

LEARNING AT HOME



Welcome to Learning at Home Bingo: Explore your world this week thinking like a musicologist.

Do not gather materials without permission. Ask for help from a grown-up.

Curriculum provided by the San Diego County Office of Education. For more, go to <https://covid-19.sdcoe.net/>

IN THE YEAR 1914, two musicologists created a new system for classifying musical instruments called the Sachs-Hornbostel system. Instruments are put into categories based on where the vibration takes place and produces the sound. The five categories are at right.

Aerophones: sound created primarily by the column of air vibrating or being interrupted. *Examples: trumpet, flute, recorder, accordion*

Idiophones: sound created by the body of the instrument vibrating without a membrane or strings. *Examples: cymbals, steel drums, bells, maracas*

Chordophones: sound created primarily by a string vibrating. *Examples: lute, ukulele, mandolin, violin, guitar, piano*

Membranophones: sound created primarily by the membrane of the instrument vibrating. *Examples: frame drums, kazoo, kettle drums, tambourines*

Electrophones: sound generated by electrical means. *Examples: synthesizer, electric organ, theremin*

B	I	N	G	O
Build	Investigate	Notice	Generate	Orchestrate
<p>CHORDOPHONES Sound created primarily by a string vibrating</p> <p>Make a cardboard box guitar Materials needed: small box or container (save an empty tissue box), rubber bands of different size and thickness (string also can work)</p> <p>Step 1: Make a small hole in the center of your box. (If you are using an empty tissue box, use the hole already in the box.)</p> <p>Step 2: Make sure you have a variety of rubber band sizes and thicknesses. Carefully stretch your rubber bands around your box. Make sure the rubber band is stretched over the hole in the box.</p> <p>Step 3: Explore your chordophone by plucking each rubber band in various locations. What do you notice? What do you wonder? Record your observations.</p>	<p>MEMBRANOPHONES Sound created primarily by the membrane of the instrument vibrating</p> <p>Make a drum Materials needed: two empty storage containers, each made of different materials (plastic, metal, wooden box, cardboard box); objects to strike the drum (pencil, spoon, etc.)</p> <p>Step 1: Turn the containers upside down.</p> <p>Step 2: Strike different parts of the containers with your hands. What do you notice? What do you wonder? Record your observations.</p> <p>Step 3: Strike different parts of the containers with different objects. What do you notice? What do you wonder? Record your observations.</p> 	<p>AEROPHONES Sound created primarily by the column of air vibrating or being interrupted</p> <p>Make a straw flute Materials needed: Straw, scissors</p> <p>Step 1: Make a flexible, flat-ended straw. Flatten one end of your straw by pinching down and sliding your fingers back and forth along two inches of the straw. Then bite down on the same end of the straw and slide the straw back and forth in between your teeth a few times.</p> <p>Step 2: Cut equal pieces from each side of the flattened end to create a pointed tip.</p> <p>Step 3: Carefully, put the cut end of the straw in your mouth. Bite down on the straw and make a seal with your lips. Blow into the straw. You'll probably have to experiment with blowing harder and softer while biting down with different amounts of pressure until you make a sound.</p>	<p>IDIOPHONES Sound created by the body of the instrument vibrating without a membrane or strings</p> <p>Make a shaker Materials needed: Small objects (coins, paper clips, small plastic toys, wooden cubes); two containers with lid (plastic, metal, wooden box, cardboard box)</p> <p>Step 1: Fill one of the containers with the small objects you chose.</p> <p>Step 2: Shake the container at a variety of tempos (speeds). What do you notice? What do you wonder? Record your observations.</p> <p>Step 3: Put the small objects in a second container. Repeat Step 2.</p> 	<p>EXPLORING INSTRUMENTS Materials needed: Handmade or traditional instruments, paper, something to write with</p> <p>Step 1: Using one instrument, create a pattern that is 8, 16, or 32 counts long.</p> <p>Step 2: Use symbols to represent your pattern. If you know standard notation for writing music you may use it. Create iconic notation for your pattern that someone who can't read music would be able to follow.</p> <p>Step 3: Play your pattern with the instrument you made.</p> <p>Step 4: Share your pattern with someone else. Play the pattern together.</p>
<p>Grades K-3 What is the same about the sounds you hear from each rubber band? What is different about the sounds you hear from each rubber band? What part of the instrument vibrates (moves back and forth) to create sound?</p>	<p>Grades K-3 What is the same about the sounds you hear from each drum? What is different about the sounds you hear from each drum?</p>	<p>Grades K-3 Get someone to help you with cutting the straw. How were you able to make a sound using your straw flute? Share your ideas.</p>	<p>Grades K-3 What is the same about the sounds you hear? What is different about the sounds you hear? How does the sound compare to the sounds of other instruments you've made this week?</p>	<p>Grades K-3 What did you like about your pattern? What would you change about your pattern and why? Change your pattern and play your instrument again. How is your first pattern connected to your second pattern?</p>
