

Thursday 22<sup>nd</sup> May 2021

LO: To identify how sounds are made, associating some of them with something vibrating

- I can identify how sounds are made
- I understand that sounds are made with something vibrating
- I can explore how sounds are made



# Task 1 Pre-Assessment

L.O. to recognise and use vocabulary

Tuesday 22nd May 2021

(pre assessment)

vibration

medium

volume

pitch

tempo

sound wave

How loud or quiet a sound is.

A medium is an object or material that sound can pass through such as air.

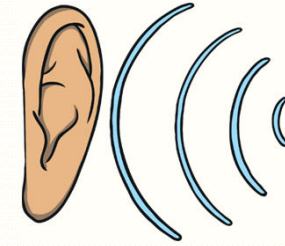
The sound wave is travelling in a back and forth motion known as vibrating.

Sound is transported through a medium in waves.

A sound that creates a high note or a low note

The speed of which the music is played

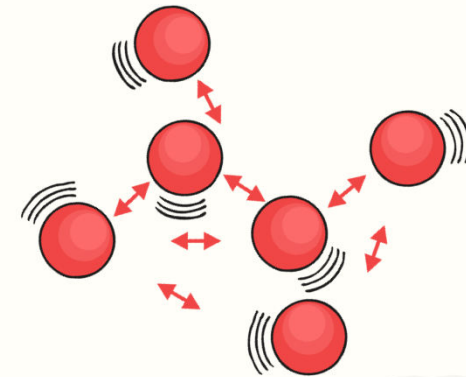
# Sound waves



- Like light, sound travels through the air in waves.
- Sound is made by air molecules vibrating.
- When you clap your hands, the air around your hands shakes. This is the air molecules vibrating.
- The vibration of the air molecules around the hands, shake the molecules next to them and so on, until the air molecules in the ear are vibrating.

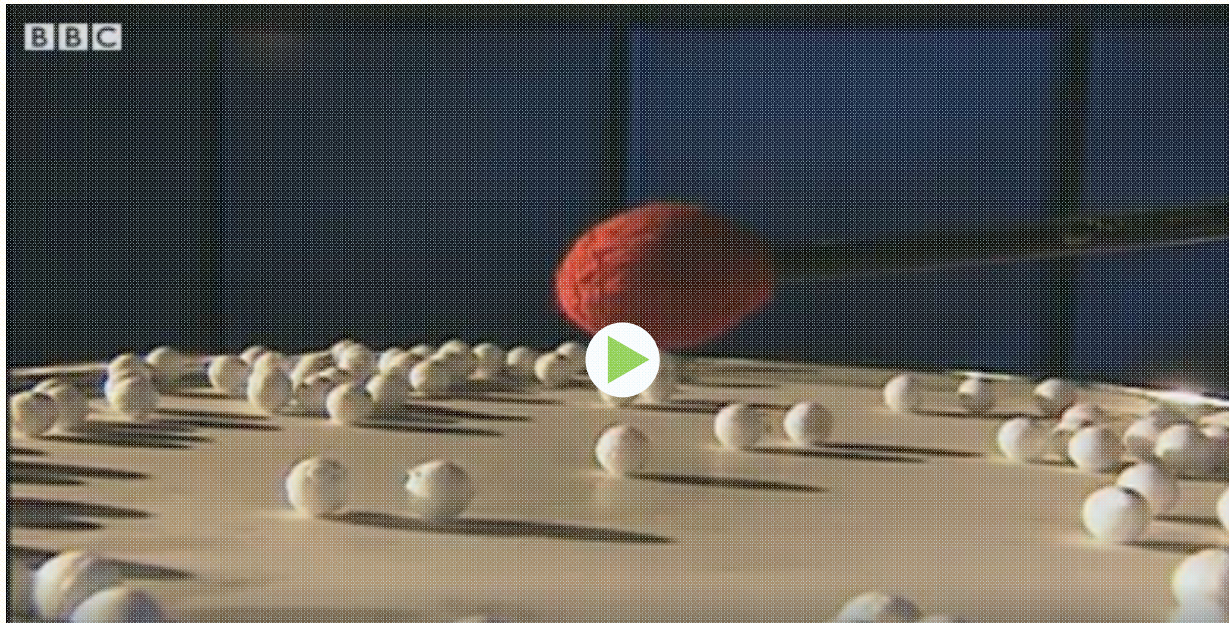
## Glossary

- **Vibrating** - shake quickly back and forth.



