

WORLD LANGUAGE - STEM MODULE COVERSHEET

好的振动

Target Language: Chinese	Grade Level: 1
Proficiency Level: Junior Novice Low – Junior Novice Mid	
<p>Context and Storyline:</p> <p>Students discover the connection between sound and vibrations through teacher demonstrations. With each demonstration they will determine what is vibrating in order to make the sound waves. They will identify the difference between higher and lower pitches and experiment with changing pitches on a vibrating string, thus changing the frequency of the waves. They will create their own instruments and identify the different ways they can cause vibration: hitting, blowing, pulling, and shaking. Then they devise accompaniments for their chant and practice for the performance. In the concert students will each identify what vibrates in their instrument, whether the wave frequency is fast or slow, and how they cause the vibration.</p>	
Enduring Understanding: We live in a world of sounds made in different ways.	
<p>Essential Questions:</p> <ol style="list-style-type: none"> 1. What is sound? 2. What makes sounds different from one another? 3. How can we make sound? 4. How are sounds important in our lives? 	
<p>Module Duration and Lessons: Five 30-minute lessons</p> <p>Lesson 1 –声音是什么？</p> <p>Lesson 2 –声音的特性</p> <p>Lesson 3 –我们喜欢和不喜欢听的声音</p> <p>Lesson 4 –让我们來制造声音</p> <p>Lesson 5 –音乐会</p>	

Standards Targeted	
<p>5C – World Language Standards</p> <p>Communication</p> <ul style="list-style-type: none"> • Answer simple questions related to sound. (1.1) • Interpret basic vocabulary of sound. (1.2) <p>Cultures</p> <ul style="list-style-type: none"> • Students use instruments of different cultures to produce sounds. 	<p>5E – STEM Standards</p> <p>NGSS</p> <p>1. LS. Light and Sound</p> <p>Students who demonstrate understanding can:</p> <ul style="list-style-type: none"> • 1. LS. e. Carry out investigations to provide evidence that vibrating matter creates sound and that sound can cause matter to vibrate. • 1. LS. f. Build a device that uses light or

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<p>Connections (sample below)</p> <ul style="list-style-type: none"> Students access new information and reinforce existing knowledge of other content areas through the target language (3.1) <p>Comparisons</p> <ul style="list-style-type: none"> Students demonstrate understanding of the process of sound production through comparisons of English and target language (4.1) <p>Communities</p> <ul style="list-style-type: none"> Perform songs and chants in the target language (5.1) 	<p>sound to send a signal over a distance.</p>
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Knowledge: Students will know...	Skills: Students can...
<p>Vocabulary (both linguistic and content areas)</p> <p>Content obligatory language:</p> <ul style="list-style-type: none"> Sound, vibration, waves, air High, low, fast, slow, near, Far Gong, Drum, Whistle, Maraca, Kazoo, Oboe, Güiro, Guitar, Maraca Frequency, pitch, volume <p>Content compatible language:</p> <p>Hear, Ear Pretty, Travel</p> <p>Expressions and patterns</p> <p>I like, I don't like, Do you like ...make vibration by... My instrument is like a....</p>	<p>(Can do statement)</p> <p>I Can:</p> <ul style="list-style-type: none"> Make and name an instrument that produces sound Identify the sound that the instrument makes Classify the pitch of my instrument as high or low

Performance Assessment
Interpretive Task
At the final performance, the teacher introduces the instruments and sound, students step forward based on how the sounds of their instruments are made and whether the pitch is high or low.
Presentational Task

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- Students perform (1) the “If you’re happy” song, and (2) the Sound Chant, while playing instruments that they have made.
- Students describe the sound of their instruments and their characteristics, including pitch and frequency.

Interpersonal Task

- Students interview one another during lesson 3 in order to see which sounds each likes and does not like.
- Students interview one to two classmates to find out what their instrument looks like, how their instruments are made, and what the sound is. They will use the information they get from the interview to fill in the worksheet and these worksheets can be collected and published as a Class Instrument Book.

