

Cup and String Phone Investigation

You will need:

- 2 paper cups
- Long 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.
2. Poke a small hole at the bottom of each cup.
3. Using each end of the string, thread it through the bottom 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 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!

See the Sound

You will need:

- Empty clear mixing bowl
- Cling film
- Large rubber band
- Sugar crystals

What to Do:

1. Wrap a sheet of cling film over the mixing bowl so that it's taut, and secure with the large rubber band. Be sure that the cling film is tight and does not sag.
2. Place a few of the sugar crystals on the top of the cling film in the middle.
3. Get close to the sugar crystals 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!

Experimenting with Sound Waves

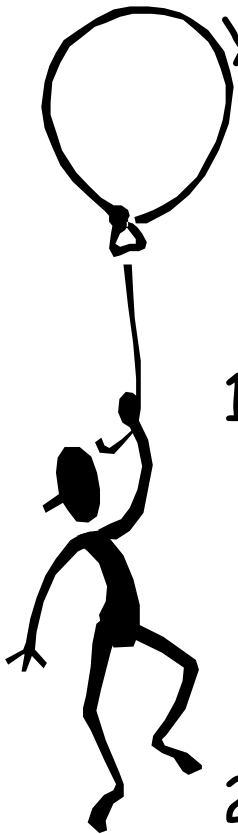
You will need:

- Metal kitchen spoon
- A piece of string

What to Do:

1. Stretch out the string and tie the handle of the spoon in the middle of the string.
2. Hold each end of the string up to your ears.
3. Lean over so the spoon dangles and swing the spoon gently so it hits a nearby door or wall.
4. Hit the door or wall again, but this time with more force.
What do you notice?

Balloon Voices Investigation



You will need: Balloon
Scissors
Cardboard tube

1. Carefully cut off the neck of the balloon using scissors and throw it away.
2. Stretch the rest of the balloon over one end of a cardboard tube
3. Gently place one finger on the balloon, and talk down the cardboard tube. Can you feel what is happening?



Rice Drum Investigation



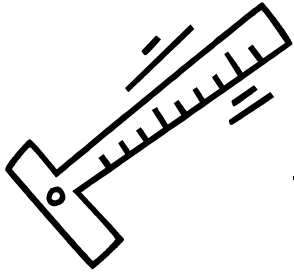
You will need: Drum
 Rice

1. Place one hand on the drum and strike it with the other. How does it feel?
2. Pour a little rice onto the drum.
3. Strike the drum gently.
4. Can you see what happens?
5. Strike the drum a little harder?
6. Do you notice a difference?

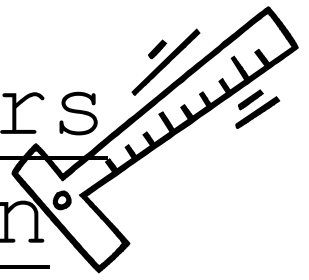


You will need: Five bottles
 Pencil
 Water

1. Half fill one bottle of water and blow gently across the top.
2. Fill the other 4 bottles to different levels and blow across the top of them also.
3. Repeat the experiment by tapping the bottles.
4. What do you notice?



Twanging rulers Investigation



You will need: 30cm plastic ruler
Table

1. Hold one end of the ruler firmly near the edge of a table and 'twang' the other .
2. Change the length of the ruler, by making it longer or shorter.
3. Listen to the change of the 'twang.'



Tapping Spoons Investigation



You will need: Jug

Two spoons

Water

1. Tap the 2 spoons together above the water. What type of noise do they make?
2. Tap the 2 spoons together under the water.
3. Can you hear anything?
4. Is the sound the same?



Clapping Investigation



You will need: Chair

Partner

1. Work with a partner
2. Sit on a chair with your eyes closed tight.
3. Your partner must choose to stand somewhere in the room.
4. Your partner should clap.
5. You must point to where you think the noise is coming from.
6. Practise a few times, before swapping with your partner.