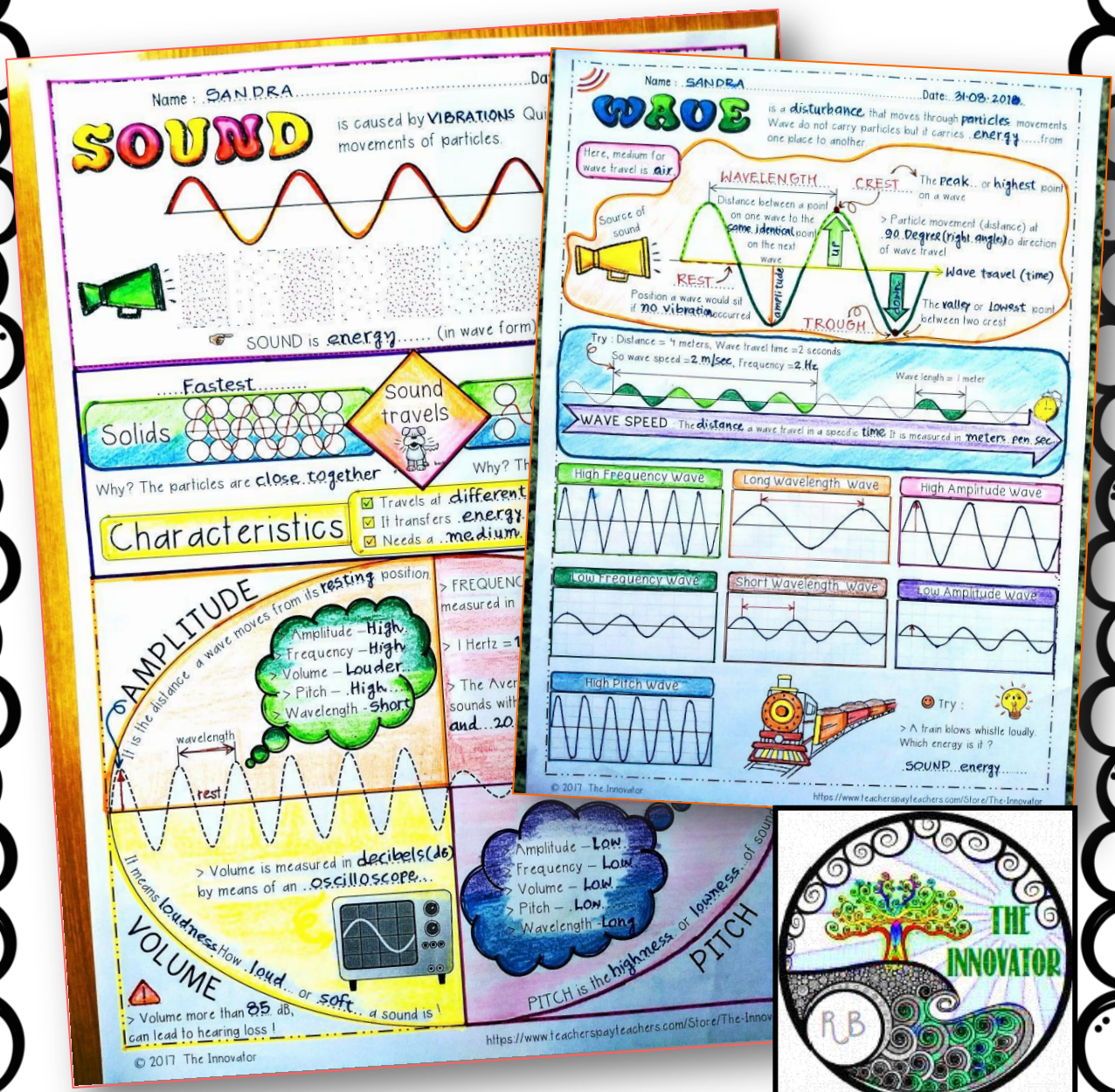
SOUND WAVE

Doodle Notes

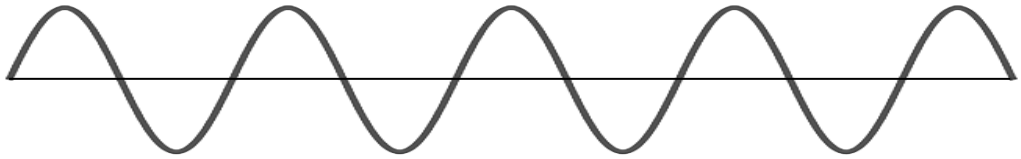
Grades : 6 ~ 10

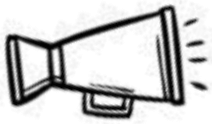


Name : .....Date:.....