Materials/Resources

Lesson 1

- Song
- ruler, pencil
- bowl tightly covered with clinging plastic or aluminum foil, grains of rice, big pan lid, wooden spoon
- Power Point - Sounds
- **Worksheet 1a** – Song *If you’re happy and you know it*
- **Worksheet 1b** – Literacy Practice: *Listen, Sound, Vibration*
- **Worksheet 1c** – Cards with process of ball dropping (small size for individual students; large for teacher)
- Resource
<http://www.youtube.com/watch?NR=1&v=fv3ZqNFIBc8&feature=endscreen>

Lesson 2

- Pencil box without lid or other sturdy (plastic, corrugated cardboard), rectangular container— one for demonstration, plus enough for students working in pairs (if desired and available, it would be good to have one for each student)
- Sturdy rubber bands, two or more for demonstration and enough for each student pair to have several apiece
- 2 hand-made drums from cylinders and balloons, rubber bands (see http://www.ehow.com/video_4428434h_make-drum-using-container-balloons.html) one should have higher pitch, one lower. (This can be accomplished by using a bigger and a smaller cylinder.) When demonstrating, be sure to hold the drum in the hand and not to rest one end on a desk or other surface.
- Cards with pictures for the engagement (This can either be done high tech with the items copied into a flipchart or low tech with poster for chart and cards for pictures.)
- Power Point - Sounds
- **Worksheet 2a** – *Things that do/do not make sound*
- **Worksheet 2b** – Literacy practice

Lesson 3

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- Maraca, gong, hand drum, whistle oboe instruments or power point with pictures and sounds
- Power Point - Sounds
- **Worksheet 3a** – Sounds I like and do not like
- **Worksheet 3b** – Sounds that I like and sounds that I do not like
- **Worksheet 3c** – Sounds my friend likes and does not like

Lesson 4

- See list of instrument instructions for all necessary materials
- Recorder instrument
- Power Point - Sounds
- It would be very helpful to have parents or other assistants come in to help with the instrument construction near the end of this lesson.
- **Worksheet 4a** – Instruction for Mr. Music puppet
- **Worksheet 4b** - Assessment
- **Worksheet 4c** – Instructions for Making Instruments

Lesson 5

- Maraca, gong, hand drum, whistle oboe instruments or power point with pictures and sounds
- **Worksheet 5a** – Student Can-Do Statement
- Recorder

STEM Background for teachers:

Sound stimulates one of the five senses--hearing. A sound starts as the vibration of an object. The vibration of the object then makes another object vibrate. Air and water also vibrate due to the moving molecules. Most of the sounds that we hear travel through the air, a gas. Sound can also travel through liquids and solids. Any object that sound waves travel through is called a medium. If there is no medium present, there is no sound. One example of a place where there is no sound is outer space. There are no mediums for the sound to travel through.

The vibrations travel as waves, moving away from the object in all directions. When the vibration waves enter our ears, the ears translate them into nerve impulses. The impulses travel to the brain, which interprets them as a sound.

Musical sounds are produced in different ways. Certain instruments make sounds when struck. For example, when a drummer hits the top of a drum, it vibrates, producing sound. Xylophones have a series of different sized bars, each of which sounds a particular note when struck.

A stringed instrument, such as a guitar, violin, or banjo, produces sound when a player makes one or more of its strings vibrate. This vibration causes parts of the instrument's body to vibrate, creating sound waves in the air.

A wind instrument, such as a clarinet, flute, or trumpet, creates sound when a player makes air inside the instrument vibrate. A clarinet has a flat, thin part called a *reed* attached to its mouthpiece. The reed

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vibrates when a player blows across it. The vibration of the reed makes the air vibrate. The column of air in a flute vibrates when a musician blows across a hole in the flute's mouthpiece. In a tuba, the vibrating lips of the player make the air vibrate.

Sound is described in terms of frequency and pitch, wavelength, intensity and loudness, and quality.

The frequency of a sound is the number of waves that pass a given point each second. The more rapidly an object vibrates, the greater the frequency. Frequency is measured in hertz. One hertz equals one vibration or sound wave per second.

The frequency of a sound determines its *pitch*—how high or low the sound is that we hear it. A high-pitched sound has a higher frequency than a low-pitched sound. A higher sound wave moves faster than a low-pitched sound wave.

Most people can hear sounds that have frequencies from about 20 to 20,000 hertz. Bats, dogs, and many other kinds of animals can hear sounds with frequencies much higher than 20,000 hertz.

Wavelength is the distance between any point on one wave and the corresponding point on the next wave. Wavelength is related to frequency: The greater the frequency of a wave, the shorter the wavelength.

The intensity of a sound measures the power of its sound waves. Loudness refers to how strong a sound seems to be when we hear it. For sounds of a given frequency, the more intense a sound is, the louder it seems.

