

A large, black and silver speaker is positioned on the left side of the frame. It has a prominent circular center and a metallic ring around its perimeter. To the right of the speaker, several thick, glowing yellow lines are drawn across the dark background. These lines are curved and intersect, creating a sense of motion and energy. The word "SOUND" is written in a bold, yellow, sans-serif font, centered between the speaker and the glowing lines.

SOUND

**Sound is a form of energy which produces sensation of hearing in our ears.**



**Sound is produced by a vibrating source.**

Lets us perform an activity  
**SOUND**  
to understand sound



Activity to show that  
Vibrations produce sound



Rope

What do  
you feel  
when you strike the pan?

Vibrations in  
Metal pan

NO

Touch the pan  
gently



Do you feel vibrations  
when the sound stops?  
**Vibrations**

Sound is  
produced



## Example to show that Vibrations produce sound



When the strings stop vibrating

When we pluck the strings of a guitar



Sound also stops

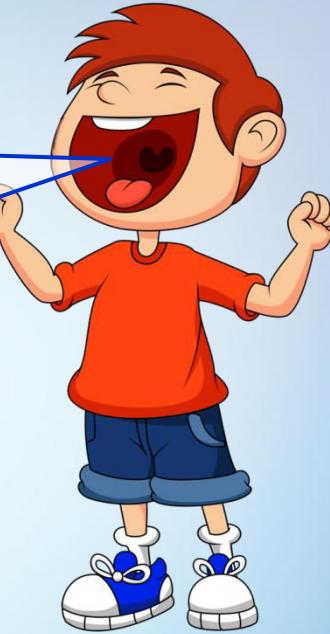


Sound is produced as long as the object vibrates

Strings vibrate and produce sound



In a drum, it is the membrane that vibrates. When a person shouts, it is the vocal chords that makes the air column vibrate.



In a speaker, it is the diaphragm that vibrates.

# Vibration



to and fro or back and forth motion of an object is

If some one disturbance is produced in the medium, the particles

1st particle moves & hits the 2nd particle  
2nd particle hits the 3rd particle  
3rd particle hits the 4th particle

Consider this box to be a medium.



1

2

3

4

What do you mean by vibrations ?

This continuous

The particle do not move from one place to another.  
about their mean position

1

2

3

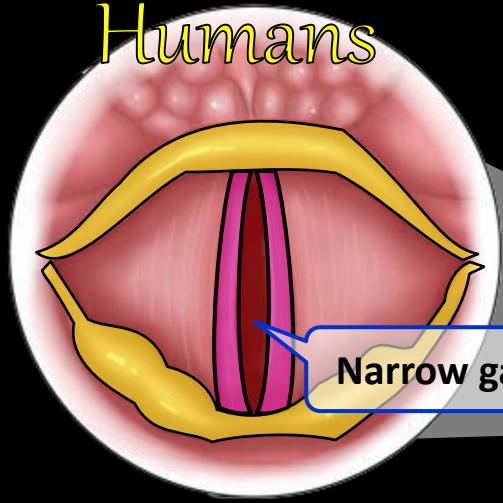
4



If continuous disturbance is produced,  
the particles vibrate continuously...

