

STEM Camp; Sound



Grade Level: Kindergarten-2nd

2.1.1.2.1 Raise questions about the natural world.

Central Focus

Students will be learning about pitch, volume, and vibrations in sound. While doing so they will be exploring instruments and other objects that make sound. Afterwards students will be able to make their own instruments using materials provided.

Essential Questions

What is sound?

How can I be an engineer and create my own instrument?

Content Objective: Students will be able to identify different sounds of nature.
Students will be able to generate a list of materials that make sounds.

Language Objectives: Students can listen for sounds of nature.
Students will be able to produce sound using different materials.

Academic Language

- Pitch
- Volume
- Instruments
- Vibrations
- Sound
- Kazoo
- Tuning fork

Materials

- **Day one:** Pool noodles, Sound Journal, and pencil.

- **Day two:** Pool noodles, Sound Journal, pencil, tuning fork, *Sound: Loud, Soft, High, and Low by Natalie Rosinsky book*, string, straws, and scissors.
- **Day three:** Pool noodle, sound journal, pencil, color pencils, coloring music sheet, examples of musical instruments, and music from YouTube.
- **Day four:** Pool noodle, sound journal, pencil, color pencil, Kleenex box, rubber bands, plastic Easter eggs, paper towel tubes, plastic silverware, paper plates, tape, stapler, dried beans and anything else needed to make their instruments.

<u>Activity Description/Teacher Does/Teacher Talk</u>	<u>Students Do</u>
<p style="text-align: center;"><u>Day one:</u></p> <p><u>Content Objective:</u> Students will be able to identify different sounds of nature. Students will be able to generate a list of materials that make sounds.</p> <p><u>Language Objectives:</u> Students can listen for sounds of nature. Students will be able to produce sound using different materials.</p> <p><i>1. Students will first introduce themselves. Have the students turn to the person next to them and say their name and their favorite music (pop, rock, country, etc..) Then have the students go around in a circle saying their name and their favorite music in a full group setting.</i></p> <p><i>2. Talk about sound. Have the students cover their eyes and listen for noise in the room. Have them keep those thoughts to themselves. Have them share with the person next to them what sounds they heard while listening. Bring the group back together and then have them share what they heard to the group. *Discuss how we hear sounds everywhere* Talk about how sound is a type of energy that allows us to hear. Sound is made when an object vibrates, or moves back and forth very quickly. The vibrations move away from the object and cause other things to vibrate. In this way, sound travels through air, water, and even objects.</i></p>	<p>Students will need to introduce themselves to the group.</p> <p>Will listen for sounds inside the classroom/school and listen to the discussion about sound.</p>

3. Talk about sounds and instruments and tell the students that they will be able to drum on their desk with pool noodles. (Like a drum set)

Discuss rules with the pool noodles.



Bring out pool noodles and show how to use the noodles to create sound on their table top. Have students grab their own pool noodle and try it out on their desk for a couple minutes. Have them stop and show them how to play it on beat with a song. *put on song* bang the noodles on the table top with the beat of the sound. Then have students join in. After playing a different song, have the students follow along again with the beat. *On youtube Kent Hamilton as great videos for this* Put noodles away and discuss the sounds and vibrations they made on the desk. Discuss how they will now be looking for sounds outside.

3. Talk about how we listened to noises in the room earlier and how we are going to be doing this outside this time.

Explain rules for the walk "Stay in line and whisper level"