Information compiled from BrainPOP and World Book Students, 2012.

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Lesson 1-What is Sound?

声音是什么？

Lesson 1 of 5 -声音是什么？		Duration: 30 Minutes
<i>Objectives</i>	<p>I Can:</p> <p>Oral language:</p> <ul style="list-style-type: none"> ○ Tell what sound is <p>Literacy:</p> <ul style="list-style-type: none"> ○ Recognize the words: 听，声音，振动 <p>STEM and Other Subject Areas:</p> <ul style="list-style-type: none"> ○ Explain how to make sound. 	
<i>Vocabulary and Expressions</i>	<p>Content obligatory language: 听, 声音, 振动, 空气</p> <p>Content compatible language: 制造，用，耳朵，音乐，首先</p>	
<i>Materials/Resources</i>	<ul style="list-style-type: none"> ○ Song ○ ruler, pencil, glass, bell ○ bowl tightly covered with clinging plastic or aluminum foil, grains of rice, big pan lid, wooden spoon ○ Ppt ○ Worksheet 1a –如果感到幸福，你就拍拍手。 ○ Worksheet 1b – Literacy Practice: 听，声音，振动 ○ Worksheet 1c –Card for Assessment (small size for individual students; large for teacher) ○ Resource http://www.youtube.com/watch?NR=1&v=fv3ZqNFIBc8&feature=endscreen 	
<i>Lesson Storyline and Core Text</i>	<p>Students discover the connection between sound and vibrations through teacher demonstrations. With each demonstration they will determine what is vibrating in order to make the sound waves.</p> <p style="text-align: center;">今天我们要来谈声音。声音是什么？ 让我们来听听这个.... 我知道一首拍手歌。也许你也听过这拍手歌。</p> <p style="text-align: center;">我喜欢听音乐，各种音乐。 你们有谁会乐器？ 我可以用我的手制造声音，</p>	

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	<p>我知道一首拍手歌。也许你也听过这拍手歌。</p> <p>振动可以制造声音 我们感到声音的振动。 我能制造声音 听-速度非常快的振动是就会制造声音。</p> <p>声音，声音是什么？ 声音是音波振动，音波通过空气，进入耳朵。 声音，声音是什么？ 声音是音波振动，音波来回的振动，制造声音。</p>
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Key Elements	Lesson 1 Procedures - 声音是什么？
<p><i>Engagement</i></p> <ul style="list-style-type: none"> ● <i>Object, event or question used to engage students.</i> ● <i>Connections facilitated between what students know and can do</i> 	<p>介绍声音 Opening routine</p> <p>T: 今天我们要谈声音。让我们先来听听这个....(Teacher begins by playing music of any kind; something the teacher enjoys and will enjoy sharing.) T: 我喜欢听音乐，各种音乐我都喜欢。我会弹/吹_____。(Holding up a picture of any instrument the teacher may play). 这是_____ (name of instrument). 你们谁会弹/吹 _____? (Continue with other instruments children might possibly play at this age, such as violin, guitar, piano, and drum.) T: (Reviewing) _____ (Name of student/s) 你能_____ (name of instrument), 和_____ (Continue with all the students and all the instruments represented in the class, so children hear the names of instruments several times).这些乐器都能制造声音。 T: (Teacher begins by clapping) 我可以用我的手制造声音。你们能制造声音吗？ T: 我知道一个拍手歌。你听过拍手歌吗？我来教你们唱 (Teacher sings and claps, as indicated. The second time Teacher invites students to join in.)</p> <p>Ppt 1-1 & 1-2</p> <p>如果感到幸福，你就拍拍手。（拍拍手） 如果感到幸福，你就拍拍手。（拍拍手） 如果感到幸福，就快快拍拍手呀！ 看那大家都一起拍拍手呀，拍拍手。（拍拍手）</p> <p>Note: 唱跺脚歌。</p> <p>T: (Stamping) 我可以用我的脚制造声音。我还可以用什么制造声音呢？ (Students raise hands and respond with various sounds)</p>

