

The Physics of Music

Grade Level: K-2

Content Areas: Music, Art, Science

Timeframe: 60 Minutes

MATERIALS

- The Physics of Music series books and music
- Empty oatmeal canisters or plastic containers with lids
- Pencils with erasers (2 per student)
- Ukulele or guitar

OBJECTIVES

STUDENTS WILL:

- Learn how different families of instruments make sounds that we can hear
- Practice using different strikes to make sounds as on a percussion instrument
- Create their own instruments using different materials (extension)

KEY VOCABULARY

Before reading, focus on new vocabulary. Read the glossary terms and their definitions.

percussion instrument—an instrument played by being struck

pitch—how high or low a musical note sounds

stringed instruments—instruments with strings that vibrate to make sound

vibrate—quickly move back and forth

waves—movements of vibrating air that carry sound

FREE MUSIC!

Scan our QR code to download or stream the songs from The Physics of Music.

Find even more Cantata Learning books and songs at cantatalearning.com.



LESSON PROCEDURE

PREPARATION:

Prepare materials ahead of time. Gather students where they can see you. Tell them they are going to learn about how different instruments make sound. Start the lesson by reading *Buzzing Breath*.

ACTIVITY:

1. After reading *Buzzing Breath*, demonstrate making a buzzing sound with your lips. Explain that this lip shape is called an embouchure. Ask students to try making buzzing sounds with their lips too.
2. Next, read *Striking Sounds*. Listen to the song too. Explain to students that the percussion instruments make the beats in the song. Ask students to describe the beat sounds they hear. Are they loud or soft? Are they booming or tapping sounds?
3. Distribute the oatmeal canisters or plastic containers with lids and pencils. Tell students that the containers are their drums and pencils are their drumsticks. Let students experiment with making different kinds of sounds with their drums. Suggest that they use different parts of their hands, the tip or eraser of a pencil, their fingertips, or hard or soft hits.
4. Next, ask students to make a beat pattern using the different sounds they just discovered. Demonstrate a pattern. Explain that it repeats a set of different beats. Have each student perform his or her beat pattern to the class.
5. Now move on to *Swaying Strings*. Show students the cover. Ask them to predict how string instruments make sound.
6. Strum the ukulele or guitar. Ask students: What happens to the strings? Explain that the strings on a stringed instrument vibrate when you play them.
7. Read *Swaying Strings* and play the song. Tell students to sway back and forth whenever they hear the words “vibrating strings.” Do they bump into each other? Explain that this is a bit like how strings make sound. They sway back and forth and push on the air around them.
8. Finish by reading *Tuneful Tubes* and playing the song. Ask students to name the instruments they see as you read the book.

LESSON EXTENSIONS

Makerspace Extension:

Set out different materials students can use to create their own unique instruments. Here are some ideas for materials: cardboard tubes and canisters, rubber bands, yarn, hole punches, plastic eggs, dried beans, shoeboxes, craft sticks, paper plates, bells, glue, tape, scissors, markers, etc. Ask students to make an instrument that has to be hit, blown into, or strummed to be played. Provide some examples of instruments they can make, such as plastic egg maracas or a paper plate tambourine. When students are finished making their instruments, have them form small bands of 3-4 students. They can make a song together using their instruments. Then each band can perform its song to the class. Students can record their songs or even make music videos!

Writing Extension:

Have students break up into groups. Give each a bowl with its top tightly covered in plastic wrap. Distribute a teaspoon of rice, cookie sheet, and metal spoon to each group. Ask students to place uncooked rice on top of the plastic wrap. Have one student hold the cookie sheet near to the bowl, but not touching it. Another student should hit the cookie sheet. Students should watch what happens to the rice. It moves as the plastic wrap vibrates because of sound waves. Students can experiment making louder and softer sounds to see how the rice moves differently.

STANDARDS ALIGNMENT

Kindergarten: CCSS.ELA-LITERACY.RI.K.7, CCSS.ELA-LITERACY.RI.K.10, CCSS.ELA-LITERACY.RF.K.1, CCSS.ELA-LITERACY.RF.K.2.A, CCSS.ELA-LITERACY.RF.K.3, CCSS.ELA-LITERACY.RF.K.4

First Grade: CCSS.ELA-LITERACY.RI.1.10, CCSS.ELA-LITERACY.RL.1.7, CCSS.ELA-LITERACY.RF.1.2, CCSS.ELA-LITERACY.RF.1.3, CCSS.ELA-LITERACY.SL.1.5

Second Grade: CCSS.ELA-LITERACY.RI.2.7, CCSS.ELA-LITERACY.RF.2.3, CCSS.ELA-LITERACY.RF.2.4, CCSS.ELA-LITERACY.SL.2.5, CCSS.ELA-LITERACY.L.2.3

