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| **Monday 10/3** **Objective:**

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| 4.01 | Demonstrate how sound is produced by vibrating objects and vibrating columns of air. |
| 4.04 | Show how the human ear detects sound by having a membrane that vibrates when sound reaches it. |
| 4.05 | Observe and describe how sounds are made by using a variety of instruments and other “sound makers” including the human vocal cords. |

 | **What is Sound? Sounds made by the Body? (Lesson 3 Part 1)****FOCUS QUESTION:** What causes sound?  How do you know?

| **Concept/Vocabularly Word**  | **Definition**  |
| --- | --- |
| vibrations | rapid back-and-forth motion, which can result in a sound wave |

Gather students with their notebooks.  Tell students they are going to play a game called Sound Charades. Explain that the sound maker will select a card and imitate the sound so the class can guess what the object is.* After several rounds of the game, tell students they are going to explore how these sounds are made.
* Direct students to keep their notebooks with them and use the worksheet (Science Notebook page A).
* Divide students into pairs and have them spread out. Instruct children to put a hand on their throat and make “ahhh” sounds.
* Prompt students to describe what they feel and record it in their science notebooks.
* Direct students to try this with a variety of sounds. (Some of the sounds they make will not use the vocal cords such as clicking their tongue.  They will not feel a vibration from these sounds.  You may want to list these separately and refer to them later.)
* Call for attention, gather students, and prompt them to share their findings and discuss results.
* If the children have not made the connection to the word vibrations, introduce the word at this time.
* Question the children about what they know about vibrations.
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| **Tuesday 10/4****Objective:**

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| 4.01 | Demonstrate how sound is produced by vibrating objects and vibrating columns of air. |
| 4.04 | Show how the human ear detects sound by having a membrane that vibrates when sound reaches it. |
| 4.05 | Observe and describe how sounds are made by using a variety of instruments and other “sound makers” including the human vocal cords. |

 | **What is Sound? (Lesson 3 Part 2) KAZOOS****FOCUS QUESTION:** What causes sound?  How do you know?

| **Concept/Vocabularly Word**  | **Definition**  |
| --- | --- |
| vibrations | rapid back-and-forth motion, which can result in a sound wave |

* Divide students into pairs.
* Show the students the kazoo that you have made and demonstrate how to assemble it and make it work.
* Distribute Science Notebook page B and have students follow the diagram to make their own kazoos. Circulate the classroom and provide assistance if needed.
* Give students time to explore on their own with the kazoos.
* Call for attention and challenge students to find which type of sounds work best with the kazoo.
* Pose questions to focus students’ attention on the vibrations of the wax paper.
* Gather students and have students share their findings during a class discussion.
* Lead students to compare kazoo sounds with their voices.
* Record questions student have about sound
* If time allows, go on a parade to show off your kazoos!
* Challenge students to find things at home that make vibrations they can feel.
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| **Wednesday 10/5****Objective:**

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| --- | --- |
| 4.01 | Demonstrate how sound is produced by vibrating objects and vibrating columns of air. |
| 4.02 | Show how the frequency can be changed by altering the rate of the vibration. |
| 4.03 | Show how the frequency can be changed by altering the size and shape of a variety of instruments. |
| 4.04 | Show how the human ear detects sound by having a membrane that vibrates when sound reaches it. |
| 4.05 | Observe and describe how sounds are made by using a variety of instruments and other “sound makers” including the human vocal cords. |

 | **Exploring Vibrations (Lesson 4 Part 1)**

| **Concept/Vocabularly Word**  | **Definition**  |
| --- | --- |
| tuning fork | a small instrument with two prongs which, when struck, sounds a certain fixed tone in perfect pitch |

* **FOCUS QUESTION:** How do vibrations cause sound?  How can changes in vibration change sounds?

**Introduction:**Gather students with their science notebooks. Ask volunteers to describe or show pictures of the objects they found at home that made vibrations they could feel. As students describe the sounds, add their descriptions to the Sounds chart. Tell students they will continue to learn about vibrations and sounds by making sounds with homemade musical instruments* Introduce the tuning fork and demonstrate its use.
* Explore and discuss the tuning fork.
* Demonstrate vibrations using water.
* Divide class into groups of 4 and then have them in pairs.
* Prompt students to explore the tuning forks –make a sound then hear and feel it. Prompt students to draw and label the tuning fork investigation their notebooks.
* Demonstrate how to set up pegboard. Direct students to work in pairs to explore the rubber bands.  Challenge students to make low sounds and high sounds and to observe what happens.
* Circulate the class and focus students’ attention on the vibrations of the rubber bands.
* Gather students to share their discoveries.  They may want to demonstrate on the pegboard. Lead students to understand the vibrations are different when the sounds are different.
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| **Thursday 10/6****Objective:**

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| --- | --- |
| 4.01 | Demonstrate how sound is produced by vibrating objects and vibrating columns of air. |
| 4.02 | Show how the frequency can be changed by altering the rate of the vibration. |
| 4.03 | Show how the frequency can be changed by altering the size and shape of a variety of instruments. |
| 4.04 | Show how the human ear detects sound by having a membrane that vibrates when sound reaches it. |
| 4.05 | Observe and describe how sounds are made by using a variety of instruments and other “sound makers” including the human vocal cords. |

 | **Exploring Vibrations ( LESSON 4 Part 2) DRUMS*** **FOCUS QUESTION:** How do vibrations cause sound?  How can changes in vibration change sounds?

| **Concept/Vocabularly Word**  | **Definition**  |
| --- | --- |
| tuning fork | a small instrument with two prongs which, when struck, sounds a certain fixed tone in perfect pitch |

* Divide students into groups and demonstrate how to make a drum with the balloon, rubber band, and can.
* Direct students to make a drum and use it to make as many different sounds as they can.
* Direct students to use sand to observe movements in the drum head.
* Encourage the students to explore with making the sand move more or less and what happens when you set the drum down on a solid surface.
* Prompt students to describe their observations of the drum in their notebooks.
* Gather students together to share their observations in a class discussion.
* Demonstrate sand moving on a paper plate on top of a CD player and discuss how sound is related to vibrations.
* Review the Sounds chart and discuss sounds made by things visibly vibrating.
* Ask the children if they have any questions about sound. Record their questions on the chart.
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| **Friday** | Early Release-No Science lesson |