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	<p>T: (Student name) _____ 可以用 _____ 制造声音。 (Students give different kinds of answers.)</p> <p>T: 我还可以用其他东西制造声音，看，我可以用杯子制造声音。(Teacher hits the glass with a pen.) 我也可以用铃铛制造声音。(Teacher shakes the bell)</p> <p>Literacy Activity: Learn and practice the word: 听. Use Worksheet 1b</p> <p>T: 嗯，很好，谁能告诉我们，声音是什么？ S: responded T: 很好，可是声音到底是什么？我们明天再来学声音到底是什么。 Closing routine</p>
<p><i>Explanation</i></p> <ul style="list-style-type: none"> • <i>Students explain their understanding of concepts and processes.</i> <p><i>New concepts and skills are introduced as conceptual clarity and cohesion are sought.</i></p>	<p>你可以感到振动吗？</p> <p>Opening routine</p> <p>T: 我们上次听到不同的声音。你现在能制造一些声音吗？ S: (Make different kinds of sound) T: 你可以不制造声音吗？ S: (Students keep quiet and not moving.) T: 很好，我们现在来看看声音到底是什么？</p> <p>T: (Teacher holds up the item and asks) 铅笔有声音吗？ S: 没有 T: 听-我可以用铅笔制造声音 (Teacher taps pencil so it bounces a few times. Teacher taps pencil again.)你们看，我们把铅笔来来回回的摇动，我们就可以听到声音。你们现在可以试着做出一些声音吗？ T: 现在，让我们来做一些不同的声音。谁能帮我？ S: (One volunteer is invited to try) T: 这是一把尺。尺能制造声音吗？(Holding it up) 让我们来看看让尺怎么制造声音。我们把尺子放在桌子的边上(Place the ruler with 1/2 or 2/3 of the ruler hanging over the edge of the desk, and hold it firmly in place on the desk). 我们怎么能让它制造声音？ S: students respond T: 很好! 尺上上下下的速度非常快,尺的振动就制造声音。你能看到它的振动吗？ S: 能! T: 我们现在来学学什么是振动。你们每个人都拿一根小尺，用牙齿咬住它。现在，我弹一下这根小尺 (Demonstrate.) 你也跟我一起做。你们能感觉到振动吗？ S: 能/听到。 T: 振动是什么样的？用你的手表示出来。(Shake hands rapidly back and forth, students shake their hands like the teacher's.) T: (Repeat as with ruler): 振动是什么？你们能感觉到吗？</p>

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	<p>S: (Responses vary) T: 振动是非常快的来回移动。我们下一节课会继续学声音的振动。</p> <p>Literacy Activity: Learn and practice the word: <i>Sound</i>. Use Worksheet 1b</p> <p>Closing routine, including song</p>
<p><i>Exploration</i></p> <ul style="list-style-type: none"> • <i>Objects and phenomena are explored.</i> <p><i>Hands-on activities, with guidance.</i></p>	<p>什么是振动？</p> <p>Opening routine</p> <p>T: 上节课，我们学了振动。谁记得什么是振动？</p> <p>S: (Shaking hands) 来来回回的摇动</p> <p>T: 很好！振动是从来来回回摇动产生的声音。今天，我们要看声音是怎么传播的。</p> <p>T: 我现在来制造声音 (Teacher uses the ruler to make some sound).</p> <p>T: 你们看到振动吗？</p> <p>S: 看到。</p> <p>T: 我们知道的振动制造声音。但是声音是怎么从这里传到你的耳朵呢？ (Teacher points to the ruler and ears).</p> <p>T: 声音会传播叫音波。我们可以看到音波吗？我们有时可以看到振动，但是音波在空气传播是，我们看不到音波。</p> <p>T: 我们不能看到音波，但我们可以看到音波做什么。也许我们可以看到音波怎么传播。今天我带了一个碗，一个考饼干盘跟一跟木勺。我把保鲜膜紧紧的盖在碗上 (Aluminum foil. Teacher calls on volunteer.) 我这儿还有几粒米。 (Name of student), _____ 请把米放在保鲜膜上 (Aluminum foil)——我们一起来数一数 (Count grains of rice as they are dropped.) 谢谢 (Student). 现在我需要另一个帮手_____. 我把饼干盘放在碗上，可是不要碰到碗。(Student)_____ 用木勺敲饼干盘学生们，你们看看会发生什么？我们一起来数一数，一，二，三，敲。</p> <p>Ss and T: 一，二，三，敲。</p> <p>T: 很好，很大的声音！你们看到了什么？ (Point to the bowl with the rice on it.) 我们再做一次 (Repeat as above).</p> <p>T: 你们看到了什么？。</p> <p>S: 米在动。</p> <p>T: 对了，米在跳动。(Student)_____ 你又没有碰米呢？是不是你让米跳起来的呢？</p> <p>T: (Student) _____ 用木勺敲饼干盘，饼干盘振动。就制造音波，音波到保鲜膜盖，让保鲜膜振动，在保鲜膜上面的米就振动了。</p> <p>T: 我们可以看到振动。振动制造音波。可是在空气中的振动波，我们看不到。这些音波通过空气传播到我们的耳朵。</p> <p>Literacy Activity: Learn and practice the word: 振动. Use Worksheet 1b</p> <p>Closing routine</p>
<p><i>Elaboration</i></p>	<p>声音，振动，和声波</p>

