

SOUND, LIGHT & HEAT ENERGY

Sound & light properties

ELIGE LA OPCIÓN CORRECTA:

- 1) When an object vibrates, it produces _____
- 2) A lamp transforms _____ energy into light energy
- 3) Light travels _____ than sound.
- 4) Light travels in _____, which are straight lines.

TRUE OR FALSE:

- Sound waves can only travel through air.
- Sound waves cannot travel through a vacuum.
- Sound travels slower through water than through air.
- Artificial light sources are found in nature.
- The sun is our main source of natural light.
- Light can travel through a vacuum.

COMPLETA:

We perceive large vibrations as L ____ sounds.

We perceive small vibrations as Q _____ sounds.

Sound travels through a M _____, such as air and water.

Light can be absorbed, R _____ or refracted.

Artificial light sources

Natural light sources

lamps

torches

Northern lights

sun

Reflection and refraction

Reflection	Refraction
 	 

ELIGE LA OPCIÓN CORRECTA:

- Reflection occurs when rays _____.
- Light reflects in _____ on smooth surfaces.
- Heat is transferred from molecules with _____ thermal energy to molecules with _____ thermal energy.
- We can transfer electrical and chemical energy into heat energy using _____ heat sources.
- _____ is when a solid is heated and becomes a liquid.
- Which types of energy is chemical energy transformed into when a fire burns?
_____ CHOOSE 3
- In a thunderstorm, we see the lightning _____ we hear the thunder.
- When you use a hairdryer, electrical energy is transformed into _____

COMPLETA:

L _____ use refraction to make objects appear larger or smaller.

When liquid water is heated, it turns into a gas. This is called

E _____

The sun gives us H _____ and light energy.

TRUE OR FALSE:

Mirrors reflect light very well.

Light refracts when it enters a medium with the same density.

Heat can travel in any direction.

Heat can flow from hot to cold and from cold to hot.

Heat and temperature are the same thing.

The sun is our only light source.

You can only see the Northern Lights easily in the northern hemisphere.

Energy transformations only happen in nature.

COMPLETA:

quiet sounds	four times	sound waves
vacuum	loud sounds	vibrates

When an object _____, it produces _____. These waves travel through a medium (solid, liquid or gas) to our ears so that we can hear them.

We perceive large vibrations as _____ and small vibrations as _____.

Sound waves can only travel through a medium, such as air. They cannot travel through a _____.

Sound moves _____ faster through water than through air.

COMPLETA:

Artificial sources	nature	Light sources	light energy
The sun	Natural sources	transformed	man-made

_____ produce light energy. Without _____, we wouldn't be able to see anything!

- _____: are _____. The light energy is _____ from another energy source, such as chemical energy or electrical energy.
- _____: are found in _____. _____ is the main source, but the Northern Lights are also natural.

COMPLETA:

straight lines	300,000 kilometres per second	cannot pass
quickly	rays	speed of light

Light travels _____.

Light travels at about _____. This is called the _____.

Light energy travels in waves, in _____, called _____.

Light energy does not need to travel through a medium and it _____ through all materials.

COMPLETA:

Reflection	Mirrors	smooth
rough	absorbed	periscope

When light comes into contact with an object, the light can be _____, reflected or refracted.

_____ occurs when rays of light are not absorbed by an object and bounce off, instead.

Light reflects in the same direction on _____ surfaces. On

_____ surfaces, it reflects in all directions.

_____ reflect light very well. They reflect the object in front of them.

Submarines use mirrors in a _____ to see what is happening above the water.

COMPLETA:

lenses	refraction	curved
density	bigger or smaller	rainbow

Light travels in a straight line, but when it passes through a medium with a different _____, it changes direction. This is called _____.

A _____ is caused by refraction.

We use refraction to help us see. Lots of everyday objects use _____, which are pieces of _____ plastic or glass. These refract the light and can make objects look _____.

COMPLETEA:

Temperature	low	artificial
Heat	particles	high

_____ is thermal energy, which can be transferred from particles with

_____ thermal energy to particles with _____ thermal energy.

Heat can travel in any direction, but it always flows from hot to cold.

Heat and temperature are related, but not the same. _____ measures how hot or cold something is. The higher the temperature, the faster the

_____ move.

Electrical energy and chemical energy can be transformed into heat energy. These are _____ heat sources.

COMPLETEA:

melting	expansion	evaporation
solids	expand	liquid

When _____ like butter and ice are heated, they become liquids. This is called _____.

When _____ water is heated, it turns into a gas. This is called _____.

As matter is heated, it will _____ or get bigger. The particles move around more and at a faster rate. This is called _____.

CHOOSE THE CORRECT WORD FOR EACH SPACE

- a. travels in a straight line.
- b. Sound waves must travel through a
- c. When light hits a surface, it reflects in all directions.
- d. Light cannot pass through objects that are
- e. changes the state of matter.
- f. is when a liquid changes to a gas.