

**Q405: Saturday Science
Lesson Plan Template**

Lesson Topic: Sound and Communication

Grade level(s): K-1st

Instructor Names:

Desired Results	
Overarching Focus Question for the Session <ul style="list-style-type: none">• How does sound travel?	
Central Focus/Topic for today: Students will understand: <ul style="list-style-type: none">• What sound is• What waves are• How vibrations produce waves Therefore, the guiding question for today's learning is: <ul style="list-style-type: none">• What is sound?	Relationship that this central focus has to the overarching big idea/question for the unit <ul style="list-style-type: none">• In order for students to understand how sound travels, they must first learn the concept of sound and how it is produced. This concept will be explored by looking at different ways energy can be created (striking a drum or guitar string, or blowing on a recorder), that can be used to produce a sound wave to create different types of sound. These different ways to produce energy will later help students understand how sound travels, which then will help them create their communication devices.
Student objectives (outcomes): <ul style="list-style-type: none">• Students will be able to:<ul style="list-style-type: none">○ Demonstrate their understanding of what makes sound○ Make observations and/or measurements to provide evidence of the effects of what produces sound○ Plan and carry out investigations on different ways sound can be produced	
Timeline of Activities for the Day	

**Provide a breakdown of how long each activity will take, who will lead the segments of the activities, when breaks will occur or other transition points, etc.*

Identify by **highlighting in blue the portion of the lesson you team wants video-recorded each week.*

This should be ~45 mins

- 9:30-9:40: Wait for the last students to trickle in **All**
- 9:40-9:50: Go over classroom expectations and introduce the topic for the day
- 9:50-10:00: Classroom demonstration using the speaker and interacting with vibrations
- 10:00-10:40: Students are rotating between the three stations and exploring with the materials that are at each table (Station 1 instruments: Sarah, Station 2 non instruments: Dejaye, Station 3 iPads: Karly) **All**
- 10:40-10:55: Discussion about what the students discovered during the stations
- 10:55-11:25: Snack and bathroom break **All**
- **11:25-11:45: Reading the book *Sound* and doing short demonstrations that are posed in the "fun fact" portion**
- **11:45-12:00: Discussion to wrap up everything that was talked about**

Learning Plan (First three E's of the 5E model)

Any of these phases can be repeated should you have more than one activity to describe OR a complex activity with multiple iterations of some phases.

ENGAGE

Classroom Expectations (9:40-9:50)

- Teacher will start the lesson by going over the classroom expectations for this session by having the students join the teacher at the front of the class at the carpet
 - "Alright students, we are going to go ahead and get started. I would like to have everyone to stand up and push in their chair, and quickly and quietly, with their hands to themselves move over to the carpet in front of the board"
 - "Now, it is important as a class that we listen when a teacher is talking to you, can someone tell me why that might be important?"
 - "And when we are listening to our teacher or someone else talking in the class, how can we show them that we are listening to them, what can we do?"
 - Teacher can draw/write this on the board: listen with our eyes, ears, heart
 - "What do you think it means to listen with your heart?"
 - "One last thing that I need us to practice when listening to the teacher is when we need your attention we are going to say, "1,2,3, eyes on me", and you're going to say "1,2 eyes on you," and when everybody is done saying that, you need to be practicing what we talked about with listening with your eyes, your ears, and your heart."

Sound Travels Through Waves (9:50-10:00)

- Teacher will move on and introduce the topic for the day: sound
 - “So now that we know how to listen to each other when we are talking, that actually brings us to our topic today, which is sound. Who can tell me what they might know about sound?”
 - Teacher will write answers on the board
 - “Those are all great ideas, and we are going to explore how those ideas connect today. Sound is actually made through vibrations, who knows what a vibration is?”
 - “Think about something that usually moves really fast back and forth”
 - Teacher can hold up their hand and demonstrate how a vibration might look
 - “When something is moving back and forth like this, it is vibrating. I'm going to show you one more way we can feel vibrations, everybody put their hand gently on their throat like this, don't push down too hard, now everybody go like this, aaaahhhhhh, raise your hand did you feel the vibrations?”
- Teacher will do the class demonstration by using a speaker to produce vibrations through the students' bodies to demonstrate another way that students can feel how vibrations produce sound
 - “Now, we are going to be looking at another way that we can feel how sound is created by vibrations. I am going to play this speaker and we are going to see what we feel.”
- Teacher will play the speaker and ask students what they feel afterwards and write what their answers on the board
 - “What did you feel when I played the speaker?”

EXPLORE

Stations- How is sound produced? (All 10:00-10:40, 10 minutes per stations and transition time)

- **Station 1: Instruments () (10 minutes)**
 - Task: “How is sound being made?”
- Teacher will start the station by having students look at different ways in which sound can be produced.
 - “So, just like we talked about together as a class, who can remind me how sound is made?”
 - Vibrations
 - “That's right, sound is made through vibrations, and at this station we are going to look at the different ways in which we can make vibrations. Who has an idea on how a vibration might be made?”

