its different colors

**Spectrum:** a series or range of objects, things, or ideas arranged in a particular order

**Wavelength:** the distance between waves of energy

**White Light:** light that includes all of the colors of the spectrum; can be broken up into a spectrum of colors by a prism

**Sound:** vibrations that are produced that travel through particles and are heard by our ears

**Sound Waves:** the form that sounds take when they travel through a surrounding medium, such as air, liquid, or a solid

**Medium:** a type of substance through which energy travels

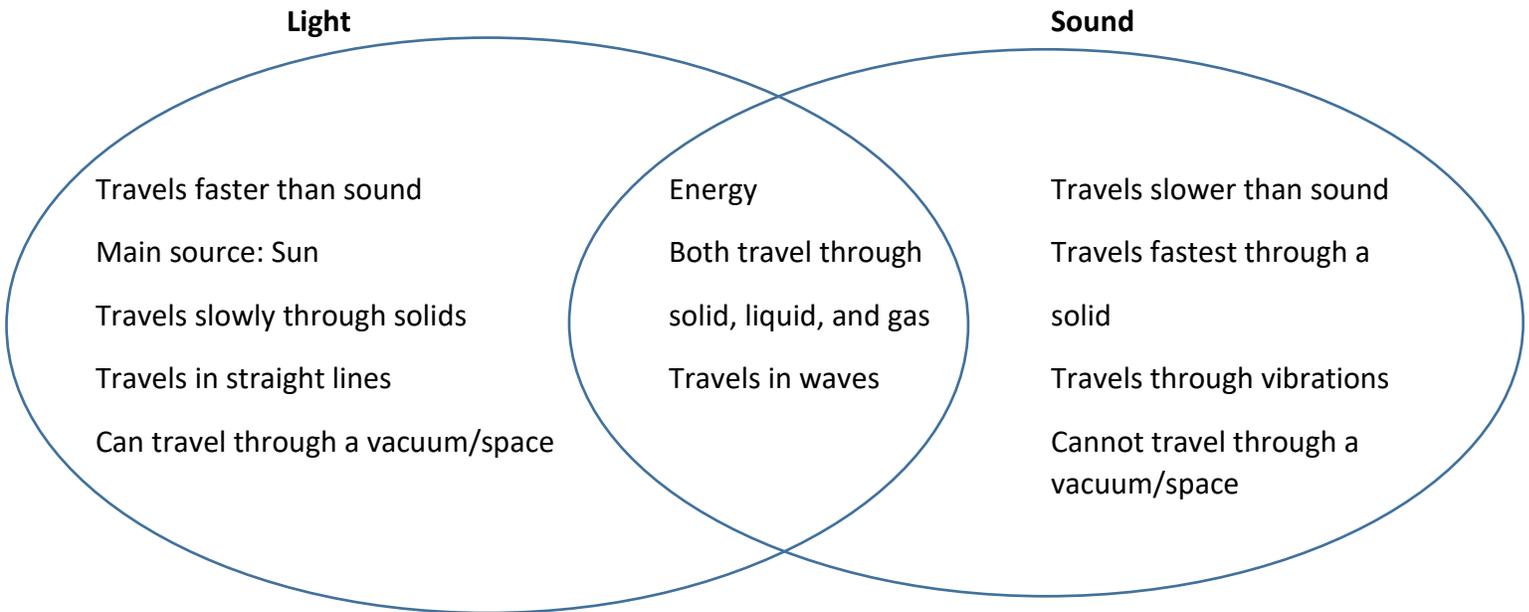
**Frequency:** the rate at which sound waves are produced; the number of times something happens within a particular period of time

**Intensity:** the measured strength of light and sound; the amount of energy or power something has

**Pitch:** the quality of a sound as high or low

**Alexander Graham Bell:** a famous inventor who created a device that lets you talk with someone far away

### Compare and Contrast Light and Sound



### Concepts:

**Parts of your body that produce your voice:** **diaphragm** (muscles that separates the lungs from the torso and allows air to be breathed into the lungs), **trachea** (long tube through which air travels to and from the lungs), and **larynx** (hollow organ in the throat between the nose and the lungs that contains vocal cords and voice box).

### Sayings and Phrases:

Actions speak louder than words

### Grammar:

**Adverbs:** words that can describe verbs; that tell how, where, when something is done

- **How:** slowly, quietly, softly, quickly, etc.
- **Where:** here, there, everywhere, anyway, inside, outside, somewhere)
- **When:** yesterday, today, tomorrow, always, sometimes, never, early, first, next, last, again, soon, later

**Suffix:** word part that comes at end of a root word (-ed, -ing, -er/-or, -s/-es, -ian, -ist, -y, -al)

- **-ly:** in a way (ex. slowly means in a slow way)
- **-ous:** full of (ex. poisonous means full of poison)

**Conjunctions:** words that connect other words or groups of words

- **And:** means plus, along with, also
- **But:** means something different (John likes strawberry, but Jim likes chocolate.)