# Sounds Produced by

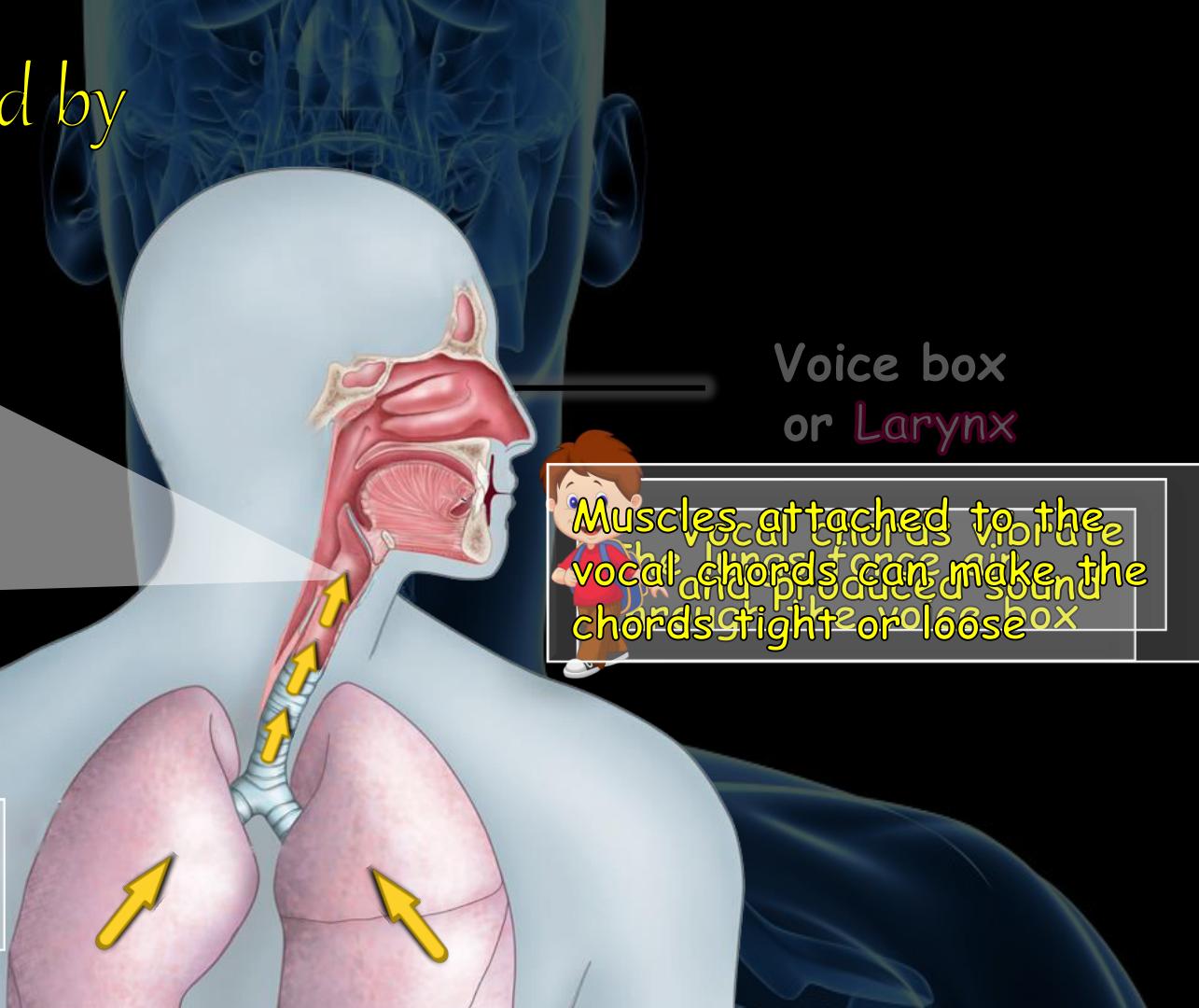
Humans



Vocal chords



This changes the pitch of the sound





Vocal  
cords



Nose



Lips



Speech is a production of sound that has a definite and clear meaning for us.



Tongue

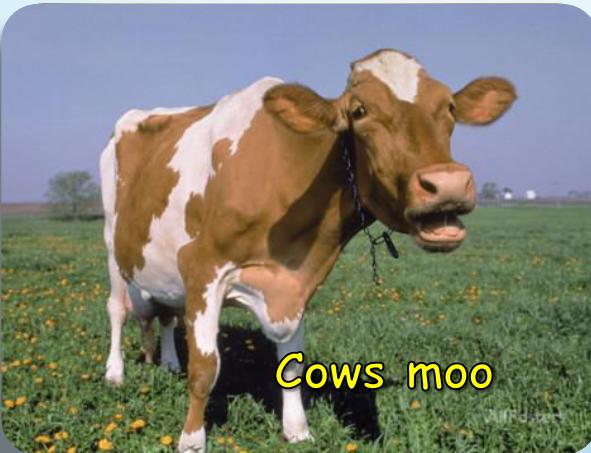
# Sounds Produced by Animals

1

Animals produce sound by means of vocal cords.



Lions roar



Cows moo



Horses neigh

# Sounds Produced by Animals

2

Birds Produce sound by means of **syrinx**.

Ring of cartilage consisting  
of oval membranes



# Sounds Produced by Animals

3

Insects make their characteristic sounds by **vibrating their wings** rapidly.



