



THE BIG IDEA

ALL sound comes from **vibration** — a fast back-and-forth wiggle. No exceptions. Fast wiggles sound **high**, slow wiggles sound **low**; big wiggles sound **loud**, small ones **soft**.

Sound travels the way a bump runs down a chain of marbles: each air particle bumps its neighbour and **only the bump moves on** — the air stays where it is. When the bumps reach your ear they play a tiny drum stretched inside it: your **eardrum**. And because sound can make other things move — grains dance, a second string sings — sound is **energy**.

Stop the wiggle and you stop the sound — the same act. No particles, no path: space is perfectly silent.

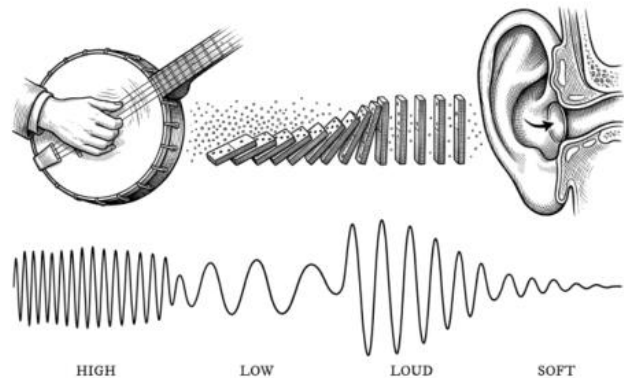


Fig. 1 — sound's whole trip: the pluck, the air passing the bump along like dominoes, the drum that catches it — and the wave's four moods: high, low, loud, soft

WORDS TO KNOW



vibration

a fast back-and-forth wiggle — where every sound begins



pitch

how high or low — how FAST the wiggle is



loudness

how BIG the wiggle is — it fades as the wiggle shrinks



eardrum

the tiny drum inside your ear that the air plays



vocal cords

the strings in your throat that wiggle when you speak

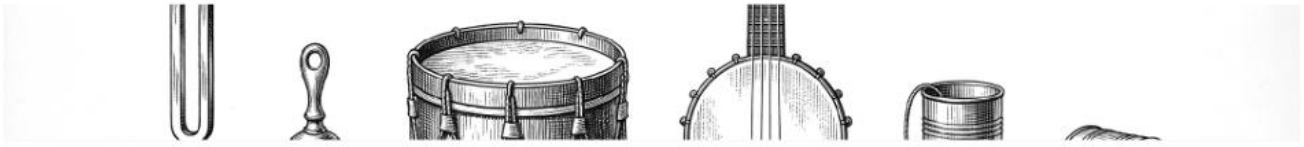


sound wave

the bump travelling on — the marbles stay, the bump moves

WATCH FOR THIS IN EVERYDAY LIFE

- Hum with a finger resting on your throat — “*feel the wiggle that IS your voice.*”
- Press an ear flat to the table while you tap it — “*why is it louder through the wood than through the air?*”
- Watch a guitar string or rubber band blur while it sings — “*when the blur stops, what else stops?*”



sound

sound

vibration

vibration

pitch

pitch



1 • THE PLUCK LAB — CIRCLE HIGH OR LOW IN EVERY BOX

One rubber band on the open box. Change ONE thing per pluck — never both. Circle what you hear. (Keep stretched bands a big step away from eyes.)

	LOOSE BAND	TIGHT BAND
THICK BAND	HIGH • LOW	HIGH • LOW
THIN BAND	HIGH • LOW	HIGH • LOW

Watch the blur as a note fades: the blur gets smaller (quieter) — but does the PITCH change? ☐ yes ☐ no

2 • GUESS FIRST, THEN CIRCLE WHAT REALLY HAPPENED

The grain drum

When the singing fork touches the drum, the grains will...

☐ sit still

☐ jump and dance

The telephone — taut

String pulled tight, my whisper will...

☐ reach the other cup

☐ stay silent

The telephone — slack

String hanging loose, my whisper will...

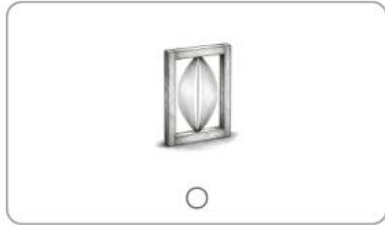
☐ still reach

☐ go dead

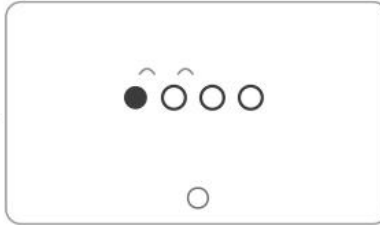


1 • LABEL SOUND'S JOURNEY — DRAW A LINE FROM EACH WORD TO ITS STOP

A grown-up reads the word bank. Draw a line from each word to the right picture.



☐ vibration



☐ air particles bumping



☐ eardrum

2 • DRAW ONE INSTRUMENT YOU PLAYED TODAY

Draw it big — then CIRCLE the part that vibrates. Tell a grown-up how you silenced it.

draw here — then circle the part that wiggles

No Vibration, No Sound

the lesson's song — sing it, then say what it means



SONG

VERSE 1

Pluck the string and watch it blur,
Touch it once — and it's gone, for sure.
Stopping the shake and stopping the ring
Are the very same thing.

CHORUS

Sound! Vibration! Pitch! Eardrum!
Something's shaking or there isn't any song.
Sound! Vibration! Pitch! Eardrum!
Shake it fast, shake it slow — sing along!

VERSE 2

Tight and short and thin go high,
Loose and long go low and shy.
That's the pitch, that's the pitch,
Faster shaking, higher pitch.

(CHORUS)**VERSE 3**

Bump, bump, bump goes marble to marble,
Only the bump goes down the line.
Press your ear to the table top —
It carries better than the air does. Fine!

VERSE 4

Way out in space where there's nothing at all,
A ringing bell would make no call.
No stuff to bump means nothing to hear —
And a little tight drum is waiting in your ear.

(CHORUS × 2)

Tag (spoken, kids): "Sound... vibration... pitch...
EARDRUM!"

How to use it. Play the recording once while everyone just listens. Play it again and join in on the chorus only — that is the part carrying the lesson. By the third time most children have the chorus. Then close the binder and ask what the words actually mean; a child who can sing it and explain it has the idea for good.