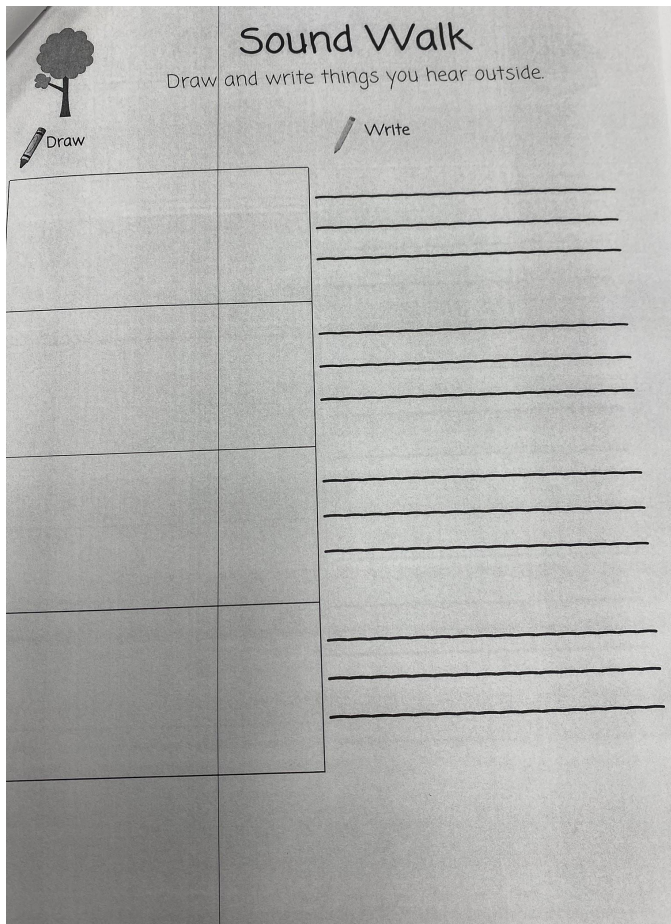
4. Have students line up and go for a walk. While going for the walk have them stop and listen for sounds periodically.

5. When students get back from their walk, have them go to page one in their sound journal. On the smart board guide them through the first box. "I heard lots of noises outside. One

Drum with the pool noodles making sure to follow the rules.

Students will go for a walk making sure to listen for sounds and to remember them to write down in their journal when they get back.

of the things that I remember is a bird. *draw a bird and write the name on the board.”



6. After have, them talk to the person next to them about the sounds they heard outside for the second box.

7. After, have the students fill out the last box on the page by themselves. * Help students who still need help during this time*

8. When students are done they can color in their drawings in their journals on page 1.

If you have extra time, play with the pool noodles again.

First listen to the teacher and fill out the first box on page one. Then fill out the second box with a partner. Finally, fill out their own box.

<p>Assessment: Students will be able to identify and recognize sounds in the classroom and sounds outside.</p>	
<p style="text-align: center;"><u>Day 2</u></p> <p>Content objective: Students will be able to identify between volume and pitch. Students will be able to identify what creates sound.</p> <p>Language objective: Students can explain what creates sound. Students can explain the difference between pitch and volume. Students will be able to produce sound using instruments.</p> <p><i>1. Start the lesson with another introduction. *get to know them game*</i></p> <p><i>2. Ask students if they remember the sounds they heard the first day on the walk and inside. “Today we will be learning more about sounds.”</i></p> <p><i>3. Take out the book and read a book called Sound: Loud, Soft, High, and Low by Natalie Rosinsky.</i></p> <p><i>4. Read the book and discuss the terms that sound familiar (sound, pitch, volume, and vibration) Talk about how sound is invisible. It is made when something is vibrating. Something that is making sound can cause other things to vibrate. When something is vibrating, we can sometimes feel the movement.</i></p> <p><i>5. Write a friendly definition of each word on the board and an example with it.</i></p> <p><i>6. Discuss “Today will be splitting into two groups. In group number one they will be looking at kazoos and in group number two they will be learning about a tuning fork.”</i></p> <p>Group 1 Kazoos station:</p>	<p>Students will introduce themselves for a review of names.</p> <p>Listen to the book and discussion about vibration, volume, pitch, and sound.</p> <p>Students will listen to rules about each station. Then go to the station and do the activity.</p>

This group will be playing with the kazoos. After playing with the kazoos students will be able to make their own kazoos with a straw. They will be able to practice blowing into the straw.

Directions on how to make the straw back of lesson plan

Group 2 Vibration station:

Tell students to put their hand on their neck and say hello to the person next to them. Ask them if they feel the vibration. Explain vibration creates sound. Introduce the tuning fork and explain that musicians use this to help tune their instruments . Allow each student in the group to hold the tuning fork so it is close enough to their ears. (You can do this with the string as well). Next, have one student in each group strike the tuning fork on the table and put it in the bowl of water. Observe and talk about what they feel when they do that.

6. Come back together as a full group and discuss

What caused the tuning fork to make sound?

The tuning fork made a sound when we hit it on the table. It made the tuning fork vibrate really fast.

Why were you able to see the water moving when the tuning fork was in the water?

The tuning fork made the water vibrate because you hit the tuning fork on the table and then placed it in the water making it vibrate.

