

**The Primary Stage of Grades (4-5)  
School Year 2022- 2023**

Name: Answer key

Subject: Science

Worksheet 1: How sounds are made

Unit 7: Sound

Date: / /

Class: Grade 4 CP (All Sections)

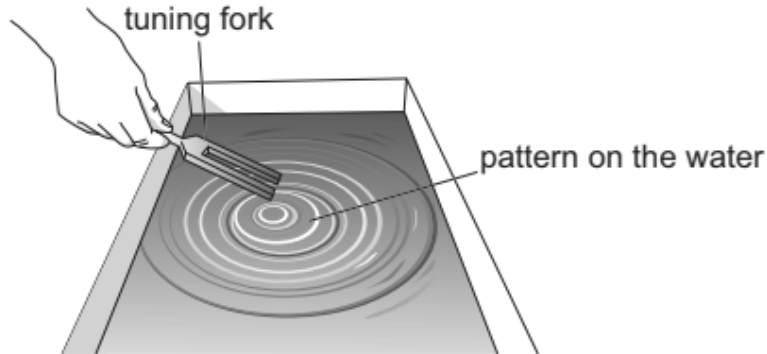
Objective/s:

- Investigate how sounds are made by vibrating sources.

**Question 1:**

Yuri hits the tuning fork to make a sound.

He puts the tuning fork on water.



Explain why there is a pattern on the water.

**When we hit the tuning fork it vibrates , when the vibrating fork touches the water the vibrations travel into the water causing the water particles to move.**

**Question 2:**

Which of these statements is true?

Tick (✓) the **correct** box beside each sentence.

	<b>true</b>	<b>false</b>
Sound <b>can</b> travel around corners.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sound <b>can</b> spread out in all directions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sound <b>cannot</b> travel through solids.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sound <b>can</b> travel through liquids.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sound <b>can</b> travel in a vacuum.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Question 3:**

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

Explain why sound cannot travel through a vacuum.

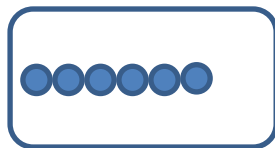
**There is no matter in a vacuum, this means that there is no  
.....  
particles to vibrate, so sound can not travel through vacuum.  
.....**

**Question 4:**

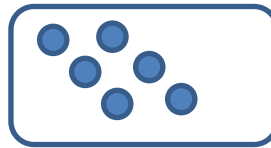
The table shows the speed of sound through different materials. Use the table and the information to answer the questions below:

Material	Speed of sound (m/s)
Steel	6000
Water	1400
Air	355

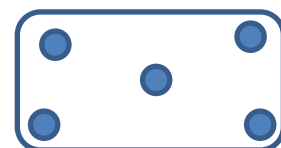
- a. In which material did sound travel the fastest? ..... **Steel** .....
- b. In which material did sound travel the slowest? ..... **Air** .....
- c. Which material is a solid? ..... **Steel** .....
- d. Which material is a gas? ..... **Air** .....
- e. Draw diagrams of how the particles are arranged in steel, water, and air:



**Steel**



**Water**



**Air**

- f. Use the diagrams to explain why sound has different speeds in different materials.

**Sound travels faster in Water than Air, and even faster in Steel (solid),  
.....  
Because their particles are much closer together and can pass on the  
.....  
vibrations faster.**

**Question 5:**

Angelique shakes a bell to make a sound.



**(a)** Complete the sentence.

The bell makes a sound because it **Vibrates** .....

**(b)** Angelique shakes a smaller bell with the same force.

It makes a different sound to the larger bell.

Describe how the sound of the **smaller** bell is different.

**Higher pitch.**  
.....

**(c)** Angelique shakes the smaller bell with less force.

It makes a different sound.

Describe how the sound made with **less force** is different.

**The sound is quieter – softer.**  
.....