

Metal Noise Maker

Best for Ages

6+

Workspace

Flat Table

Is electricity required?

No

Description

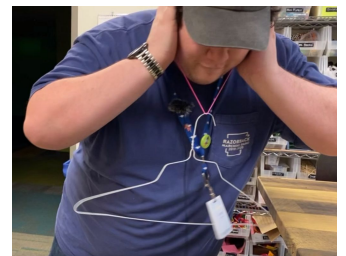
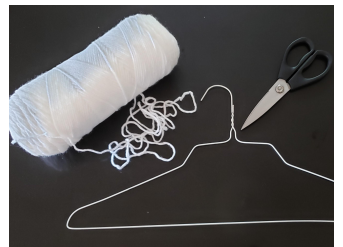
An ordinary metal clothes hanger can make some amazing sounds! In this activity, we will learn how to harness those sounds so only you can hear them!

Materials

- Metal wire clothes hanger (alternatives: metal spoon, fork, or spatula)
- String (alternatives: yarn, fishing line, dental floss, twine, etc.)
- Scissors
- Table (alternatives: wall, door, any hard surface)

What to Do

1. Use your scissors to cut a piece of string 3 to 4 feet long.
2. Loop the string around the hook of the clothes hanger so that you can hold the 2 ends of the strings and lift the hanger.
3. Wrap one of the loose ends of the string around your index finger several times, then wrap the other loose end around your other index finger several times.
4. Now cover your ears with the palms of your hands. Caution: don't put anything inside your ears! Hold your hands tightly against your head.
5. Gently bump the hanger against a table or a wall. What do hear?
6. Try this activity with other metal objects and bump against other surfaces. What do you notice about the sounds?



Concepts Explored

- Sound
- Vibrations

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Troubleshooting Tips

- If you can't hear anything, try wrapping your string around the hanger and your fingers even more. Also adjust the string to be closer to the tip of your finger.
- You can also place your index fingers against your jaw bone right in front of your ears. Be careful not to put anything inside your ears!



What happens if you use a different metal object, such as a metal spoon?

Can you hear the sound without bringing the string to your ears?

Can you use a different object to transfer the sound to your ears?

What is Happening?

- **Sounds** are heard when vibrations reach your ears and stimulate the nerves inside. These nerves then send electrical signals to your brain and you hear sound.
- Sound is created from **vibrations**, and vibrations travel much better through solid objects than through the air. The hanger is making the same sound every time it bumps something and begins to vibrate. Attaching the string to the hanger and bringing it to your ears gives the sound a direct and solid path to travel through.

Taking it Forward

- **Connect this activity to the real world:** All sounds start as vibrations. Look around your home for other sources of sound. Can you identify what is vibrating to make those sounds?
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