SCIENCE

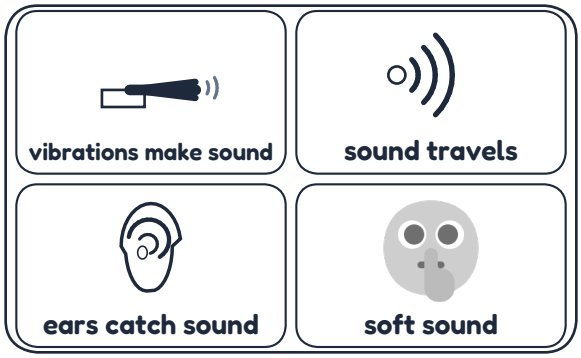
How we hear

Name _____ Date _____

I can explain that sounds are made by vibrations.

1 How it works

Sounds are made when something vibrates, or moves back and forth very fast. The vibrations travel through the air to our ears. The outer ear catches the sound, and the eardrum inside vibrates too. Big vibrations make loud sounds and small vibrations make soft sounds.



2 Loud or soft? Circle one.


a dog barking

loud soft


thunder

loud soft


a cat purring

loud soft


a truck horn

loud soft


a ticking watch

loud soft


leaves rustling

loud soft


an alarm clock

loud soft


a whisper

loud soft

How did I do? ☆ ☆ ☆

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Sounds all around

Name _____ Date _____

I can tell what vibrates to make a sound.

1 What vibrates to make the sound? Draw a line.

 a dog barking	its voice box
 a buzzing bee	the stretched band
 a ringing phone	its wings
 a plucked rubber band	a tiny speaker

2 Safe for your ears? Circle one.

1. Cover your ears near a loud machine.	safe	not safe
2. Wear ear muffs at a loud car race.	safe	not safe
3. Shout right into a friend's ear.	safe	not safe
4. Put a pencil in your ear.	safe	not safe
5. Keep headphones turned down low.	safe	not safe

How did I do? ☆ ☆ ☆

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Think like a scientist

Name _____ Date _____

I can explain how sound travels to my ears.

1 Think about it

1. How is a sound made? _____
2. Why do we cover our ears near loud sounds? _____
3. How does sound get to your ear? _____
4. What sounds can you hear right now? _____

2 True or false? Circle it.

1. The eardrum vibrates when sound comes in.	**true**	**false**
2. Sound can travel through the air.	**true**	**false**
3. Sounds are made by vibrations.	**true**	**false**
4. A whisper is a loud sound.	**true**	**false**
5. It is safe to put things in your ear.	**true**	**false**

3 Draw 3 things that make sounds. Label each one loud or soft.

How did I do? ☆ ☆ ☆

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Try it: jumping rice

Name _____ Date _____

I can see sound vibrations move things.

1 You need

- a bowl
- plastic wrap, rubber band
- a few grains of rice
- a metal pot
- a spoon

2 What to do

1. Stretch plastic wrap tight over the bowl. Hold it with the rubber band.
2. Sprinkle a few grains of rice on top.
3. Hold the pot near the bowl and tap it softly with the spoon. Watch the rice.
4. Now tap the pot hard. Watch the rice again.

3 I predict

What will the rice do when you tap the pot?

_____

_____

4 What I see

Tap	What the rice did	Loud or soft?
no tap		
soft tap		
hard tap		

How did I do? ☆ ☆ ☆

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FOR TEACHERS AND PARENTS

Answer key: how we hear

1 Page 1

Answers: 1) a dog barking: loud; 2) thunder: loud; 3) a cat purring: soft; 4) a truck horn: loud; 5) a ticking watch: soft; 6) leaves rustling: soft; 7) an alarm clock: loud; 8) a whisper: soft.

2 Page 2

Vibrations: 1) a dog barking: its voice box; 2) a buzzing bee: its wings; 3) a ringing phone: a tiny speaker; 4) a plucked rubber band: the stretched band.

Safe or not: 1) safe; 2) safe; 3) not safe; 4) not safe; 5) safe.

3 Page 3

Think: 1) Something vibrates; 2) Very loud sounds can hurt our ears; 3) It travels through the air; 4) Answers will vary.

True or false: 1) true; 2) true; 3) true; 4) false; 5) false.

Drawing: answers will vary, for example thunder (loud), a dog (loud) and a whisper (soft).

4 Page 4: Try it!

The tapped pot vibrates and sends vibrations through the air. They make the plastic wrap vibrate, so the rice jiggles or jumps. A hard tap makes a louder sound with bigger vibrations, so the rice jumps more. With no tap, the rice stays still. The eardrum works the same way.

5 Teaching tip

Ask children to hum with a hand on their throat. They can feel the vibration that makes the sound, then feel it stop when they stop humming.

Safety: tap gently near people's ears, and keep the rice away from mouths, noses and ears.

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