RAFT IDEAS

Topics: Sound, Waves, Senses (hearing)

Materials List
- ✓ Opaque, plastic bottles with lids
- ✓ 10 - 20 beads
- ✓ 10 – 20 small bits of plastic
- ✓ 4 – 6 pieces of rubber
- ✓ Permanent marker

This activity can be used to teach:
- Senses (Next Generation Science Standards: Grade 4, Life Science 1-2)
- Sound (Next Generation Science Standards: Grade 1, Physical Science 4-1, 4-4)
- Science & Engineering Practices (Next Generation Science Standards: Grades K-4)

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Sound Shakers

A sensory activity for Young Learners

This activity gives pre-school age children an opportunity to explore sounds by matching up containers that contain a variety of objects. All people learn in different ways. This activity appeals to both auditory and tactile learners. It helps develop gross motor skills and encourages attention to detail.

Assembly

1. Place 5 - 10 beads inside a plastic bottle and seal it shut.
2. Make another plastic bottle exactly the same, so that there is a pair of bottles with beads.
3. Repeat steps 1 and 2 using small bits of plastic and pieces of rubber. The end result is 3 pairs of bottles that make the same sound when shaken.
4. Label the top of each cap with a different, simple shape (or place a different color sticker) on each cap for identification.

To Do and Notice

1. Allow students to explore the different sounds produced by the bottles when they are shaken.
2. Challenge the students to find the matching pairs of bottles based on the sounds that they produce.

The Science Behind the Activity

Sound is caused by vibrations that travel in compression waves through the air (the medium) and into the ear. Once hitting the eardrum, the sound is sent to the brain's auditory cortex where it is analyzed and interpreted. Objects make different sounds (louder, higher pitch, etc.) because of their size, density, and intensity of collisions. By listening carefully to sounds, children develop their sense of hearing in the same way that handling small objects develops fine motor skills. By matching up bottles into pairs, students are also thinking scientifically: gathering data on each bottle and analyzing the data to answer a question.

Taking it Further

- This activity can be used as a science center or as a group activity.
- To make this activity more challenging, make more bottle pairs. Good objects to include in the bottles are rubber balls, water, flour, rice, paper clips, packing peanuts, and other small, common items from around the house or classroom.

Web Resources (Visit www.raft.net/raft-idea?isid=397 for more resources!)

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