Design a Great Glass Xylophone!

This amusing activity incorporates music into an educational science experiment! Your child will love learning about sound waves as he makes and plays sweet-sounding melodies on his very own glass xylophone. He'll delight in exploring the effect of varying amounts of water in each glass, and will get to make up some enchanting tunes at the same time!

What You Need:

- 6 tall glass glasses, bottles, or jars (preferably the same shape and size)
- Water
- Food coloring or colorful soft drink mix
- Metal spoon, wooden spoon, or wooden popsicle sticks
- Jug

What You Do:

1. Get your child to line up the bottles or glasses in a row.
2. Ask your child to tap gently on each of the glasses. What sort of sound is created? Do the glasses all make the same sound?
3. Put the water in the jug and get your child to mix in the food coloring or drink mix.
4. With your child, carefully pour the water into the glasses, making sure there is a different level of water in each glass.
5. Get your child to tap the glasses again. What sort of noise do they make now? Do all of the glasses make the same sound now?
6. Encourage your child to vary the tones by changing the amounts of water.
7. Invite your child to play a tune! Adjust the musical notes that are created by adding more or less water to each glass.

What's Going On?

When your child taps the glasses, he generates sound waves that travel through the water. When there is water in the glasses, the sound waves are altered as they need to travel through water. The more water is present in a glass, the lower the sound note.

Variation:

If you are using bottles for this activity, get your child to blow into the bottle and to listen to the sound produced. Are they the same or different from the sound he gets when he taps the bottles? He might be surprised, as the result is the opposite. The more water in the bottle, the higher the note. This is because the sound waves created when the bottle is blown travel through the air rather than the water. The less water present in the bottle, the more air there is!