

Fact or Fake Sound Questions



1. Sound energy travels through the air in waves.
FACT – Sound must have a medium in which to travel. The air molecules transfer the energy by compression waves from one molecule to its neighbor.
2. Sound travels faster in water than in air.
FACT – The particles are closer together in a liquid, than a gas thus the energy is more quickly transferred to its neighboring molecule.
3. Sound can travel in outer space.
FAKE – Sound must have a medium in which to travel.
4. Loud sounds can damage your ear drum.
FACT – Loud sounds can vibrate your eardrum so much that it can rupture your ear drum and can cause damage to your auditory nerves.
5. Refraction happens when a sound wave hits a solid flat surface.
FAKE – When a sound wave hits a solid flat surface, it is reflected.
6. To increase the loudness of a wave, you would increase the pitch.
FAKE – To increase the loudness, you would increase the amplitude.
7. A sound wave is a type of kinetic energy.
FACT – Sound is the transfer of kinetic energy in the form of vibrations from one particle to the next.
8. Sound is produced by vibrating objects.
FACT – If nothing is vibrating, there is no sound.
9. The pitch of a sound on a guitar can be altered by changing the length of a string.
FACT – If you shorten the wavelength, you raise the pitch.
10. Unlike light, sound waves cannot be reflected.
FAKE – A sound reflection is an echo.
11. Sound can travel in all directions from a source.
FACT – You can still hear my voice if you turn around.
12. Loud sounds can alter an ecosystem.
FACT – Predators and prey will not have the same advantages if their hearing is altered by human sounds such as traffic, construction, etc.