Mosquitoes



Bees



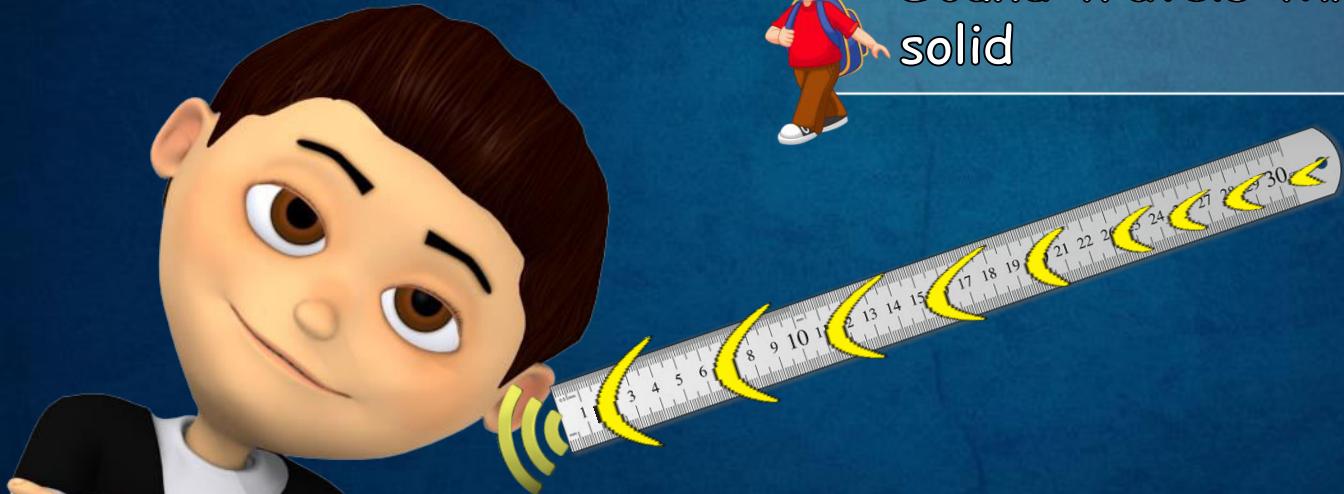
Bees ~~were~~ are lighter and vibrate their wings more rapidly. How can we tell the difference? Bees ~~without~~ have ~~no~~ honey. Bees ~~with~~ honey vibrate their wings less rapidly. There is a difference in the buzzing sound.



Sound travels through Solid

# ACTIVITY

Sound travels through  
solid



Sound travels through Solid



sound of your voice vibrates the can  
Sound travels through  
this makes the strings vibrate.  
solid

