



Name : \_\_\_\_\_

Date : \_\_\_\_\_

Grade 4 ( )

1. Sounds are made when objects vibrate.

What is a vibration? Circle the correct answer.

a back-and-forth movement

a circular movement

an upward movement

2. Sounds can travel through various materials to our ears.

Complete the sentences. Choose from the following words.

air	faster	heat	slower	water	vibrations
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Sound travels **faster** in water than it does in air. This is because the particles are closer together in **water** than in **air**. The particles can quickly pass on the **vibrations** from one particle to the next.

3. What can happen when an object vibrates?

Tick (✓) the **two** correct answers.

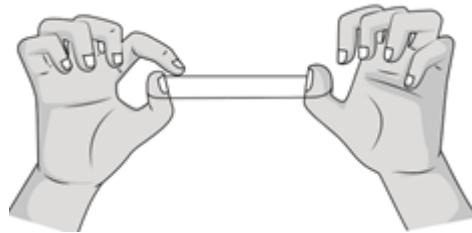
It can make the air particles around it vibrate.	✓
It does not affect the particles around it.	
The vibration can travel through different types of matter.	✓
The vibration cannot travel through solids.	

4. A vacuum is a space without any air or other matter.

Explain why sound cannot travel through a vacuum.

Sound waves need a medium (solid, liquid or gas) to travel through. So sound cannot travel through a vacuum because there are no particles to vibrate and carry the sound vibrations.

5. Hassan plucks a rubber band.



a. How does the rubber band make a sound?

It vibrated.

b. Describe how the sound is able to travel through the air to Hassan's ear.

The vibrations of the sound make air particles vibrate, which in turn carry the vibrations into Hassan's ears.