

## Chapter 7: Sounds

### Lesson A: How are Sounds Made (7.1)

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

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

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 \_\_\_\_\_ in water than it does in air.

This is because the particles are closer together in \_\_\_\_\_ than

in \_\_\_\_\_.

The particles can quickly pass on the \_\_\_\_\_ 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.

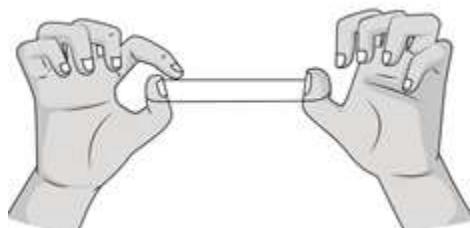
Explain why sound cannot travel through a vacuum.

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### 5. Hassan plucks a rubber band.



a. How does the rubber band make a sound?

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

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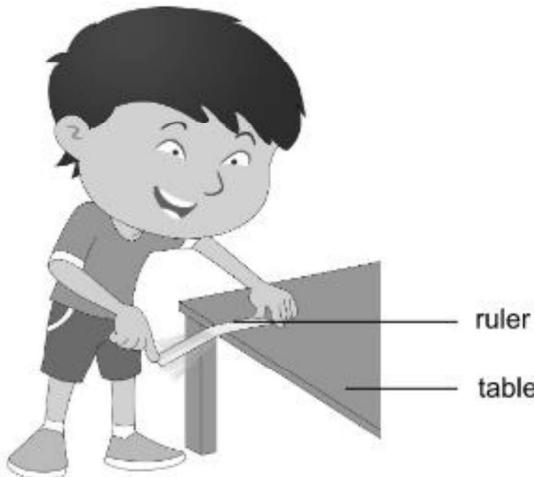
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## Lesson B: Pitch and Volume (7.2)

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

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

1. When Rudy flicked a ruler, he heard a sound.



- a. Describe the way the ruler made the sound.

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- b. How did the sound reach Rudy's ears?

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- c. What can Rudy do to make the ruler produce a louder sound when he flicks it?

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- d. Rudy later placed a longer ruler over the edge of the table. Predict whether the sound made by the ruler will be higher or lower in pitch.

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2. What instrument can you use to measure sound levels?

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3. The sounds in this table have sound levels 10 dB, 60 dB, 85 dB, 120 dB and 130 dB. Complete the table to match the correct sound level to each sound.

Sound	Sound level (DB)
hairdryer blowing	
human breathing	
aeroplane taking off	
background music playing	
siren sounding	

a. Which **two** sounds in the table can harm our ears?

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b. Write down two ways you can protect your ears from these loud sounds.

1. \_\_\_\_\_

2. \_\_\_\_\_

4. Andrew is playing the guitar.

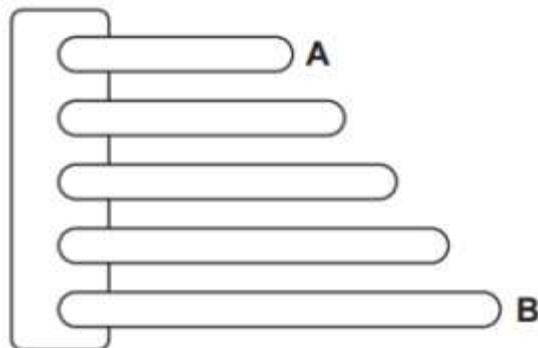
He plucks the strings of the guitar to produce sounds.

What can Andrew do to increase the volume of the sounds? Explain.

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5. The children made a musical instrument from sticks.



Complete the sentence to show how the musical instrument works.

a. The sticks make a sound when they are hit because they \_\_\_\_\_.

b. Stick A makes a higher note than stick B.

What word describes how high or low the note is? \_\_\_\_\_

c. What can they do to get stick A make a louder sound?

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6. Lily investigates how different surfaces affect the loudness of sound.

She drops a pen onto a surface and listens to the sound it makes.

Lily describes the loudness of the sound using numbers.

Number 1 is the quietest and number 10 is the loudest.

Here are her results.

a. Which surface made the loudest sound?

Circle the correct answer.

