

7 Cool Sound Science Experiments for Kids

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When it comes to science experiments, some of the most enjoyable involve the science of sound. If you're looking to dazzle your little learner with exciting new experiments, look no further than simple sound science experiments that use everyday household items to bring sound to life. Let's explore 7 riveting ideas to discover the science behind sound! Watch [educational videos](#) with scientific experiments and show them to your child.



The Classic Paper Cup and String Phone

A much-loved childhood project, the paper cup phone is much more than a fun and old-fashioned way for kids to communicate throughout the house. This elementary sound science project shows kids how sound waves can travel through a string and be converted back to audible sound at the opposite end.

Supplies Needed:

- 2 paper cups
- Long string, like fishing line, kite string
- A sharp pencil or needle to poke holes in the cups
- Scissors

What to Do:

1. Start by cutting a long piece of string of at least 50 feet.
2. Poke a small hole at the bottom of each cup.
3. Using each end of the string, thread it through the bottoms of the cups, tying a large knot so that the string does not fall out of the cup. If you make the holes too large, use a washer or paper clip to hold the string in place so that it does not pull out of the cup.
4. Move into position and encourage your child to move away from you so that the string is far enough to make it tight. Be sure that the string does not touch any other object and that it remains suspended in air as you complete the experiment.
5. Taking turns, talk into the cup, while the other person listens by putting the cup to their ear. Tell your child to repeat what he or she hears after you have spoken and do the same in return!

After the experiment, explain to your child what is happening: sound waves created by talking through the cup travel through the line to the other end, converting back to sound on the opposite side!



Make Music with a Straw Pan Flute

Perfect for younger children, the following sound waves experiment not only involves creating a fun musical instrument your child could play with, but teaches kids how length can affect the pitch of sound waves.

Supplies Needed:

- At least 9 or 10 straws, more if desired!
- Scissors
- Clear gift wrap tape

What to Do:

1. Take the straws and line them up side-by-side and cut them at an angle at the top.
2. Tape the straws together to make a pan flute.
3. Instruct your child to blow through the straws. Which straws make higher and lower pitches? Why?

Feel free to use more straws and experiment with different lengths to produce different pitches and sounds! Ask your child to explain what happens to the sound the shorter a straw is cut, and create double pan flutes to make harmonies to further explore how length alters the pitch.

Listen to Sounds Travel Underwater

Sound travels well through air, but it travels even better through water! This easy sound experiment for kids can be done in a jiffy out on the back porch.

Supplies Needed:

- A bucket filled with water
- A large plastic water or soda bottle
- At least 2 kitchen knives
- Scissors or sharp knife to cut the bottle

What to Do:

1. After filling the bucket with water, take a sharp knife or kitchen shears and help your child cut off the bottom of the plastic water bottle. Be sure that the cap is taken off of the bottle.
2. Instruct your child to place the bottle in the water so that the cut bottom is in the water. Your child will then put his or her ear to the top of the bottle to listen.
3. Using the kitchen knives, clang them together to make a sound, but do this in the bucket as your child is listening. What does your child hear?

Your child has probably noted that the sound of the clanging is loud and clear. Water travels faster through water than in the air, and animals that live underwater are able to hear sound clearly. Discuss the results with your child, to teach him or her more about the conduction of sound waves through water.

See the Sound

Sound vibrations travel through air, water, and even solid objects, but it's not possible to see the waves. What if we could see the waves in another way? This science of sound experiment makes sound more visible by forcing objects to react to the sound vibrations.

Supplies Needed:

- Empty clear mixing bowl
- Plastic wrap
- Large rubber band
- Sugar crystals- Sugar in the Raw works great, or make sugar crystals in another science experiment!

What to Do:

1. Wrap a sheet of plastic wrap over the mixing bowl so that it's taut, and secure with the large rubber band. Be sure that the plastic wrap is tight and does not sag.
2. Place a few of the sugar crystals on the top of the plastic wrap, placing them in the middle of the wrap.
3. Instruct your child to get close to the sugar crystal and say something loudly! What happens to the crystals? Do they move?
4. Experiment with louder and softer words or sentences to watch the sugar crystals react to the sound vibrations!

While your child might think it's his or her breath making the crystals jump and move, but it's actually the sound vibrations. Try different sounds besides ordinary speech and see how the crystals come to life!