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<p><i>Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.</i></p>	<p>Opening routine T: (Teacher plays music.)这是什么？ S: 声音，音乐。 T: 好！这是声音。音乐是一种声音。 (Teacher shows a violin or any kind of musical instrument that is convenient to get.) T: 这是什么？我可以用这个制造声音吗？ S: 可以。 (Teacher demonstrates how to make sound using the instrument and shows Ss where vibration is from.) T: 这声音是怎么制造的？ S: 振动 T: 很好，振动可以制造声音 (hold hand up, fingers tight, and move quickly back and forth) T: 声音是怎么传播的？ (move hand up and down in wave-like motion) S: 声波。。。。 T: 对了，东西振动，让音波传播，通过空气，到了耳朵。(Move hand up and down in wave-like motion. Bring wave motion to the ear). 这就是我们怎么听到了声音。</p> <p>Divide students into pairs and distribute cards showing sequence of vibration to sound wave to ear. Have students work together to decide what the order is, then have student volunteers come to the front to order the big cards in front of the group. Narrate the sequence as the students order the cards.</p> <p>Worksheet 1c</p> <p>T: 我们已经学到了很多关于声音。我们现在来唱“声音歌”。(Teach the chant one line at a time, using a call and response technique. The teacher models the line, with actions, and students repeat it. In this first teaching phase, repeat the chant several times. Continue to use call and response with the chant for a couple of days, and after the second day or so invite student volunteers to lead the chant.). Ppt 1-3</p> <p>声音，声音，什么是声音？(cup hands behind ears, as if to listen) 声音是怎么制造的。(shrug shoulders and hold out hands) 东西振动，制造音波(hold hand up, fingers tight, and move quickly back and forth) 使得音波传播(move hand up and down in wave-like motion) 通过空气，到了耳朵。(bring the wave motion up to the ear) 让我们听到了声音。(cup hand behind ears) 振动制造声音。(Vibrate hand)</p> <p>T: 在这课中，我们学了声音，振动和声波。下节课我们将学声音的种类。</p> <p>Closing routine.</p>
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<p><i>Evaluation</i></p> <p><i>Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness</i></p>	<p>评估</p> <p>Opening routine</p> <ol style="list-style-type: none"> 1. Interpersonal: Play Simon Says: Teacher/Students serving caller and ask the class to do as they command. 2. Presentational: Show and Tell: students explain and demonstrate how they can make a sound; e.g., clap their hands, stomp their feet, make sound by making a ruler vibrate; drop grains of rice or pencil and make sound. 3. Interpretive: Recognize words such as sound, vibrate, and wave; sound out the vocabulary. 4. Interpretive: Connect the vocabulary to pictures indicating their meaning. 5. Presentational: In small groups of students sing the “If you are happy...” and Chant.
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Teacher Reflection Lesson 1- <i>What is Sound</i>	
<i>What worked well?</i>	
<i>What did not work well?</i>	
<i>What would I do differently?</i>	
<i>Other comments or notes</i>	

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Lesson 2 – Characteristics of Sound