A

B

C

D

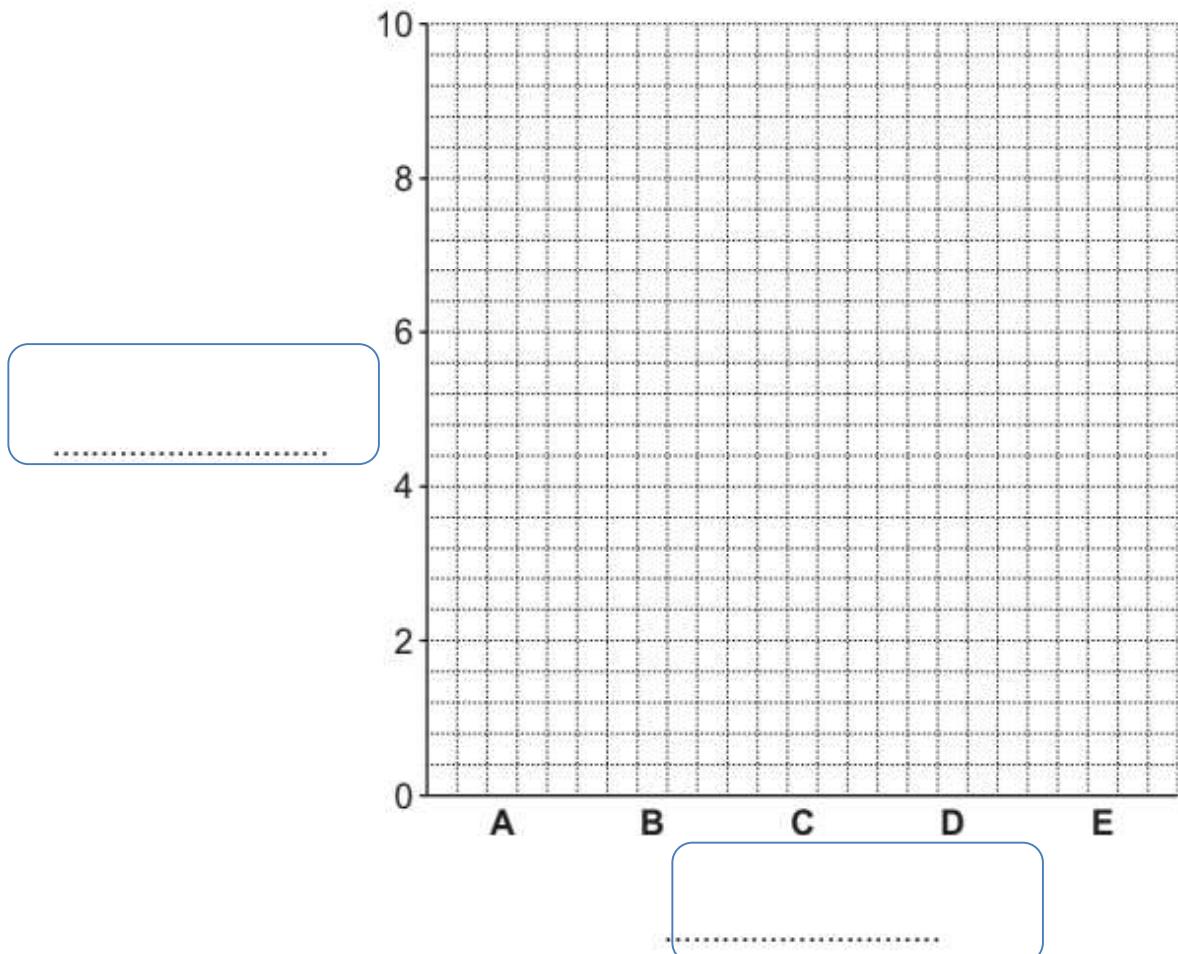
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surface	loudness of sound
A	8
B	3
C	9
D	3
E	1

b. What equipment should Lily use to measure the loudness of the sound?

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c. Complete the bar chart to show the loudness of sound for each material.



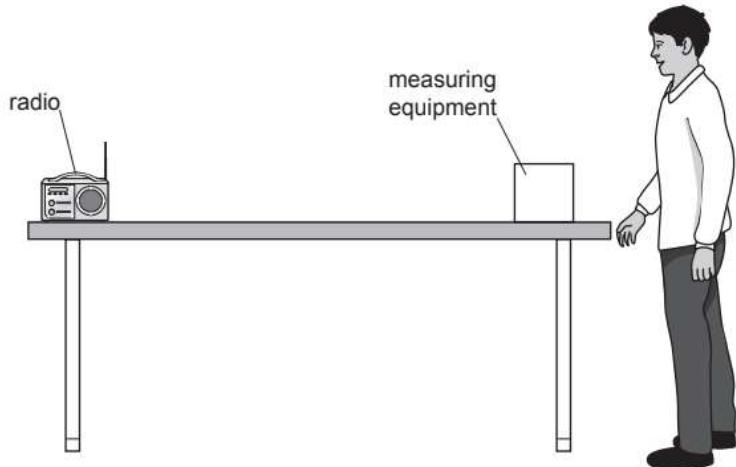
d. Complete these sentences about sound.

Sound is made when an object \_\_\_\_\_.

Loud and quiet describe the volume of a sound.

High and low describe the \_\_\_\_\_ of a sound.

7. Carlos has a radio on a table.



Carlos measures the distance from the measuring equipment to the radio.

Carlos measures the volume of the sound from the radio.

Write the name of the measuring tools used to

a. measure the distance between the radio and equipment: \_\_\_\_\_

b. measure the volume of sound : \_\_\_\_\_