# How Does Sound Travel

*Watch this clip to see if you can identify how different sounds travel.*

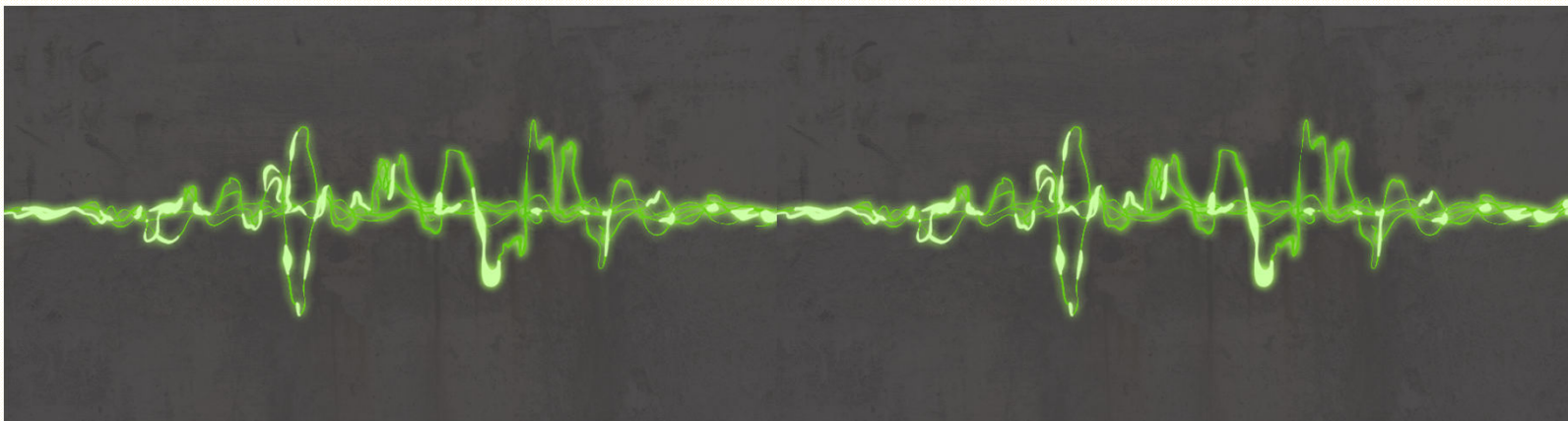


Click on this image to play the video in a new window.

# How Does Sound Travel?

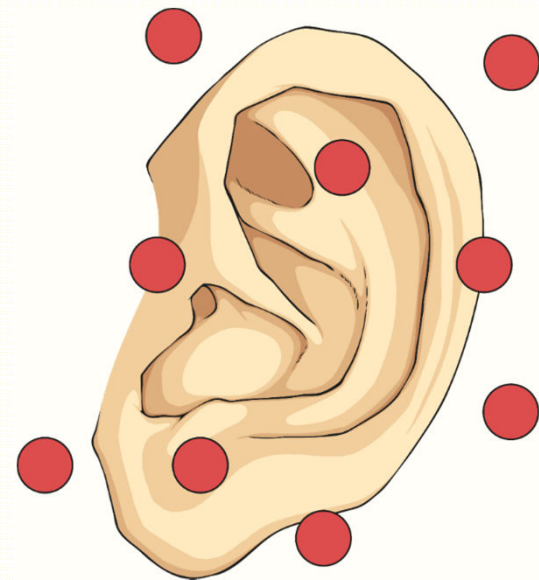
Sound can travel through solids, liquids and gases.

Sound travels as a wave, vibrating the particles in the medium it is travelling in.



So in our example, when you hit the drum, the drum skin vibrated. This made the air particles closest to the drum start to vibrate as well. The vibrations then passed to the next air particle, then the next, then the next. This carried on until the air particles closest to your ear vibrated, passing the vibrations into your ear.

