

Unit Map

Lesson #	Lesson Title	Learning Objective	Key Lesson Activities	Materials/Preparation	Assessment Details
1	Good Vibrations	<p>After completing this lesson students will be able to:</p> <ul style="list-style-type: none"> • use materials such as containers and rubberbands safely • construct a rubber-band instrument that makes sound • explain or demonstrate the role of the rubber bands in creating vibrations 	<p>Class discussion of sound vibrations through song/guitar.</p> <p>Review of safe handling of materials and consequences for unsafe behavior.</p> <p>Student construction of rubber band instruments.</p> <p>Group discussions and manipulation of instruments.</p>	<p>Boxes, jars, pans, and other containers for instruments. Materials can be differentiated for motor skills, complexity of construction (round vs. rectangular containers, etc.)</p> <p>Assortment of rubber-bands of various thickness and length, 6-10 per student, shared per table.</p> <p>Anchor chart with first two lines of “Vibration Song”: <i>Strings vibrate and we hear a song, Hands move air as we clap along.</i></p>	<p>An observation checklist records whether students construct an instrument, pluck the string, and mute the instrument by stopping the vibration.</p> <p>Students should be able to correct string placement that causes muting or dampening of strings.</p> <p>Students should mention or demonstrate vibration or movement when showing performance of instrument.</p> <p>(Formative)</p>
2	Chirp, buzz, squeak!	<p>After completing this lesson students will be able to:</p> <ul style="list-style-type: none"> • illustrate an insect and indicate with arrows a theory about which part of the body is making the noise <p>Some students will be able to:</p> <ul style="list-style-type: none"> • write or orally describe a possible purpose of the sound 	<p>Class discussion reviewing vibrations of strings.</p> <p>Read-aloud of <u>Noisy Bug Sing-Along</u>.</p> <p>Students draw pictures of one of three insects and theorize how the sound is made.</p>	<p><u>Noisy Bug Sing-Along</u> by Jon Himmelman.</p> <p>Color copies/enlarged pages that show the bee, click beetle, and cricket.</p> <p>Sound journals (pages with room for drawing and writing).</p> <p>Anchor chart with next two lines of “Vibration Song”: <i>Vibrations make buzzes and clicks and more,</i></p>	<p>Students describe through drawing, speech, and/or writing how they think an insect is making a sound (mouth, body, legs, wings, etc.). It is not important to have the correct answer, but I am looking for an explanation that includes a body part that is moving/vibrating.</p> <p>Some students will describe a purpose for the sound, or to explain whether the sound is made intentionally or is a side effect of intentional non-sound related movement.</p> <p>(Formative)</p>

				<i>Air and throat can make a roar.</i>	
3	Roar, bark, buzz and click!	<p>After completing this lesson students will be able to:</p> <ul style="list-style-type: none"> illustrate an animal and identify with arrows and/or labels the correct part of the body that is making the noise <p>Some students will be able to:</p> <ul style="list-style-type: none"> write or orally describe the purpose of the sound, with emphasis on whether the noise is deliberate or not 	<p>Sing a song about vibrations and insect noises.</p> <p>View videos of insects and animals making noises and discuss what we see. Discuss noises we make in order to communicate and noises that happen because of another purpose.</p> <p>Draw a new picture with the labeled body part that vibrates and write a sentence about the purpose of the sound</p>	<p>Sound journals.</p> <p>Videos showing animals making sounds.</p> <p>Click beetle https://www.youtube.com/watch?v=g7sSEVDtq9A (purpose, 34 seconds) https://www.youtube.com/watch?v=F8Phip5U-Wo (mechanism, 18 seconds)</p> <p>Bumble bee https://www.youtube.com/watch?v=4Jgrh_vsz1Y (two buzzes, one incidental to flying/wing flap, and the other is shaking flowers to get pollen to take to hive. Show only the first 30 seconds)</p> <p>Cricket chirp https://www.youtube.com/watch?v=CGEnKh0ocbQ (first 20 seconds, wings)</p> <p>Lion Roar https://www.youtube.com/watch?v=hNeXXJrQDyk (what is moving? 1 minute)</p>	<p>Students describe through drawing, speech, and/or writing how a particular animal is making a sound (vibration of body, air through throat, wings).</p> <p>Some students will write a sentence that explains the sound as a side-effect of movement or as a sound produced with a particular purpose.</p> <p>(Formative)</p>
4	Sending a message with vibrations	<p>After completing this lesson students will be able to:</p> <ul style="list-style-type: none"> construct a string telephone, 	Group discussion reviewing how vibrations make sound and how our throat	Cups (one per student) and various kinds of string: nylon kite string, thick twine, fishing line.	Observation checklist records student demonstrations. Students demonstrate a working string phone and show that it only works when the string is pulled tight enough to

		identifying the throat as the source of vibrations and the string as the carrier	<p>originates the vibrations when we speak</p> <p>Students construct the string phones in stations and test in the gymnasium. Other stations include opportunities to review additional videos, literature, and update sound journals.</p>	<p>Anchor chart with next four lines of “Vibration Song”:</p> <p><i>When I need you, I do not yell.</i> <i>I can clap or ring a bell.</i> <i>We hear vibrations every day,</i> <i>Even when we’re far away.</i></p>	<p>allow for vibrations. They should be able to demonstrate how to make it stop working (by loosening the string or touching it.) They should demonstrate that the vibrations begin in their throat.</p> <p>(Formative)</p>
5	Buzzers, singers, stringers, and ringers	<p>After completing this lesson students, in groups, will be able to do one or more of the following tasks:</p> <ul style="list-style-type: none"> • demonstrate a working string phone and explain how vibration plays a role in its design • demonstrate a rubber band instrument and sing the vibration song • demonstrate various bells and show how vibrations make the sound • explain how various insects or animals make noises 	<p>Students work in groups to focus on one sound project and prepare for the sound fair</p> <p>Students decide how to share materials and what their roles within their teams will be.</p> <p>Groups are formed based on student formative assessments in order to reinforce necessary concepts or provide extension activities.</p>	<p>Materials from all previous lessons. Additional books and videos that show animals making noises.</p> <p>Additional percussive objects that demonstration vibrations (bells, bowls, etc.)</p>	<p>Students use rubber band guitars, bells, string phones, and other objects to demonstrate the role that vibrations play in making sounds.</p> <p>Student sound journals include descriptions of noises including the role of vibrations in making the sound.</p> <p>(Formative)</p>
6	The Sound Fair	After completing this lesson students will be able to do one or more of the following:	Students will present a “sound fair” for parents, administrators, and other students in the		I will be circulating through the fair listening to students explain their devices and the mechanisms that produce sound.

		<ul style="list-style-type: none"> • demonstrate a string telephone and explain to fair visitors the role of vibrations in creating and transmitting the sounds • demonstrate a rubber band instrument and sing the vibration song to fair visitors • demonstrate various bells and chimes and allow fair visitors to feel the vibrations • explain how various insects and other animals make sounds with their bodies and the purpose of the sounds 	<p>school. Students will be showing their work in stations highlighting the different projects of the unit.</p>		<p>I will be reviewing the observation journals and asking for explanations.</p> <p>(Formative and Summative)</p>
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