SOUND

is caused by ..... Quick ..... and ..... movements of particles.





☞ SOUND is ..... (in wave form) you can hear.

Sound travels

..... Solids	Gas .....
Why? The particles are	Why? The particles are .....

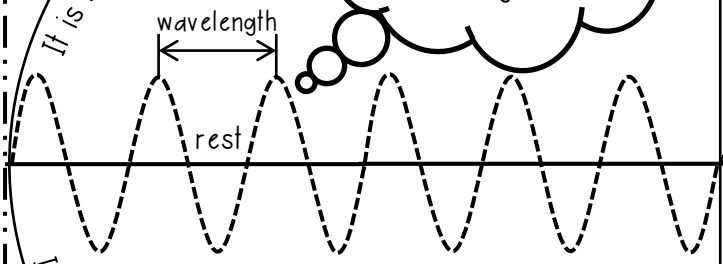
Characteristics

- ☑ Travels at ..... speeds through different materials.
- ☑ It transfers .....
- ☑ Needs a ..... to travel through.

AMPLITUDE

It is the distance a wave moves from its ..... position.

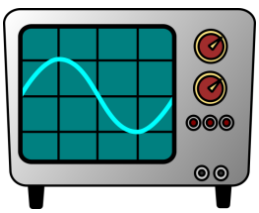
> Amplitude – .....
> Frequency – .....
> Volume – .....
> Pitch – .....
> Wavelength - .....



VOLUME

It means ..... How ..... or ..... a sound is !

> Volume is measured in .....
by means of an .....



> Volume more than ..... dB, can lead to hearing loss !

> Can sound travel through space ? .....

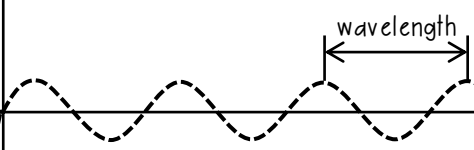
FREQUENCY

It is the speed of the .....

> FREQUENCY is measured in .....

> 1 Hertz = ...

> The Average human can hear sounds with frequencies between .....
.....



PITCH

PITCH is the ..... or ..... of sound.

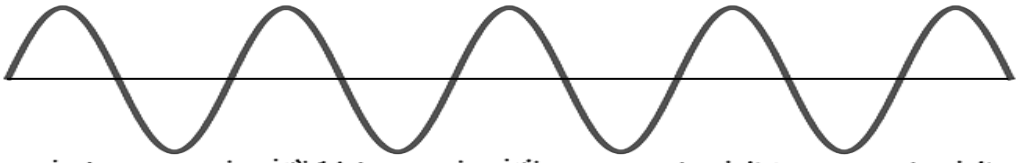
> Amplitude – .....
> Frequency – .....
> Volume – .....
> Pitch – .....
> Wavelength - .....

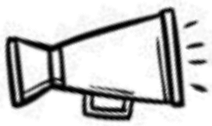
Name : Teacher's Key

Date:.....

SOUND

is caused by vibrations. Quick back and forth movements of particles.



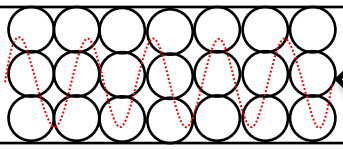


☞ SOUND is energy (in wave form) you can hear.

Sound travels

Fastest

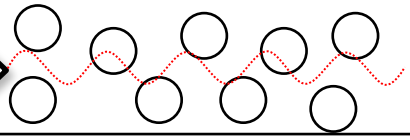
Solids



Why? The particles are close together.

Slowest

Gas



Why? The particles are further apart.