Have you ever felt a speaker  
when the sound is on?  
It vibrates



Watch how the cymbal vibrates in  
this video clip.

<https://www.youtube.com/watch?v=QAlvdmQAEQ4>

Press your fingers to your throat and talk to a friend.

*Can you feel the vibrations in your throat?*

If you put some grains of rice on a drum and gently strike the drum.

*What would happen? Why?*

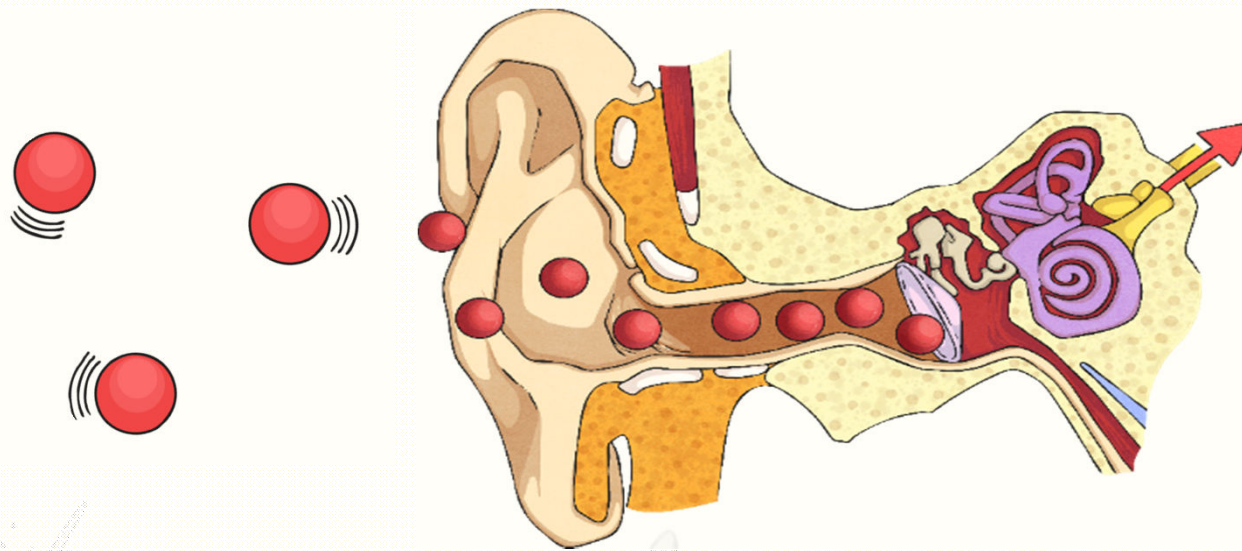
The *vibrations* from the drum cause the rice to dance around.

