



## SOUND BLASTER

### 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

- 18oz Plastic Cup
- Metal Slinky
- Pipe Cleaner

### INSTRUCTIONS

**STEP 1:** Hold the top ring of the metal slinky to the bottom of the plastic cup.

**STEP 2:** Gently swing the metal slinky back and forth, allowing the slinky to hit the floor, and observe.

**STEP 3:** 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.

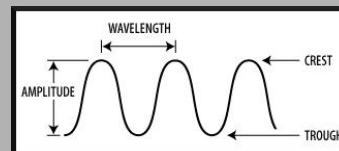
### EXPLANATION

Sound is vibrations moving through matter. As you gently swing the metal slinky back and forth, allowing the metal slinky to hit the floor, it vibrates. Those vibrations move through the metal slinky to the cup. The cup amplifies the vibrations allowing you to hear what sounds like Han Solo’s blaster.



### 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: Light and Sound

4 – Waves