声音的特性

Lesson 2 of 5 - 声音的特性		Duration: 30 Minutes
<i>Objectives</i>	<p>I Can:</p> <p>Oral language:</p> <ul style="list-style-type: none"> • Tell what pitch is 音调 • Identify high and low pitch • Tell when sound waves are fast the pitch is high • Tell when sound waves are slow the pitch is low • Tell how things are related by using the pattern of “because...so” 因为。所以,when ...then 时候。就。 <p>Literacy:</p> <ul style="list-style-type: none"> • Recognize the words: 音调，高，低，声带，快，慢 • STEM and Other Subject Areas: • Understand the concepts of pitch and frequency of sound. 	
<i>Vocabulary and Expressions</i>	<p>Content obligatory language:</p> <p>高，低，快，慢 音调，声带，频率</p> <p>Content compatible language:</p> <p>传播，相同，不同 铅笔盒，橡皮筋，条，专心</p>	
<i>Materials/Resources</i>	<ul style="list-style-type: none"> ○ Pencil box without lid or other sturdy (plastic, corrugated cardboard), rectangular container—one for demonstration, plus enough for students working in pairs (if desired and available, it would be good to have one for each student) ○ Sturdy rubber bands, two or more for demonstration and enough for each student pair to have several apiece ○ 2 hand-made drums from cylinders and balloons, rubber bands (see http://www.ehow.com/video_4428434h_make-drum-using-container-balloons.html) one should have higher pitch, one lower. (This can be accomplished by using a bigger and a smaller cylinder.) When demonstrating, be sure to hold the drum in the hand and not to rest one end on a desk or other surface. ○ Cards with pictures for the engagement (This can either be done high tech with the items copied into a flipchart or low tech with poster for chart and cards for pictures.) ○ Worksheet 2a – Things that do/do not make sound ○ Worksheet 2b – Literacy practice 	
<i>Lesson Storyline and</i>	Students explore different sounds and some of the properties of the sounds.	

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<p><i>Core Text</i></p>	<p>They will identify the difference between higher and lower pitches and experiment with some instruments to see how to change the pitches and frequencies of the sound. For example, they try to find out how to change pitches on a vibrating string, thus change the frequency of the waves.</p> <p><i>Core Text</i></p> <p>我们今天学更多关于声音的知识。 张开你的眼睛。你们听到哪些声音？ 谁可以告诉我，他们听到一个声音？ 是高音还是低音？</p> <p>振动速度慢的时候，音调低， 振动速度快的时候，音调高。</p> <p>我做了一个鼓，鼓可以制造声音。 当我说话，唱歌，或做嗡嗡声的时候，我的声带就像鼓一样， 会振动制造声音。 我们学到了不同的声音。 音调高的时候，振动速度快。 音调低的时候，振动速度慢。</p>
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<p>Key Elements</p>	<p>Lesson 2 Procedures - 声音的特性</p>
<p><i>Engagement</i></p> <ul style="list-style-type: none"> ● <i>Object, event or question used to engage students.</i> ● <i>Connections facilitated between what students know and can do</i> 	<p>我也听到了一些声音</p> <p>Opening routine</p> <p>T: 我们今天学各种声音。。。 (Thinking)...什么是声音? (Move finger to show vibration, as in the chant, and pause for students to finish the thought).</p> <p>S: (may respond) 振动</p> <p>T: ... 东西振动的时候制造声音，我们叫_____。(wait for students to fill in the word)</p> <p>S: (may respond) 音波。</p> <p>T: 声音传播叫音波—对了! 我们学了一首什么是声音的歌。我们再来练习一下：</p> <p>Perform the chant together, again in a call-and-response style. The teacher says each line, with motions, and the students say it back. Ppt 1-3</p> <p style="padding-left: 40px;">声音，声音是什么声音? (cup hands behind ears, as if to listen) 我们的四周由振动有了声音。(shrug shoulders and hold out hands) 东西振动 (hold hand up, fingers tight, and move quickly back and forth)</p>

