

Water Xylophone

Use water to play music in a jar!

Big Idea

Different levels of water in a jar or cup will create different sounds of different pitches.

Standards

6.D Compare quantities using appropriate vocabulary terms.	Children will compare the quantities of water as they measure & test their jars.
7 Explore measurement of objects and quantities.	Children will measure the amount of water in each jar and how it effects pitch.
8.A Explore objects and patterns.	Children will explore patterns through musical notes & colors.
11.A Develop beginning skills in the use of science and engineering practices, such as observing asking questions, solving problems and drawing conclusions.	Children will observe and explore what happens when they add more or less water to jars.

Materials

- 6-8 Glass jars, coffee mugs, metal tumblers, etc. (plastic will not work for this experiment)
- Water
- Pencil, spoon, straw, chopstick, etc.
- Small measuring cup
- Food coloring (optional)
- Towel for spills

Setup

This activity can be done on the floor or at a table. Place a towel nearby for spills

Directions

1. Line up empty jars. Decide which end will have the most water and fill the jar most of the way.
2. Use the measuring cup to gradually add more water into each jar until you reach the end that is full.
3. Add food coloring if desired to make a colorful pattern.
4. Carefully tap each jar with pencil or object chosen to be used as a mallet. **Q.** How does the water sound as you tap from end with most water to least water or vice versa?
5. Provide plenty of time to play music.

Activity Extension:

Try to figure out how to play a familiar song. Or experiment with adding more water or taking water away. What other containers can be used to make a water xylophone? If using food coloring, what new colors or patterns can you make?

Investigation Questions:

- Q. How do the jars sound different?*
- Q. Why do you think the jars sound different?*
- Q. What happens if you add more water to a jar?*
- Q. What happens if you take water away from a jar?*

Vocabulary

Amplitude: the intensity or loudness of a sound

Pitch: also called frequency, is the number of sound waves something produces in one second

Vibration: when something moves back and forth quickly

Volume: the amount of space that a substance or object occupies, or that is enclosed within a container