It is these vibrations that let us hear the sound of the drum



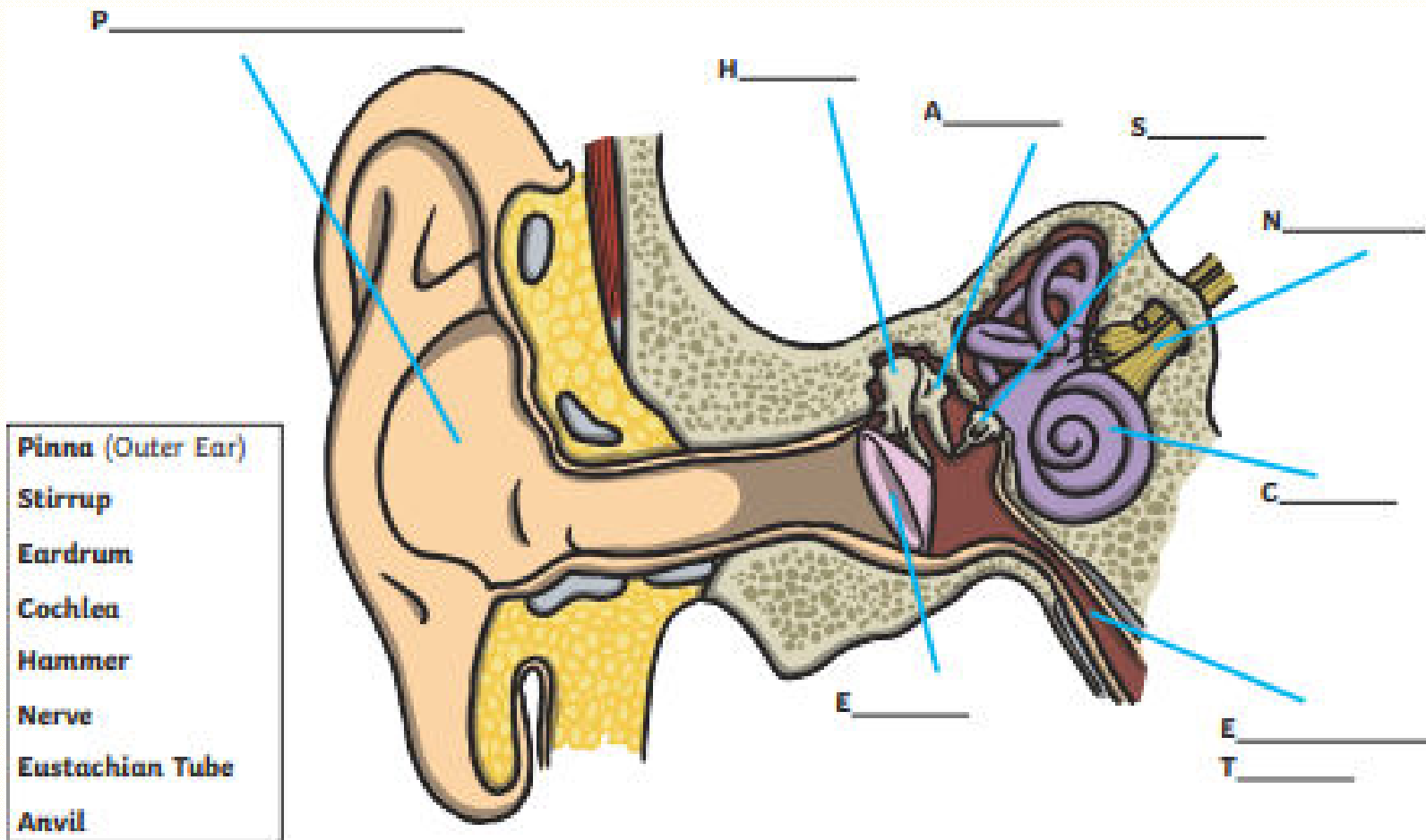
# Hearing Sounds

Once in your ear, the vibrations travel into the ear canal until they reach the eardrum. The eardrum passes the vibrations through the middle ear bones (the hammer, the anvil and the stirrup) into the inner ear. The inner ear is shaped like a snail and is called the cochlea. Inside the cochlea, there are thousands of tiny hair cells. Hair cells change the vibrations into electrical signals that are sent to the brain through the hearing nerve. The brain tells you that you are hearing a sound and what that sound is.





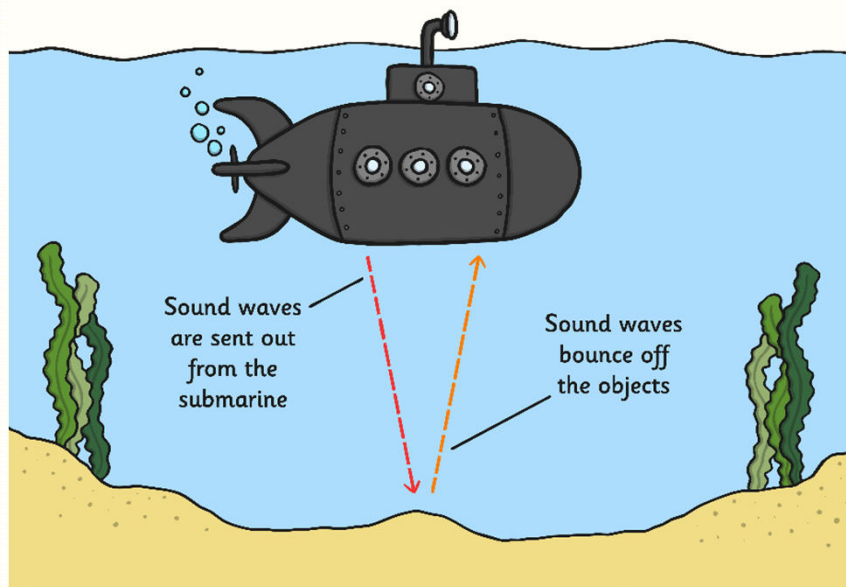
Label the worksheet to find out the names of parts of the ear.