- Humans: by striking or blowing or speaking strumming
- Teacher will have students explore the different types of ways that sound can be produced and students will fill out an observation sheet
 - “Now that we have talked about different types of ways to make vibrations I am going to have you look at different instruments that can make musical sounds. When you play these instruments, I want you to think about how the instrument is vibrating and where you can feel it and you will circle which one you think it is”
- Students will start to explore different types of ways vibrations can be made (Instruments will include a guitar, recorders, and a drum) and teacher will monitor and ask questions
 - “What did you guys get for this question”
 - “Did you feel the vibration?”
 - “How did you feel it?”
- (If time allows) Teacher will have students come back together and talk about the different answers they got on their sheets

- **Station 2: Non-instrumental objects (**
 - Students will explore how objects besides instruments make sound
 - Students will explore with coins, laminated paper, and metal meter sticks
 - Task: “How can you make these objects make sound?”

- **Station 3: iPads**
 - Students will go to this website on their iPads and explore how waves are created when sounds are produced
<https://musiclab.chromeexperiments.com/Sound-Waves/>
 - Task: Students will create questions based on what they are observing during the simulation, “What kind of questions do you have about what you are observing?”
 - Teachers will be writing the questions

EXPLAIN

- **Read-Aloud:** Sound: Loud, Soft, High, and Low (
 - The book will introduce vocabulary terms such as vibrations and waves

ELABORATING/EXTENDING Understanding

- **Discussion**→ How is sound made?

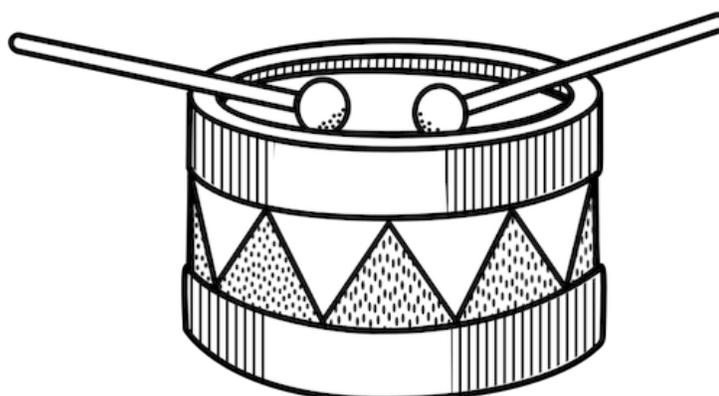
Assessment Evidence (*This is the Evaluation Phase of the 5E approach)

<p>Performance Task(s):</p> <ul style="list-style-type: none"> ● The book→ Are students making the connection between how they were producing sounds during the explore phase and the vocabulary terms? ● Exit slip→ Draw anything that produces sound (if time allows) 	<p>Other Evidence:</p> <ul style="list-style-type: none"> ● Oral questioning throughout activities and discussions
<p>Materials + Quantity:</p> <ul style="list-style-type: none"> ● iPads (7) ● Recorders (3) ● Guitar (1) ● Speaker (1) ● Plastic wrap ● Colored beads (small, no certain amount, just enough for a pile) ● Metal meter sticks (7) ● Laminated paper (7) ● A Bunch a coins (no certain amount, just enough for a pile) ● Paper (22 pieces) ● Crayons (enough for 19 students) ● Station 1 observation sheets (20 copies) 	
<p>Required Accommodations/Modifications:</p> <ul style="list-style-type: none"> ● Gear up: If there is extra time at the end of the lesson we will have students draw a picture of what they think sound is. Students could also label the picture to make the lesson more challenging for them. ● Gear Down: If students are struggling during the stations, students can be partnered up with someone to help them understand the concepts 	
<p>Additional Modifications for Individual Students:</p> <ul style="list-style-type: none"> ● Students that have difficulty following instructions: <ul style="list-style-type: none"> ○ While students are working we will be walking around the room to ensure that all students are staying on task and participating. 	

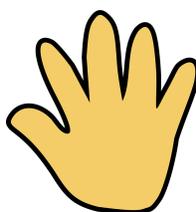
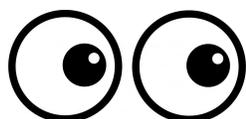
Name _____

Sound: Station 1

Drum:



See or feel vibrations?



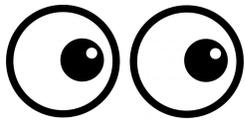
How did you make vibrations?



Guitar:



See or feel vibrations?



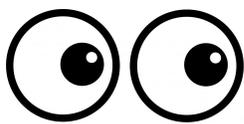
How did you make vibrations?



Recorder:



See or feel vibrations?



How did you make vibrations?

