

Simple Sound experiment

REMEMBER: Sound is a _____ (ibtvinoar)

You Need:

1. A Long Piece of string or wool
2. 2 Spoons of Different Sizes
3. A Pencil



To Do:

Take the string and tie it around the spoon, so the spoon is in the middle of the piece. Take the two long pieces on either side and hold them up to your ears by pressing your tied index fingers to your ears (never in your ears!). It is crucial that the spoon remains freely dangling (you may want to lean forward slightly so the spoon hangs away from your body). Then get someone to tap on the spoon with the pencil.

Hitting the spoon with the pencil causes the spoon to vibrate. Remember, sound needs a medium to travel through, and in this case, the string is that medium. It transmits the sound directly to your ears.

What makes it so much louder?

In an open room, sound waves transmit in all directions, so what you hear is not everything that is being produced. Air molecules are not very tightly packed, which also makes the sound less intense.

With the string most of the wave is being sent right to your ears, making it more distinct and louder. Now try the other different sized spoon.

Experiment and find different materials (e.g. wooden rulers, plastic rulers, felt pens, rubber erasers, etc.) to use in tapping your spoons.

What do you notice? How do the sounds compare?

Try different lengths of string. What does that do to the sounds?

Sound

Q	Z	M	V	I	B	R	A	T	I	O	N	S	P	E
A	I	R	R	R	D	E	C	I	B	E	L	S	V	W
Z	P	T	V	E	I	N	S	U	L	A	T	O	R	X
N	L	E	S	S	T	H	G	N	S	T	R	I	N	G
P	E	R	C	U	S	S	I	O	N	Z	D	K	S	G
W	D	V	I	O	L	I	Q	U	I	D	Y	E	W	Q
Y	L	M	V	L	O	Z	M	U	F	F	L	E	D	U
L	U	O	O	T	J	P	L	E	A	M	T	L	L	I
V	A	C	U	U	M	C	I	B	I	M	M	M	U	E
I	J	S	H	D	L	L	C	T	R	W	O	A	D	T
G	B	O	I	N	N	O	R	N	C	G	R	H	E	E
Y	L	L	G	J	W	E	W	T	P	H	E	M	A	R
A	C	I	H	T	F	I	S	E	K	O	I	U	R	E
G	G	D	E	W	I	N	D	S	R	L	O	Z	D	G
Q	V	K	R	P	J	K	I	B	L	O	U	D	E	R

pitch	vibrations	vacuum	solid
liquid	higher	lower	ear
air	loudness	louder	quieter
decibels	insulator	less	more
percussion	wind	string	muffle