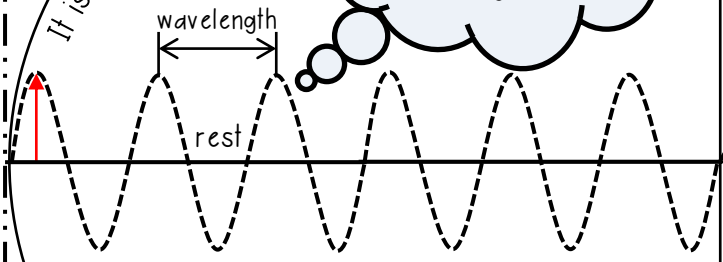
Characteristics

- ☑ Travels at different speeds through different materials.
- ☑ It transfers energy.
- ☑ Needs a medium to travel through.

AMPLITUDE

It is the distance a wave moves from its resting position.

> Amplitude – High
> Frequency – High
> Volume – Louder
> Pitch – High
> Wavelength - Short



FREQUENCY

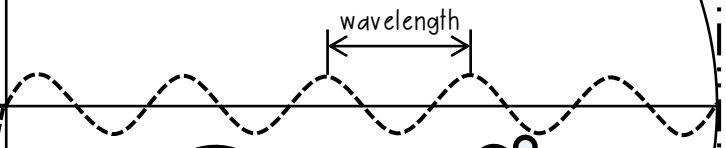
It is the speed of the vibration.

> Can sound travel through space ?
> NO

> FREQUENCY is measured in hertz.

> 1 Hertz = 1 wave per second.

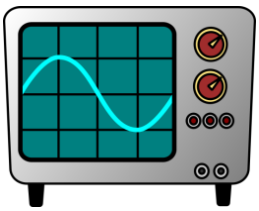
> The Average human can hear sounds with frequencies between 20 and 20000 hertz.



VOLUME

It means loudness. How loud or soft a sound is !

> Volume is measured in decibels (dB) by means of an Oscilloscope.



Danger

> Volume more than 85 dB, can lead to hearing loss !

PITCH

PITCH is the highness or lowness of sound.

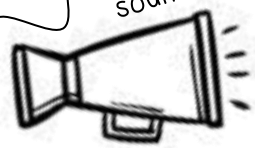
> Amplitude – Low
> Frequency – Low
> Volume – Low
> Pitch – Low
> Wavelength - Long

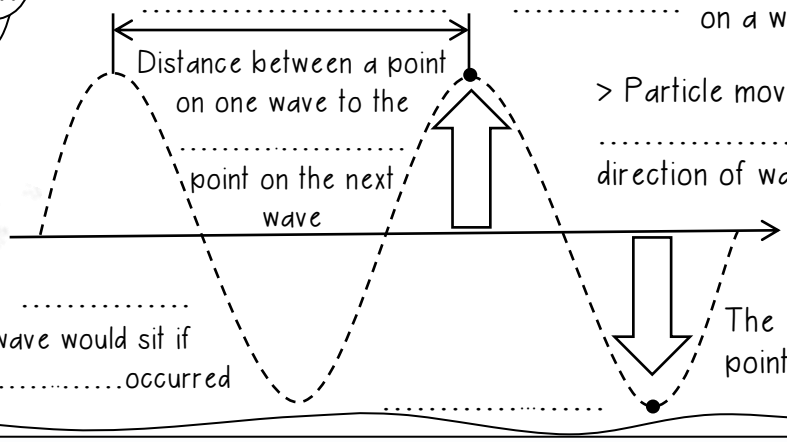
Name : .....Date:.....

WAVE

is a ..... that moves through ..... movements. Wave do not carry particles but it carries .....from one place to another.

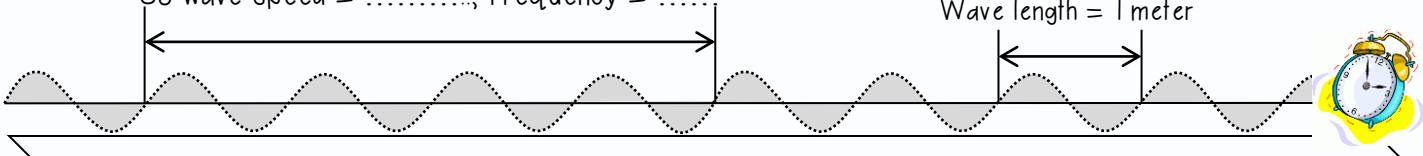
Here, medium for wave travel is .....