<p>Grades 4-8 What part of the instrument vibrates to create sound? How does the size and thickness of your rubber band affect what you notice? How does the size and thickness of your rubber band affect the sounds you hear? What do you think would happen if you used a different object (such as a paper clip) to pluck the rubber band? Give it a try! What do you notice? How do the sounds compare?</p>	<p>Grades 4-8 How does changing the material the drum is made out of affect what you notice? How did changing the container affect the sounds you hear? How do the objects you used to strike the drum affect the sound?</p> 	<p>Grades 4-8 How is the straw flute able to produce sound? How do you think you can change the sound your straw makes? Record your ideas.</p> 	<p>Grades 4-8 How does changing the tempo affect what you notice? How did changing the container affect the sounds you hear? How do the objects interact with the container to create sound?</p>	<p>Grades 4-8 Play your pattern on two different instruments. What did you like about your pattern? Did your pattern sound better on one instrument compared to the other? What would you change about your pattern and why? Change your pattern and play your instrument(s) again.</p>
<p>Grades 9-12 What part of the instrument vibrates to create sound? How does the size and thickness of your rubber band affect what you notice? How does the size and thickness of your rubber band affect the sounds you hear? What do you think would happen if you used a different object (such as a paper clip) to pluck the rubber band? Give it a try! What do you notice? How do the sounds compare? How does the sound compare to the sounds of other instruments you've made this week? Draw an initial model that explains how you are able to hear the sound created by your chordophone.</p>	<p>Grades 9-12 How does changing the material the drum is made out of affect what you notice? How did changing the container affect the sounds you hear? How do the objects you used to strike the drum affect the sound? How does the sound compare to the sounds of other instruments you've made this week? Draw an initial model that explains how you are able to hear the sound created by your drum.</p> 	<p>Grades 9-12 How is the straw flute able to produce sound? How do you think you can change the sound your straw makes? Record your ideas. Explain using pictures and words.</p> 	<p>Grades 9-12 How does changing the tempo affect what you notice? How did changing the container affect the sounds you hear? How do the objects interact with the container to create sound? How does the material the containers and the objects are made of affect the sounds you hear?</p> 	<p>Grades 9-12 Play your pattern on two different instruments. Play your pattern with two instruments at the same time or have someone else play along with you. What did you like about your pattern? What would you change about your pattern and why? Change your pattern and play your instrument again.</p>
<p>Extension activities If you have a chordophone at home, how does the instrument produce sound? How does the sound it produces compare to the sound of your handmade chordophone? There is a banjo factory located right here in San Diego County. Watch a short video on the history of Deering Banjos, https://www.deeringbanjos.com/pages/about-us Did you know pianos have strings inside? Watch the videos on the Brains On web page to see how the inside of a piano works, https://www.brainson.org/shows/2017/04/11/how-do-pianos-work Explore the connection between music and mathematics by watching the Ted Ed video "Music and math: The genius of Beethoven," https://www.youtube.com/watch?v=zAxT0mRGuoY</p> 	<p>Extension activities Explore the Chrome Music Lab Rhythm Experiment, https://musiclab.chromeexperiments.com/Rhythm/ Create signature dance moves! Put together a coordinated dance routine to perform while playing your drum! Teach your dance to other people and have them join the performance.</p>	<p>Extension activities Add another straw — slide it inside the straw you cut. As you blow into the straw flute, push and pull the second straw. How does the movement of the second straw affect the sound you create? What do you think would happen if you made the straw shorter? Give it a try. Cut your straw and try it again. Roll a piece of paper to create a cone. Place your straw flute inside. How does the cone change the sound of your straw flute?</p>	<p>Extension activities Make a plastic egg maraca. Fill a plastic egg with small objects. Shake the egg. What do you notice? What do you wonder? Now create handles for your maraca by placing the egg between two spoons. Tape or rubber band the spoons in place by taping around the top of the spoon (the part with the egg) and around both handles. Shake your plastic egg maraca again. How does adding handles change the sound? Explore the Chrome Music Lab Song Maker Experiment, https://musiclab.chromeexperiments.com/Experiments</p>	<p>Extension activities Create two separate patterns for two separate instruments. Play your patterns with two instruments at the same time or have someone else play along with you. What do you think about how the patterns played simultaneously sounded? Is there anything you would change about one or both of the patterns you created? Create patterns for additional instruments. How many can you play at one time? What do you notice about the sounds of the instruments when played together versus played individually? Explore the Chrome Music Lab Kandinsky Experiment, https://musiclab.chromeexperiments.com/Kandinsky/</p>