

Brontosaurus Learning

Making science fun!

An Experiment about

Sound

Feel The Vibrations



What you will need:

- A balloon

What you will do:

- 1 Blow up a balloon and tie it off.
- 2 Hold the balloon up to your partner's ear.
- 3 Put your lips gently up against the other side of the balloon.
- 4 Talk quietly to your partner. If you can't think of anything else to say, try this:
"Science is the coolest! I love to do science experiments! I wish I could do them every day!"
- 5 Notice what you can hear and feel.
- 6 Now swap and let your partner say something to you.

What is going on?

Your voice is causing a vibration which is creating a sound wave. The sound wave travels through the air to the balloon, through the balloon to the air inside the balloon, back through the other side of the balloon, through the air again and into your partner's ear.

You can hear the sound and feel the vibration through the balloon. Where do you feel it?

Can you feel sound as well as hear it?



Challenges:

- Try the same trick with a piece of paper. Less sound will travel through the paper, but you can feel the vibration the same way.
- Try humming. Can you feel the vibration causing the sound.
- Fill a balloon with water and try the experiment. Explain your results.
- Research how your vocal chords work to produce sound. How do they create vibration? Draw a diagram to explain.

TEACHING NOTES:

Brontosaurus Learning Experiment: Sound S06

Topic: Sound

Suitable for Ages: 5 -12+

Key Concepts:

- ◆ Sound is caused by vibration.

Resources:

- Investigation Record IR01– one copy per student
- Experiment Description Sound S06– one copy per student
- A balloon

Lesson Notes:

Remind students to listen carefully to instructions, and to OBSERVE their experiment.

As a class discuss the experiment prior to undertaking it, and students should complete the sections of their Investigation Report IR01 from "Title" to "Hypothesis".

It is important that the students talk quietly so everyone has a chance to hear.

What should happen in this experiment, and why?

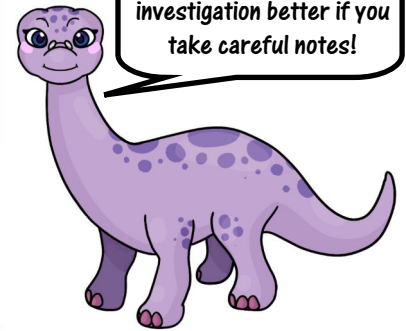
The students should not only be able to hear each other through the balloon, but they should also be able to feel the vibrations of the sound waves passing through the walls of the balloon, both on their lips and on their ear.

Follow up discussion questions:

- How does the fact that the wall of the balloon is so thin help in this experiment? Does it make the vibrations easier to feel or harder?
- In some very noisy places, like airports, sound can cause trouble to buildings. Can you think how?

Photo by Freepik

Investigation Record



Experiment Title:

Scientist (that's you!):

Materials: What will I need?

Investigation—what am I going to do in this experiment?

Diagrams are a great idea!

Hypothesis: What I think will happen:

Observation: What I SAW happen:

Diagrams are a great idea!

From my investigation I learnt:

Great work scientist!