



## TURKEY IN A CUP

### SCIENCE SAFETY

PLEASE follow these safety precautions when doing any science experiment.

- **ALWAYS** have an adult present.
- **ALWAYS** wear the correct safety gear while doing any experiment.
- **NEVER** eat or drink anything when performing any experiment.
- **REMEMBER** experiments may require marbles, small balls, balloons, and other small parts. Those objects could become a **CHOKING HAZARD**. Adults are to perform those experiments using these objects. Any child can choke or suffocate on uninflated or broken balloons. Keep uninflated or broken balloons away from children.

### INGREDIENTS

- Plastic Drinking Cup
- String
- Sponge
- Nail
- Pipe Cleaner

### INSTRUCTIONS

**STEP 1:** Using the nail, push a hole in the bottom of the cup.

**STEP 2:** Thread 3 feet of string, through the hole, in the bottom of the cup, tie a large enough knot, in the string, so the string does not pull through the cup.

**STEP 3:** Holding the cup upside down, wrap a wet piece of sponge, around the string, while squeezing the sponge, pull down in short jerks and observe. Provide evidence that vibrating materials can make sound and that sound can make materials vibrate.

**STEP 4:** Using the illustration of a sound wave, to the right, under “science background,” develop a model of a sound wave with the pipe cleaner. Identify the different parts of the wave.

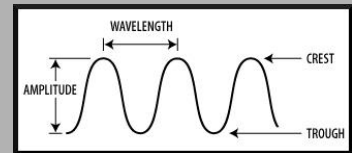
### EXPLANATION

Sound is vibrations moving through matter. Squeezing and pulling the sponge down the string creates vibrations. The cup amplifies the vibrations allowing you to hear what sounds like a turkey.



### SCIENCE BACKGROUND

Sound is vibrations moving through matter. Sound can make matter vibrate, and vibrating matter can make sound. Vibrations cause waves, which have the ability to carry energy from one location to another.



Waves of the same type can differ in amplitude and wavelength. Amplitude measures the height of crests and depth of troughs. Wavelength measures how far apart they are.

### I CAN STATEMENTS

- ✓ I can plan and conduct an investigation to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
- ✓ I can develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.

### NEXT GENERATION SCIENCE STANDARDS CONNECTION

- 1 – Waves: Sound I Cause and Effect
- 4 – Waves I Patterns