Sound needs molecules to move. It is impossible for sound to travel in space.

Sound doesn't have to move through air. It can travel through water or metal.

In fact, sound travels faster through water and solids than it does through air because the molecules are closer together and can vibrate.



Sound travels much slower than light,  
whether in air or in water.

Light travels at 186,000 miles per  
second.

Sound travels at 770 miles per hour.

You often hear things after you see  
them, for example you see the lightning  
before you hear the thunder.



Q1.

Sounds

Some children were playing musical instruments.

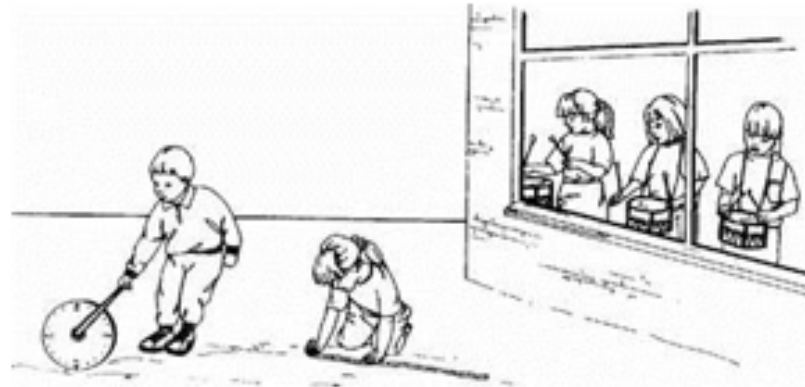
- (a) Give **ONE** way a drum makes a sound when it is hit.

 .....

.....

1 mark

- (b) The windows were closed. The children working outside could still hear the sound of the drums.



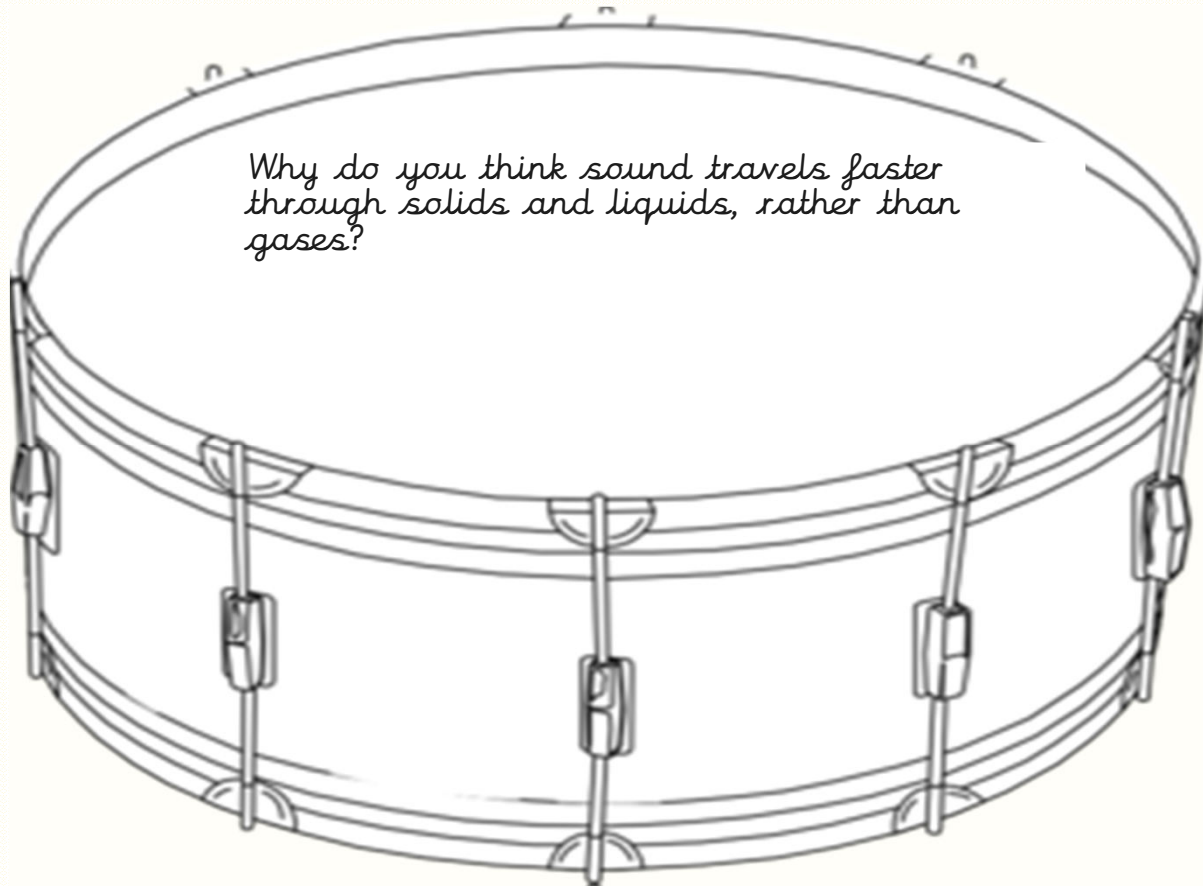
The sound reached these children's ears by travelling through the air and through the:

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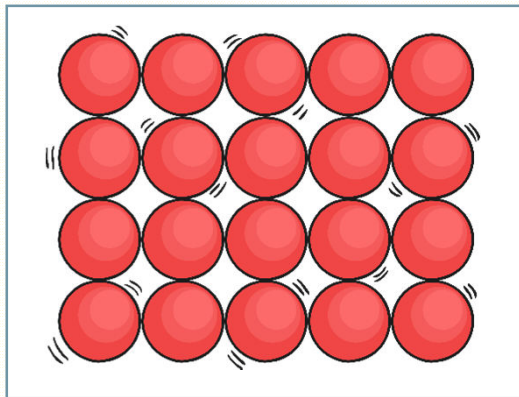
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# Next Step: Thought bubble:

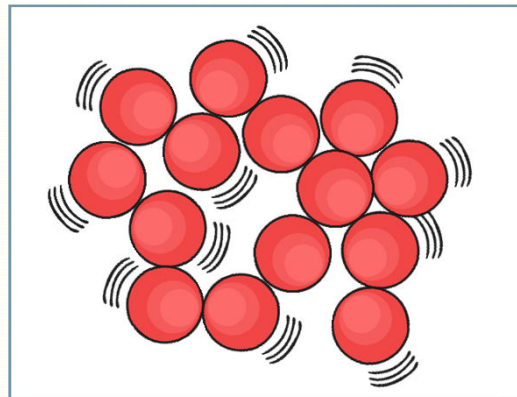
*Why do you think sound travels faster through solids and liquids, rather than gases?*



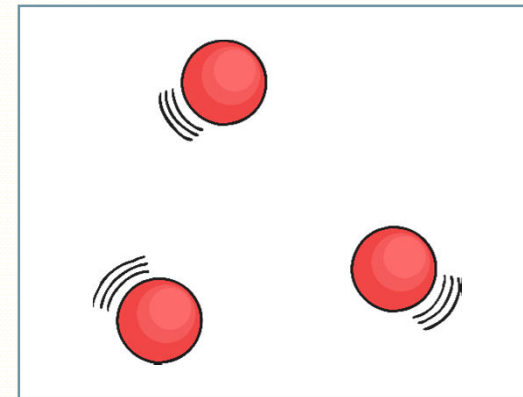
*HINT: Think about how close the molecules are to each other.*



SOLID



LIQUID



GAS