Watch on [YouTube](#)

Make a Stick Harmonica

Making musical instruments are easy and fun, and they teach kids about sound waves and pitch. This experiment is much like the pan flute above, but kids can alter the pitch by sliding the straws without reassembling the harmonica.

Supplies Needed:

- 2 large craft sticks
- 1 wide rubber band
- 2 smaller rubber bands
- 1 plastic drinking straw
- Scissors

What to Do:

1. Using the scissors, cut the straw into 2 one-inch pieces and set aside.
2. Take the wide rubber band and stretch it length-wise around one of the jumbo craft sticks and place one of the straw pieces under the rubber band, close to the edge on one end.

3. Take the other craft stick and place it directly on top of the craft stick with the rubber band. Secure them together at the ends using the small rubber bands.
4. Finally, take the last piece of straw and place it in the harmonica between the sticks on the opposite end from the other, but this piece should be fit above the wide rubber band instead of below it.
5. Encourage your child to play the harmonica by blowing in the center of the harmonica! Explore different pitches by moving the straw pieces!

After playing the harmonica, don't forget to complete the sound experiment by talking about the mechanics of the harmonica. The vibrating rubber band makes all the noise, and the closer the straw pieces are to the center of the harmonica, the higher the pitch will be due to the shortened length of the band!

Experimenting with Sound Waves

It might be hard to imagine that sound waves can travel through solid objects as well as through the air. This simple but exciting sound waves science activity will demonstrate for your child how sound can and does indeed travel through solid objects!

Supplies Needed:

- Metal kitchen spoon- a large metal measuring spoon works great!
- At least 30 inches of kite string

What to Do:

1. Stretch out the string and tie the handle of the spoon in the middle of the string.
2. Take one end of the string and tie around your child's pointer finger. Do the same using the other end, but tie this string around the pointer finger of your child's opposite hand.
3. Instruct your child to put his or her fingers, with the string wrapped around each, into their ears.
4. Help your child lean over so the spoon dangles and help him or her swing the spoon so it hits a nearby door or wall.
5. Hit the door or wall again, but this time with more force. What does your child hear?

Your child should hear a bell-like sound travel up the string from the spoon and into their ears. Discuss with your child how the sound waves created from the spoon hitting the door moves through the string until he or she is able to hear it!

Xylophone Water Jars

Musical instruments are so much fun to make! This sound activity teaches children how varying levels of water in containers change the pitch of the sound created.

Supplies Needed:

- 4 empty and clean baby food jars
- 4 different colors of food coloring
- Water
- Mallet

What to Do:

1. Help your child fill each jar with varying amounts of water.
2. Add a few drops of food coloring to each jar.
3. Using the mallet, instruct your child to firmly tap the outside of each jar. What sounds are being made? Which jars have the highest or lowest pitch?

Encourage your child to hypothesize why some jars emit a lower sound, while others are higher. Play around with the water levels in each jar and experiment with pitch!

Learn Science with Kids Academy Classroom!

Use this interactive Classroom by Kids Academy called [Sound is All Around Us](#) to teach first graders the basics of sound science. [OPEN THE CLASSROOM.](#)

3/3 Great! Share the code with your students.

Classrooms list Your students must use this code to enter the Classroom:

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Code expires in: 00:59:51

COPY JOIN LINK

14:00 min

1st 4:00 min

2nd 3:00 min

3rd 3:00 min

4th 4:00 min

Video

Worksheet: Vibrations and sounds

Worksheet: Basics of Sound - KIDS

Quiz

After clicking "Next", you'll find a set-up lesson with an educational video, accompanied by practice worksheets and summary quiz to help kids better understand and remember the learned material.

Equipped with our extensive learning resource library, Kids Academy Classroom allows teachers and parents to create lessons and share them with the young smarties in a couple of clicks.

Go directly to the [Classroom page](#) and create a quick classroom on any topic you want! After students complete the lesson, you'll get access to a report about their performance. Check out our [Classroom Guide article](#) for more information!

Now that you have 7 cool ideas for exciting sound science experiments, it's time to get started! Your child will love learning all about the science of sound and the endlessly fascinating ways sound waves can travel through air, water, and objects. Don't forget to check out our [science worksheets and activities](#) to supplement your child's learning in between all your child's experiments!

[Play & Learn Science](#)