

SPRINKLES AND GOOD VIBRATIONS ACTIVITY

CAN YOU SEE SOUND?

This activity demonstrates the interactions of vibrations and sound through the movement of small objects.

YOU'LL NEED:

- Cup or bowl
- Rubber band that fits around the cup or bowl
- Plastic wrap
- Resealable plastic baggie
- Colored sprinkles (e.g. nonpareils or jimmies)
- Noise-making object or device:
 - Small speaker or audio/voice assistant-type device
 - Metal baking tray
 - Spoon

HOW-TO:

1. Gather your materials.
2. Turn on your speaker or device and place inside cup or bowl.
3. Stretch plastic wrap tightly over cup or bowl. You'll want it as flat and neatly wrapped as possible.
4. Add sprinkles to your plastic baggie. Seal the bag but leave some air in it. The sprinkles need room to move!
5. Place the bag on top of the plastic wrap on top of your bowl or cup.
6. Make the sprinkles dance! Use the speaker or audio device to play a few different songs, turning the volume up and down. Notice what happens to the sprinkles.

Bonus: Download a tone generator app or site to see what happens when you play different tones.

Alternate:

Place the baking tray near (not touching) the bowl or cup. Using your hand or a spoon, strike the tray to create a noise. Notice what happens to the sprinkles.

- You can also use your own voice. Lean near the bowl or cup and hum loudly and see what happens.
- Variation: You can pour the sprinkles directly on the plastic wrap instead of in a baggie but be sure to place a plate or tray under your bowl or cup to catch the sprinkles that bounce off.

Expansion possibilities:

- Vary the size of the cup or bowl – does that make a difference?
- Do different sprinkle shapes or sizes make a difference?
- Do the sprinkles behave differently when different types of music or tones are played?
- What happens when the noise stops?
- Do the sprinkles behave differently if placed directly on the plastic wrap as opposed to in a baggie?
- Find out how sound is measured.
- Compare this experiment to how our ears hear.

BASIC EXPLANATION:

Anything that vibrates, in this case the speaker or the baking tray that was struck, will make a sound.

A sound wave is a vibration that travels through the air (or another material like our plastic wrap).

In this instance, the sound wave you made makes the surface of the plastic wrap move up and down (the vibrations) causing the sprinkles to gather, move around, or dance.