Try : Distance = 4 meters, Wave travel time =2 seconds

So wave speed = ..., Frequency = ...

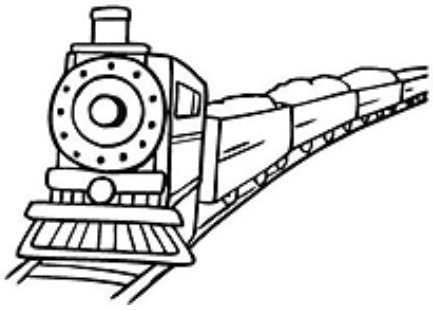


WAVE SPEED : The ..... a wave travel in a specific ..... It is measured in .....

High Frequency Wave	Long Wavelength Wave	High Amplitude Wave

Low Frequency Wave	Short Wavelength Wave	Low Amplitude Wave

High Pitch Wave



☺ Try :

> A train blows whistle loudly. Which energy is it ?

.....

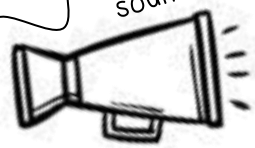
Name : Teacher's Key

Date:.....

WAVE

is a disturbance that moves through particles movements. Wave do not carry particles but it carries energy from one place to another.

Here, medium for wave travel is AIR



WAVELENGHT : Distance between a point on one wave to the same identical point on the next wave

CREST : The peak or highest point on a wave.

> Particle movement (distance) at 90 Degree (right angles) to direction of wave travel

Wave travel (time)

REST : Position a wave would sit if no vibration occurred

amplitude

up

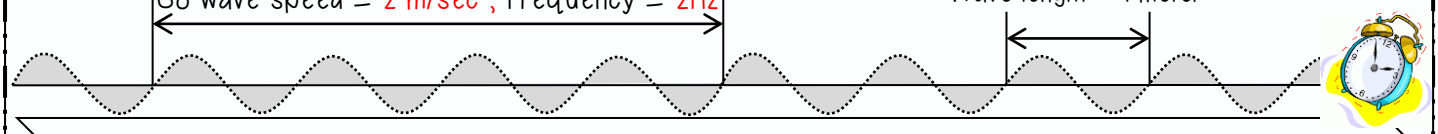
down

TROUGH : The valley or lowest point between two crest

Try : Distance = 4 meters, Wave travel time =2 seconds

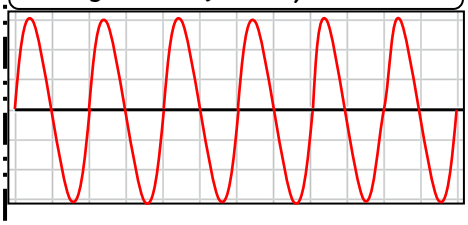
So wave speed = 2 m/sec , Frequency = 2Hz

Wave length = 1 meter

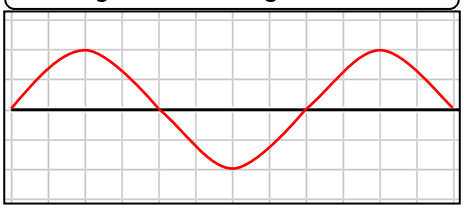


WAVE SPEED : The distance a wave travel in a specific time. It is measured in meters per second