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Key Elements	Lesson 2 Procedures - 声音的特性
	<p>使得声波传播(move hand up and down in wave-like motion) 通过空气，到了耳朵。(bring the wave motion up to the ear) 让我们听到了声音。(cup hand behind ears) 振动制造声音。(Vibrate hand)</p> <p>T: 今天我们还要听到更多不同的声音。现在我们都闭上眼睛，静静地坐着，专心听。看看你可以听到多少声音。 T: (Sit silently for 10 seconds or so.) 睁开眼睛. 如果你们听到声音，请举手(Students raise hands.) 我也听到声音。 T: 让我们再试一次，这次我会做出一些声音。如果你能告诉我，他们是什么。准备...闭上眼睛。</p> <p>Note: At this point the teacher makes some sounds that the students have previously heard, such as the tapping pencil, the ruler and the cookie sheet, and also other common sounds like clapping, stomping feet, or other familiar classroom sounds.</p> <p>T: 睁开眼睛。你们听到了一些声音吗？谁听到声音了？(Continue asking volunteers what they heard) Students give responses。 Teacher recasts in the target language as necessary.</p> <p>T: 有些东西会制造声音，有些不会制造声音。这里有一些东西，都是我们日常生活中常用的。不是所有的东西都可以制造声音的。让我们来看看那些会制造声音，那些不会制造声音。</p> <p>T: (Hold up pictures) 这个_____会制造声音吗？(Have students volunteer to tell if something does or does not make sound, using the pattern: "That makes sound." Or "That doesn't make sound.")Ppt 2-1</p> <p>Note: you may wish to add pictures to extend the conversation or to use your own pictures that reflect recently learned vocabulary. Let students complete Worksheet 2a in group or individual.</p> <p>T: 太好了！在我们的生活中有各种声音。他们听起来都一样吗？不一样。让我们来听听我们生活中不一样的声音。</p>
<p><i>Exploration</i></p> <ul style="list-style-type: none"> ● <i>Objects and phenomena are explored.</i> ● <i>Hands-on activities, with</i> 	<p>声音的传播</p> <p>T: 我们学到声音是因为振动制造音波，再通过空气传播到了我们的耳朵，我们才听到的。((Shaking hands fast and slow). 我们来看看振动快和振动的慢会制造什么不一样的声音。 T: 我这里有一些东西，可以帮助我们了解声音跟振动的快慢有什么关系。</p>

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Key Elements	Lesson 2 Procedures - 声音的特性
<i>guidance.</i>	<p>T: 我用铅笔盒 (or other box) 和橡皮筋来制造声音 Ppt 2-2</p> <p>T: (call on student volunteer) _____ (Name of student) 我弹橡皮筋，它会制造一个声音。我再弹一下，它再制造声音。这是因为我弹橡皮筋，橡皮筋就 (Pause for students to supply the word) 振动！</p> <p>T: 对！橡皮筋振动制造声音。</p> <p>T: 看，听！我一次又一次的拉橡皮筋，它制造相同的声音。但是我想弹出不同的声音。(Press finger lightly on the middle of the rubber band and pluck one side.) 这是音比原来的高还是低。(higher)</p> <p>T: 这个音高，因为橡皮筋移动的速度很快。(Remove finger and pluck again) 这个音低，因为橡皮筋移动的速度很慢。(lower)</p> <p>T: 对，声音低，因为振动较慢。如果你仔细看，也许你可以看到快慢的不同。</p> <p>T: (Pluck the full rubber band, then the half. Students may be able to see the vibration of the full rubber band, but it will probably be too fast to see with the half rubber band.) 这叫做“音调”。当振动慢时候，音调就低 (Low), 当振动快时候，音调就高 (high) (Use gestures for high and low).</p> <p>T: (Show pictures of fast and slow waves on the board. Pictures can be hand-drawn. Circle the one that students identify about the rubber band.)</p> <p>T: 让我们弹橡皮筋。振动速度快，音调高。(Do hand gesture). (Show pictures of fast and slow waves on the board.) 现在我们弹橡皮筋。振动速度慢，音调低。</p> <p>T: 现在让我们弹整个橡皮筋。听起来像什么？这音调高？(pointing to fast wave picture on the board) 还是低呢？(Pointing to slow wave picture? Circle the one that students identify.)</p> <p>S: Respond by raising their hand when the teacher points to each of the different waves.</p> <p>T: 当振动速度慢的时候，音调低 (do hand gesture). 音波慢，你们看。(Point to the slow wave picture.) 怎么把音波加快？(Invite student volunteer to the board.) 哪一个音波慢，哪一个音波快？</p> <p>Note: for the next step, be sure that the second rubber band is either thicker or thinner, or stretched tighter, than the first one, so that the pitch will be different.</p> <p>T: 音调让我们知道声音有多高或多低。(Gesture for high and low pitch and have students imitate the gesture).</p> <p>T: 我这里有另一条橡皮筋。让我们把它放在铅笔盒上。谁来拉新的橡皮筋？(Choose a student) _____ (Name), 请你弹新的橡皮筋，现在再弹第一条橡皮筋。</p> <p>T: 同学们，哪一条橡皮筋声调高？或者两条一样？(Class responds.) 因此，如果新的橡皮筋的音调更高/更低，那么它是振动快或慢？我们可以</p>

