

# Brontosaurus Learning

*Making science fun!*

An Experiment about

## Sound

### Chicken Call



#### What you will need:

- A disposable cup
- A piece of string or wool
- A toothpick
- A piece of damp paper towel

#### What you will do:

1. Pierce a hole in the bottom of the cup just big enough to pass the string through.
2. Thread the string through the hole and then tie the toothpick to end of the string that is inside the cup. Pull the string down until the toothpick is in the bottom of the cup.
3. Wrap the damp paper towel around the string close to the bottom of the cup. Hold the cup in one hand and slide the paper towel along the string with the other. **You have to hold the paper towel quite firmly.**
4. Experiment with moving the paper towel along the string faster and slower and see if you can make it sound like a chicken.
5. Now put your hand inside the cup and try it again. **Does it sound the same?**

#### What is going on?

When you pull the paper towel along the string it makes the string vibrate. The string then makes the cup vibrate, which carries the sound and makes it much louder. When you put your hand in the cup you make it harder for the cup to vibrate so you muffle the sound.

#### Challenge:

- Try rubbing the string with dry paper towel. Does it make a difference? Why?



# TEACHING NOTES:

Brontosaurus Learning Experiment: Sound S10

## Key Concepts:

- Sound is made by vibrations

## Resources:

- Experiment description Sound S10 - one copy per student.
- disposable cups, string, toothpicks, paper towel, water

## Lesson Notes:

Begin the lesson by placing asking your students what noise a chicken makes. The room will suddenly erupt in noise but it will set the tone for this simple experiment.

Demonstrate how to pierce the hole in the cup and how to tie the toothpick to the string that is inside the cup. You might also like to show them how to put their hand inside the cup, but don't pull on the string - let them discover the sounds for themselves.

Before beginning the experiment students should complete the sections of their Investigation Report IR01 from "Title to "Hypothesis".

At the end of the lesson gather the students together again and discuss their results.

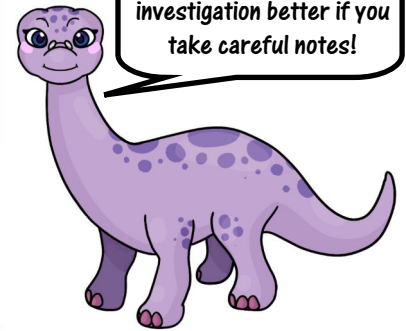
## What should happen in this experiment, and why?

Pulling on the string makes a loud noise because the cup echos and amplifies the vibration and therefore the sound. When you put your hand in the cup the sound should be greatly reduced.

## Follow up questions:

- Can you explain how a bell works?
- Can you explain how the chicken call is like a guitar? [the string vibrates, the sound is amplified by the cup/body of the guitar]

## 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!**