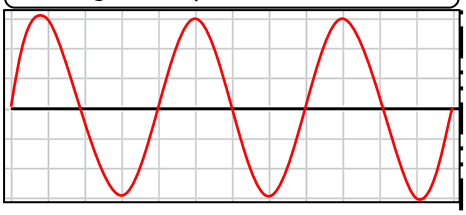
High Frequency Wave



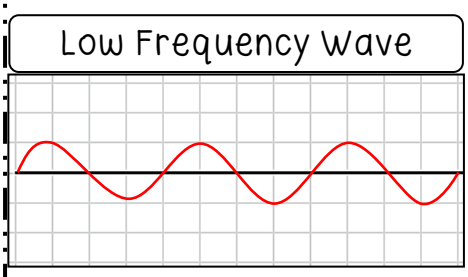
Long Wavelength Wave



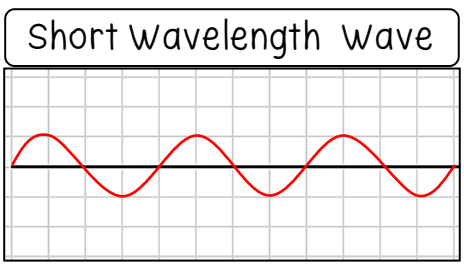
High Amplitude Wave



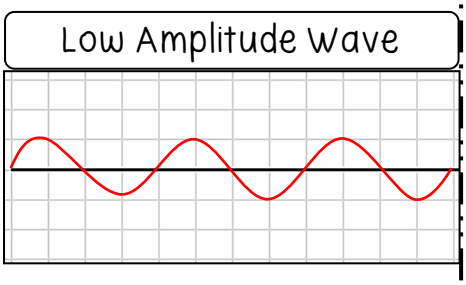
Low Frequency Wave



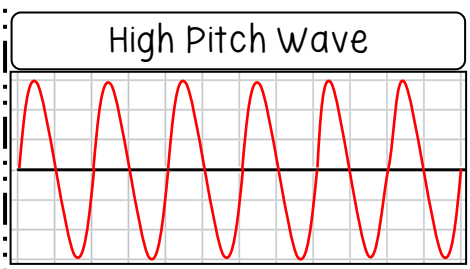
Short Wavelength Wave

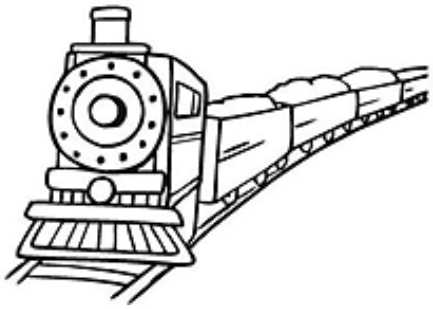


Low Amplitude Wave



High Pitch Wave





☺ Try :

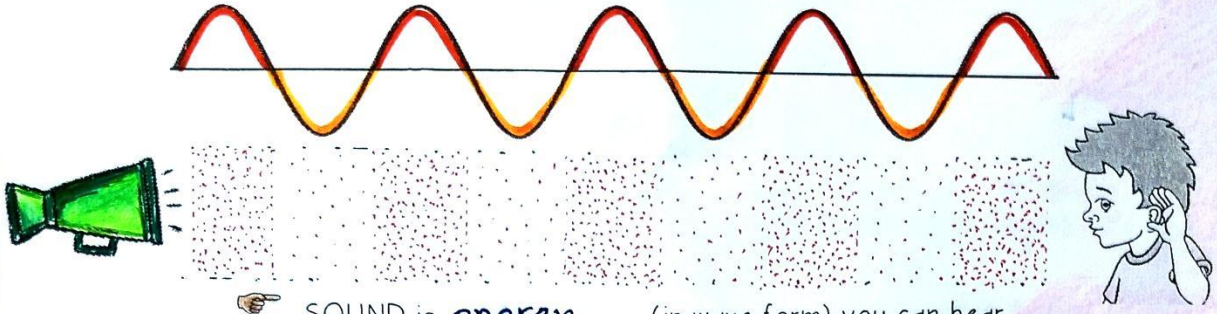
> A train blows whistle loudly. Which energy is it ?

> Sound Energy

Name : SANDRA ..... Date: 31:08.2018.

SOUND

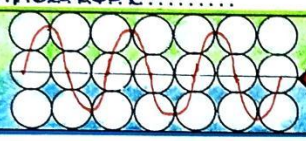
is caused by VIBRATIONS Quick BACK and FORTH movements of particles.



SOUND is energy ..... (in wave form) you can hear.

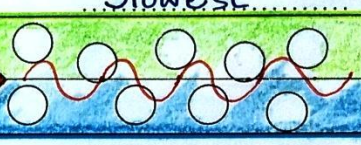
Sound travels

Solids — Fastest



Why? The particles are close together

Gas — Slowest



Why? The particles are further apart.

