

## Sound, Light, & Heat Study Guide

How are the sun and a lamp alike?	The sun and a lamp are alike because they give off light and heat.
How does light travel?	Light travels in waves which are in straight lines.
What makes up white light?	White (natural) light is a combination of red, orange, yellow, green, blue, indigo and violet.
How can light be separated?	Light can be separated when passing through a prism.
What is refraction?	Refraction is light bending when it passes through an object.
What happens to light when it hits a mirror?	When light hits a mirror it is reflected.
What is reflection?	Reflection is when light hits a smooth surface and the light bounces back.
How does a rainbow form?	A rainbow forms when light passes through a raindrop causing the light to bend and be separated into different colors.
What is heat?	Heat is the transfer of thermal energy.
How does conduction occur?	Two objects must be touching in order for conduction to occur.
How does heat travel?	Heat travels from something warm to something cool.
What is radiation?	Radiation is heat from the sun.
What is convection?	Convection is the transfer of heat as matter moves. In convection, a gas or liquid moves from one place to another.
Give an example of an insulator.	An oven mitt acts as an insulator.
Give an example of electrical energy transforming to thermal energy.	A toaster or a flat iron is an example of electrical energy transforming to thermal energy.
How is heat generated by friction?	Heat is generated by friction when two surfaces rub together.
What makes sound?	All sound begins when something vibrates.
Which state of matter does sound travel the fastest and slowest though?	Sound travels fastest through a solid and slowest through a gas.
What is volume?	Volume is the loudness or softness of a sound.
How do you make a sound louder?	More energy is needed to produce louder sounds.
How do humans produce sound?	Human produce sound when their vocal cords vibrate.
Objects that vibrate _____ will have a higher pitch.	Objects that vibrate faster will have a higher pitch.