## ACTIVITY

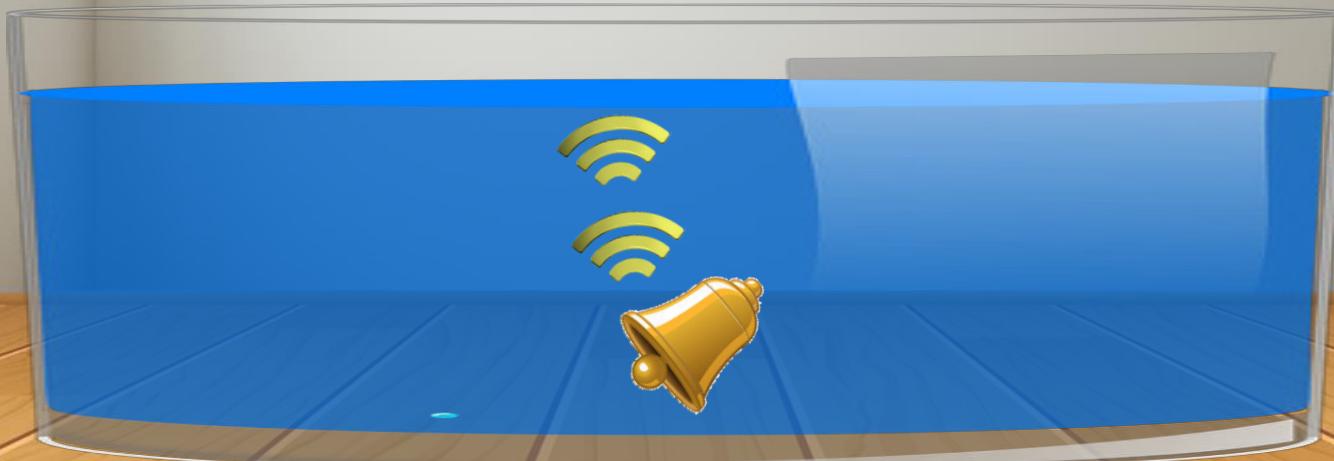


# Sound travelling through liquids



Sound travels through water

**ACTIVITY**



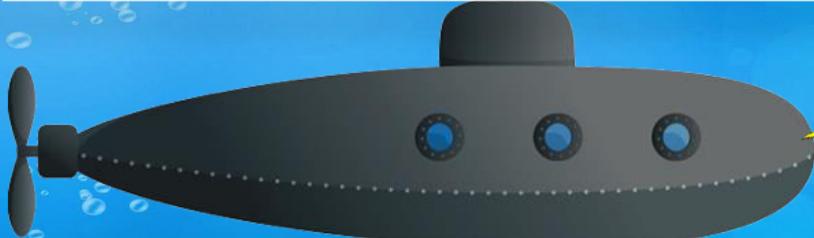
# Sound travels through water



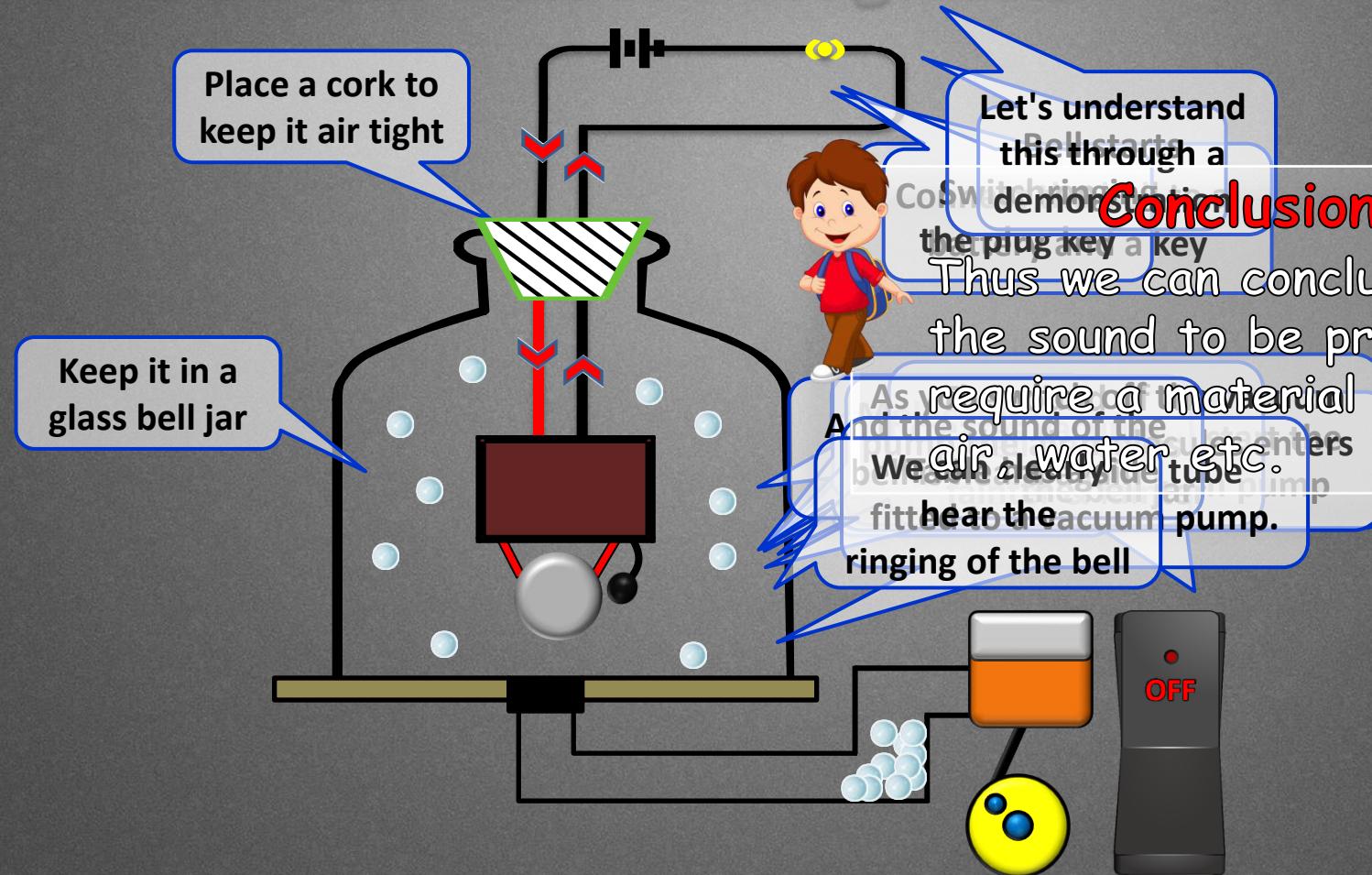
Dolphins communicate with each other using sound



Ships and submarines  
communicate with each other  
using **SONAR**



To show that sound cannot travel through vacuum



## Conclusion

Thus we can conclude that for the sound to be produced we require a material medium like air, water etc.



Suppose you and your friend are on the moon. Will you be able to hear any sound produced by your friend ?



On  
moon



No  
atmosphere



No  
Medium



Hence, sound  
cannot travel

# Thank You