Characteristics

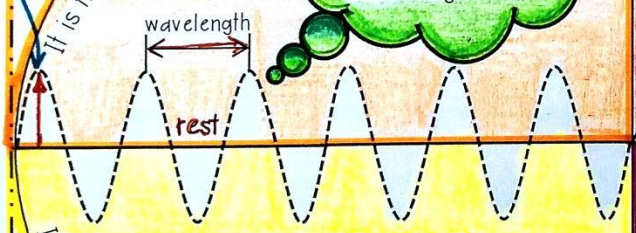
- ☑ Travels at different speeds through different materials.
- ☑ It transfers energy .....
- ☑ Needs a medium ..... to travel through.

> Can sound travel through space ? → No .....

AMPLITUDE

It is the distance a wave moves from its resting position.

- > Amplitude – High
- > Frequency – High
- > Volume – Louder
- > Pitch – High
- > Wavelength - Short



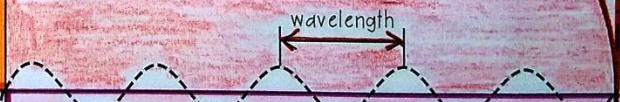
FREQUENCY

It is the speed of the vibration

> FREQUENCY is measured in Hertz

> 1 Hertz = 1 wave per second

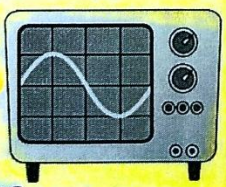
> The Average human can hear sounds with frequencies between 20 and 20.000 Hertz .....



VOLUME

It means loudness. How loud ... or soft ... a sound is !

> Volume is measured in decibels(dB) by means of an oscilloscope ...



> Volume more than 85 dB, can lead to hearing loss !

PITCH

PITCH is the highness or lowness ... of sound

- > Amplitude – Low
- > Frequency – Low
- > Volume – Low
- > Pitch – Low
- > Wavelength - Long

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Name : SANDRA Date: 31-08-2018

WAVE

is a **disturbance** that moves through **particles** movements. Wave do not carry particles but it carries **energy** from one place to another.

Here, medium for wave travel is **air**.

WAVELENGTH — Distance between a point on one wave to the **same identical** point on the next wave

CREST — The **peak** or **highest** point on a wave.

> Particle movement (distance) at **90 Degree (right angles)** to direction of wave travel

Wave travel (time)

REST — Position a wave would sit if **no vibration** occurred

amplitude

TROUGH — The **valley** or **lowest** point between two crest

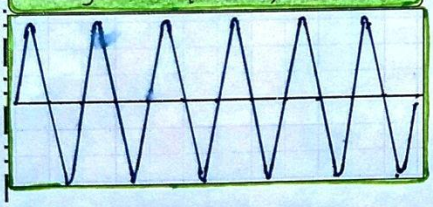
Try : Distance = 4 meters, Wave travel time = 2 seconds

So wave speed = **2 m/sec**, Frequency = **2 Hz**

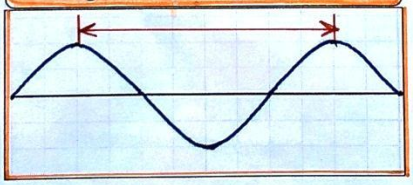
Wave length = 1 meter

WAVE SPEED : The **distance** a wave travel in a specific **time** It is measured in **meters per sec.**

High Frequency Wave

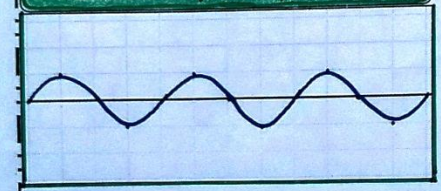


Long Wavelength Wave



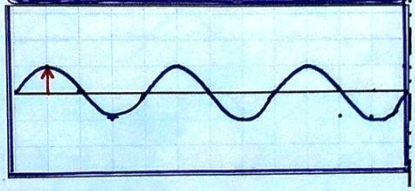
High Amplitude Wave

Low Frequency Wave

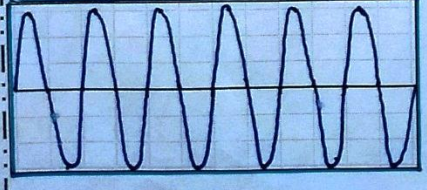


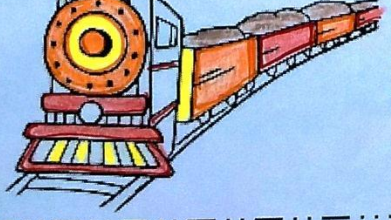
Short Wavelength Wave

Low Amplitude Wave



High Pitch Wave





Try :

