Grade 6 Sound Can Move in gas May 13

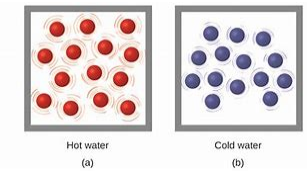
In gas particles, the particles are far apart from each other and they flow freely around filling up the space of the room or container.

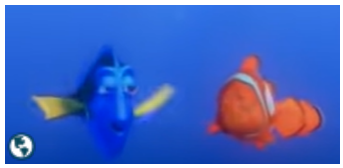
When there is a vibration in the air, the particles have to travel farther to bump into the next particle and start it to vibrate. Each particle has a longer distance to travel to meet another particle to keep the vibrations moving along. It doesn't take much to start a wave in gas, but it doesn't travel as fast and it loses energy after a certain distance too.

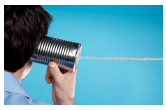
Sounds Can Move in Liquids

In liquids, the particles are closer together than in air. Liquids can flow and they transfer the vibrations quickly from one particle to the next.

Sound can travel four times faster in liquid than it can in air, but it takes more energy (louder sound) to start the vibration. A soft sound would not have enough force to start the particles moving to begin with.







Sounds Can Move in Solids

In a solid, the particles are packed tightly together and a solid does not change its shape.

Sound wave travels faster in a solid than in air as the particles don't have to travel very far before they bump in to the next particle and get it vibrating.

You need **more energy** to start the vibration at the beginning but then it travels even faster.

Sound waves travelling through a solid are **13** times faster than when they travel through air.