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SOUND OF AN ORCHESTRA

RASCAL'S RIVER
Creative Expression

THE ADVENTURE:

How can you create sounds that have different pitches and different strengths? Make your own instrument and use it to create your own orchestra!

PLAN:

- Do you want to do this adventure inside, outside or at camp?
- What do you know about how sound is made?
- Where will you get the containers to make your instruments?
- For some of the activities, you will be in small groups. How will you form your group?

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DO:

Activity #1: Dancing water:

- Cover the subwoofer with plastic and pour water into the plastic.
- Turn the subwoofer on and watch the pattern on the water.
- What happens when you change the volume? The frequency?

Activity # 2: Different vibrations, different sounds:

- Try to make different sounds with the instruments you have available. What is vibrating to make the sound in this instrument?
- Think about other sounds you hear around you during the day. What is vibrating to create those sounds?

Activity # 3: Water Orchestra:

- Use a spoon, pen, marker or other stick-like object to tap the glasses when they are empty. Add some water to the glasses, and tap them again. What do you notice? How is the sound different?
- What happens if you change the amount of water in the glass?
- Explore different amounts of water and different sounds. Can you play a song on your water instrument?

Activity # 4: Rubber band guitar:

- Use rubber bands of different sizes to create a guitar out of a box.
- What do you notice about the sound of each rubber band?
- Create a guitar that has five (or more) different pitches.

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REVIEW:

- What do you know now that you did not know before?
- How did you change the sounds made by the glasses? How did you change the sounds made by the rubber bands?
- How else do you think you can build new musical instruments?
- What elements of STEM were in this adventure? Science? Technology? Engineering? Mathematics?
- What did you like about this adventure? What did you not like about it? How would you do this adventure differently?

MATERIALS:

- Subwoofer or large speaker
- Plastic wrap
- Water
- Musical instruments (Brass, string, and percussion instruments if possible)
- 5 glass bottles or glasses for every group of 4–5 Beavers
- Rubber bands of different thicknesses
- Plastic containers, shoeboxes or other cardboard boxes; one for each Beaver
- Sticks to play the glasses (spoons, pens, pencils, etc.)

ONLINE RESOURCES:

- **Fun with water and a speaker**
- **Dancing Oobleck: Cornstarch and Water**
- **Sound and Vibration**
- **Glass bottle music**
- **Rubber band instrument**