SCIENCE FUN AT HOME

Have some fun at home with these science activities from **Science Sparks** and the **Primary Science Teaching Trust**

BEFORE YOU START! Please read through this with an adult:

- Make sure you have read the 'IMPORTANT NOTICE' on the back of this page.
- If you have a space outside that you can use safely, then you can do the 'Try this outdoors' activity outside. Don't worry if not as you could still do it indoors.
- Talk to your adult about sharing the science you have done and if they want to share on social media, please tag **@ScienceSparks** and **@pstt_whyhow** and use **#ScienceFromHome**

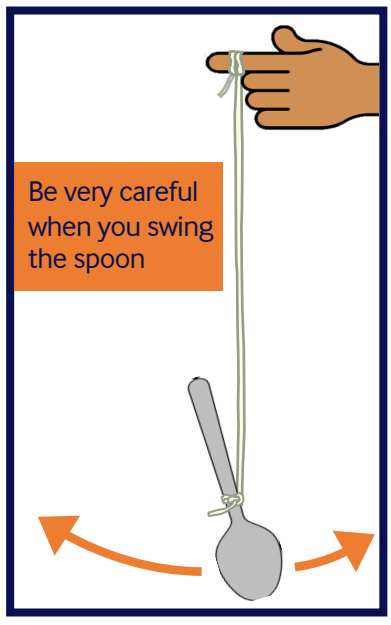
SOUNDS OF SCIENCE

You will need

- String
- A metal and a wooden spoon
- Two paper or plastic cups
- Scissors

1 TRY THIS INDOORS .... SPOON SWING

Tie about 40cm of string to a large metal spoon, near the middle. Wrap the free end of the string around a finger and, after checking that there is nobody in the way, carefully swing the spoon so that it hits against something hard, like the edge of a table, or a door. Then do the same thing again, but this time, before you swing the spoon, put the finger with the string wrapped around it into your ear.



WHAT DO YOU NOTICE?
Things to talk about ...

What was the sound like the first time? What was it like when your finger was in your ear? Why do you think the sound is louder when your finger is in your ear? Does it make any difference if you change the length of the string? What happens if you use a wooden spoon instead of a metal one?

2 TRY THIS OUTDOORS .... PHONE A FRIEND!

You need two people for this activity. Take two paper cups and carefully make a small hole in the bottom of each cup. Take one end of a long piece of string and poke it through the bottom of the cup. Tie a big knot inside the cup so the string doesn't fall out. Repeat this with the other end of the string and the other cup. Give one cup to the other person and stand away from them so the string is tight. Take turns to speak into the cup while the other person is listening.

WHAT DO YOU NOTICE?
Things to talk about ...

What happens if you make the string longer? Or if you use larger containers? Does it make a difference if the string is loose or tight?

3 WHAT IS THE SCIENCE?

Sound has to travel through a material because the vibrations have to be transmitted through particles. In a solid, the particles are closer together than in a gas so sound travels better in solids than in gases. So sound travels better through the spoon, the string and the table or door than it does through air. Sound also travels better through your finger than air so when your finger is in your ear, the sound is clearer or louder. If you were in a vacuum, e.g. outer space, you wouldn't hear anything at all as there is no air, and so no particles to transmit the vibrations.

The string telephone works in the same way. The vibrations are transmitted more easily along the string than through the air so you can hear someone even if they are not close by. If the string is loose, the vibrations don't transmit so easily.

4 MORE ACTIVITIES YOU COULD TRY

MAKE A MINI GUITAR - https://www.science-sparks.com/acoustic-science-sound-absorption-and-reflection/

LEARN ABOUT THE SCIENCE OF MUSIC - https://wowscience.co.uk/resource/chrome-music-lab/

FIND OUT HOW YOU CAN 'SEE' SOUND - https://www.science-sparks.com/how-can-you-see-sound/

Join in with **THE GREAT SCIENCE SHARE** - register for this year's event and take a look at these question maker tools to **SHARE YOUR SCIENTIFIC QUESTIONS!**