

Play the Rainbow to Explore Acoustics

Do you have a budding musician on your hands? Does your child love to sing, make up rhythms, or perform? Have him create his own outdoor concert that will be a feast for the eyes, as well as the ears. In this activity, your child will fill jars with varied amounts of water to learn about acoustics, and practice mixing colors to form a rainbow of colors and sounds. Discussing how the amount of water in the jar changes the pitch and sound of the music also makes for an interesting and educational exploration of early science concepts with your child!



What You Need:

- 6 clean glass jars
- Measuring cups
- Water
- Red, blue, and yellow food coloring
- Metal spoon

What You Do:

1. Help your child to fill each jar with different amounts of water starting with one cup in the jar number one, two cups in the jar number two, and working your way up to 6 cups in the final jar.
2. Next, create the rainbow. You will need red, blue, and yellow as colors in the rainbow and also to mix and create the remaining colors of the rainbow. Have your child add a few drops of red to jar number one, yellow to jar number three, and blue to jar number five. Now the science begins. To make the remaining three colors of the rainbow, two colors must be combined. Ask your child which colors must be combined to make orange, green, and purple.
3. In jar number two, add a few drops of red and yellow food coloring to make orange.
4. In jar number four, add a few drops of blue and yellow food coloring to make green.
5. In jar number six, add a few drops of blue and red food coloring to make purple.
6. Now that you have created a beautiful rainbow of color, its time to incorporate sound. Set up on a flat surface outdoors, and have your child gently tap each jar using the spoon. Talk to your child about what he hears. Are the sounds the same pitch, or different? How does the varied amount of water change the sound of each jar? Are the sounds high or low when they have small amounts of water compared to large amounts of water?
7. Challenge your child to play a song on the jars. Try Old MacDonald Had a Farm, B-I-N-G-O, or another simple kids' favorite.

For a full afternoon of fun and sound experimentation, let your child compose his own tunes, imitate a rhythm from an adult clapping or stomping, incorporate a CD in the background, and watch him play a rainbow to his heart's delight!