> A train blows whistle loudly. Which energy is it ?

SOUND energy

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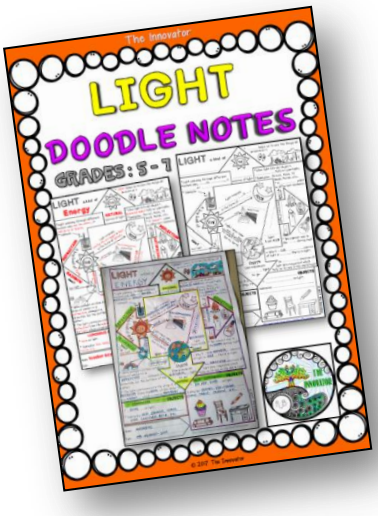

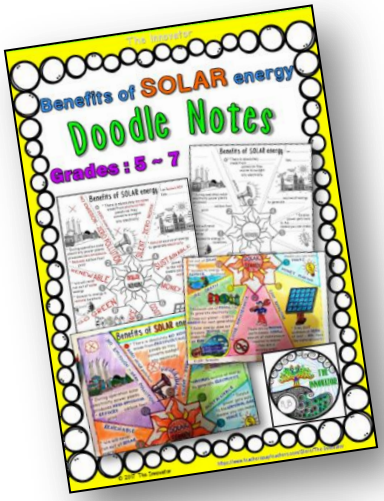

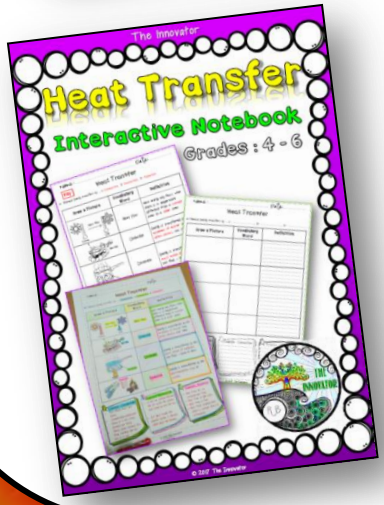

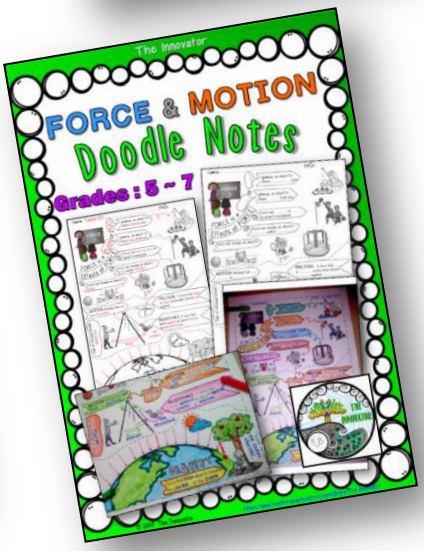

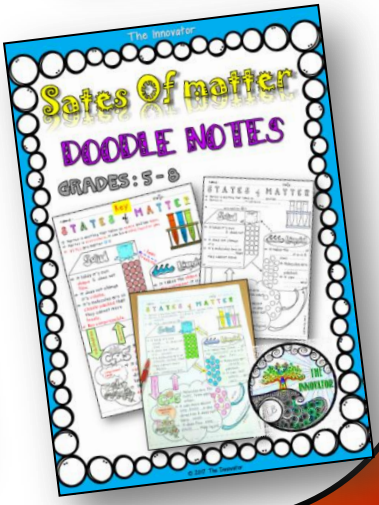

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