Why can we sometimes feel and see sound?

sound is invisible. It is made when something is vibrating. Something that is making sound can cause other things to vibrate. When something is vibrating, we can sometimes feel the movement.

First ask questions, then students can turn and talk to the person next to them, then share with the whole group.

7. End with talking about how tomorrow they will be able to start to think about an instrument they want to make.

Students will take part in the discussion doing turn and talks and answering with the whole group.

<p>Assessment: Listen to the conversations with the questions at the end of the lesson. Look at the first page in the sound journal to see if each student filled it out correctly.</p>	
<p style="text-align: center;"><u>Day 3</u></p> <p>Content objective: Students will be able to identify and explain the terms vibration, pitch, and volume. Students will be able to generate ideas for a musical instrument.</p> <p>Language objective: Students can explain why an instrument makes the sound it makes. Students will be able to produce and draw an instrument using materials given.</p> <ol style="list-style-type: none"> 1. <i>Have another instruction/game for the students. Then talk about the plan for the day.</i> 2. <i>Get students excited by doing the pool noodle drumming from the first day. *One song*</i> 3. <i>Talk about pitch, volume, and vibration. *Show examples from the book* and discuss each one and the examples from yesterday.</i> 4. <i>Play different sounds from the computer and ask students to identify if it is high or low pitch. Discuss the difference. When doing this, have students jump if the pitch is high and sit if the pitch is low. *Do this with a couple of songs*</i> 5. <i>Play different instruments and talk about how many different instruments there are. *Show this through a book or computer.*</i> 6. <i>Have students do a turn and talk about their favorite instrument they saw. Share out to the whole group after.</i> 	<p>Play the game as a class.</p> <p>Students will drum with their pool noodles for a song.</p> <p>Listen and jump to different music and discuss if the pitch is low or high.</p> <p>Listen and look at the different instruments.</p> <p>Think about what they will be making</p>

7. Introduce to the students that they will be creating their own instruments tomorrow.

Discuss the process: "I need to think about my favorite instrument I saw when looking at the instruments. Then I will look at the materials I have and see if I can make it with those materials. Then I will draw and write my plan."

Do this step by step with the students and show examples along the way.



8. After, have students turn and talk to the student next to them and tell them what they will be making.

9. Then have students go to page number 2 in their sound journal and have them start to fill out what they need to make their instrument. *go around and help students that need help at this time*

My Plan

Draw

This is what my instrument will look like.

Write

I will need these materials to build my instrument:

1. _____
2. _____
3. _____
4. _____

for their instrument tomorrow.

Fill out page 2 in the sound journal about their plan for their instrument they will be making.

10. Give students the rest of this time to work on this page. If students finish early they can take a coloring music sheet to color.

Assessment: Look at students who finished the “My plan” page in their sound journal.

Day 4

Content objective:

Students will be able to identify the difference between volume and pitch.

Students will be able to identify what makes sound.

Language objective:

Students will be able to create different pitches and volumes.

Students will be able to produce sound using instruments.

1. First thing to start with is a go noodle or any game to get the students excited. (You could also start with the pool noodle instead)

2. Review what they have learned so far the last couple days. (Volume, pitch, and vibration)

Discuss what is the difference between pitch and volume.

3. Turn to the last page in the sound journal and show how to fill out the last page and discuss as a whole group the steps for their final instrument.

4. Talk about rules on the materials. "Here are the materials you can use, only grab what you need. Things that you don't need do not take. Put things back that you do not use."

5. Have students look at their sound journal and talk with the person next to them about what they have planned.

6. Next, have them grab all the materials they need calling them up one by one.

Have students work independently while they create their instruments .

7. Once students are done they will fill out their last page in the sound journal.

8. After most/ all students are done, have each student share their instrument with the class.

Students will start by playing a game.

Students will listen to the review with information from the previous day. Then follow along on how to fill out their last page in their sound journal.

Students will share with their partner their sound journal plan for the day.

Will create their own instrument using the materials provided. When done students will fill out their final page in their sound journal.

9. Have all students play their instruments and have them try to do soft and high pitches.


10. Have students do a self-assessment for the end of the lesson to see how they felt about the whole lesson about sound.

Students will be able to take their instrument home with them.

Assessment: Look at students' finished instrument and final page in their sound journal.

Students will fill out the self-assessment.

How I Feel About Today's Lesson?



I feel this way because _____

elementaryassessment.com