



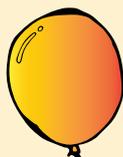
Salt dance

Sound is invisible, and yet it is everywhere. Invisible? Almost ... with this experience, you will be able to observe the « **sound waves** » while making salt dance. Ready?

What material do you need?



A tin can



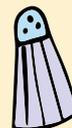
A balloon



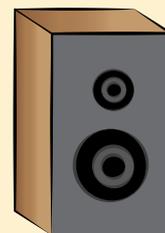
An elastic



Scissors



Coarse sea salt



A speaker

Ready? Let's experiment!

1



With the help of an adult, remove the top and bottom of your can.

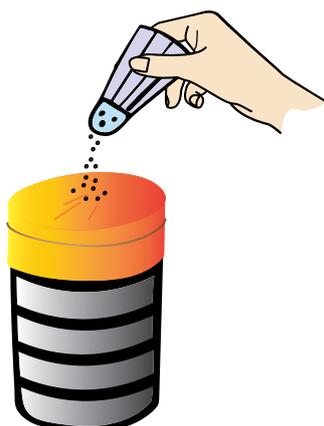


2

Cut the balloon where you normally tie a knot and stretch it to put it on one end of your tin can. Secure it with a rubber band!



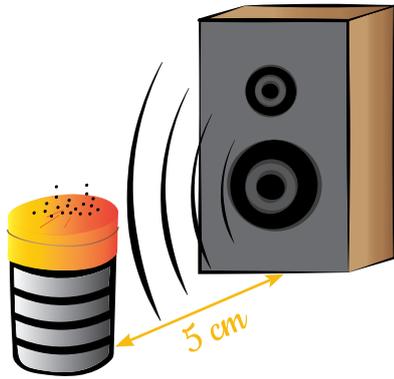
3



Make sure the can is placed on a flat, level surface and sprinkle the outstretched balloon with coarse sea salt.

Salt dance (end)

4



Place your speaker 5 cm away from the can with the outstretched balloon and the salt on it.

Put on some music and watch what happens when the sound comes out of the speaker.

Change the volume of the sound and watch the salt spring up in all directions.

You can do this experiment again on a larger surface, with a piece of plastic bag cut out and stretched on a cake mold.

Put yourself on top of it and blow very hard on a flute. The salt jump, but, this time, without making geometric shapes.

Why does it work ?

If you hear the sounds around you, it's because of the **sound waves**. Sounds are produced when an object, such as a guitar string, begins to vibrate. As it moves, the guitar string vibrates the air molecules around it. These collide and create vibrations which then spread through the air until they reach your ear. If there is no air, there is no sound, as in space.

A sound can also move an object. This is what you observe when the salt start to dance on your outstretched balloon. The sounds of music coming out of the speaker cause vibrations in the air. These vibrations reach the surface of the balloon which also starts to vibrate and relays the movement to the salt. It's the same with your eardrum. It is also made up of a very thin «skin».

It vibrates with every sound you hear to send it to your brain.

How does sound create shapes?

All objects naturally vibrate around you without you seeing it. When you put on music, the vibrations of the air mix with the natural vibrations of the rubber of your balloon. These are called sound waves and are shaped like waves. You can see them when you throw a rock in a puddle. They add up to form one, which is relayed to the salt.

The places where it accumulates are the places where the balloon vibrates very little. And the places where there is less are those where the balloon vibrates the strongest. Nice work sound waves!