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Key Elements	Lesson 2 Procedures - 声音的特性
	<p>加更多的橡皮筋，现在这个铅笔盒像一把吉他了！ (Add rubber bands and strum like a guitar.)</p> <p>Have students choose partners, or assign partners, and distribute pencil cases (or other stiff, open boxes) and several rubber bands to each pair. Have them place one rubber band on each pencil box, then each pluck their own rubber band and decide which one is higher/lower, or if they are the same. The teacher circulates around the class, randomly asking pairs to tell which is higher/lower. Encourage them to add more rubber bands. Optional: have students add rubber bands to their boxes and order them from lowest to highest in pitch.</p> <p>Literacy Activity: Learn and practice the word: 音调. Use Worksheet 2b</p> <p>Review the song “如果感到幸福，你就拍拍手,” using clapping. Then add another verse: “如果感到幸福，你就弹吉他.”</p> <p>Closing Routine</p>
<p><i>Explanation</i></p> <ul style="list-style-type: none"> ● <i>Students explain their understanding of concepts and processes.</i> ● <i>New concepts and skills are introduced as conceptual clarity and cohesion are sought.</i> 	<p>制造音乐</p> <p>Opening routine</p> <p>Bring out the two drums you have made (see materials), and begin talking about the larger, lower drum. Ppt 2-3</p> <p>Be sure to have something to strike the drum with, such as a chopstick or the eraser end of a wooden pencil.</p> <p>T: 我做了一个鼓。谁知道怎么可以使鼓有声音？(Hold the drum and call on a volunteer, who will likely hit the drum with the available pencil or chopstick.)</p> <p>(Student) 用棍子打鼓。</p> <p>T: 这样就会有声音吗？</p> <p>Ss respond.</p> <p>T: 没错，用棍子打鼓，鼓会有声音。那这是什么意思？(Students supply vibrates. Prompt as necessary. Hit the drum again.) 鼓面有没有振动？你们能看到它的振动吗？</p> <p>T: 让我们来看看我们能不能感到振动。谁要帮忙？(Select two volunteers.)</p> <p>T: (Student 1 name), _____把手放在鼓面上，(Student 2 name) _____打鼓。</p> <p>T: 同学们，问_____ (Student 1), 鼓面振动吗？</p> <p>Ss: 鼓面振动吗？</p> <p>S2: 振动。鼓面振动。(Prompt as necessary.)</p> <p>Repeat with additional student volunteers, prompting less and less each time.</p>

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	<p>For additional practice, Teacher could ask S1 and/or S2 if they can see the drumhead vibrate.</p> <p>T: (Taking the other drum.) 这是另一个鼓。我要打这个鼓的鼓面。告诉我音调是高还是低？</p> <p>Ss: Respond.</p> <p>T: 对。所以这个鼓的振动是慢还是快？ (Students supply faster. Prompt as necessary.)</p> <p>T: 振动慢的时候，音调低 (do hand gesture). 我们可以看看这慢音波。 (Point to the slow wave picture.) 振动快的时候，音调高 (do hand gesture). (Point to the fast wave picture.)</p> <p>T: 音调能告诉我们声音有多高或低。(Teacher does the gesture for high and low pitch and reminds students if they can't get the concept).</p> <p>T: 太好了！让我们再加几句来吟唱：Ppt 2-4 Repeat several times, in a call and response format.</p> <p style="text-align: center;">振动速度快 (手摆动的快), 音调高 (把手举高); 振动速度慢 (手摆动的慢), 音调低 (把手放低).</p> <p>Literacy Activity: Learn and practice the words: 高, 低. Use Worksheet 2b Repeat the entire chant learned so far, using call and response and including the new lines. Closing routine.</p>
<p><i>Elaboration</i></p> <ul style="list-style-type: none"> • <i>Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.</i> 	<p>当我说唱，或哼着歌声；我的声带像鼓一样的振动。</p> <p>Opening routine, ending with the “If you’re happy” song. Add another line: “如果感到幸福，你就拍拍手。”</p> <p>T: 让我们再唱这首歌，而这一次，我们来试一下。把你的手放在你的喉咙，像这样。(Teacher demonstrates hand flat on the middle of the throat.)</p> <p>Students and teacher sing.</p> <p>T: 你的手有感到有什么？</p> <p>S: (May say they do, or some may even call it vibration.)</p> <p>T: 我们感到振动。声带这儿振动！。你感受到振动吗？</p> <p>S: Respond</p> <p>T: 现在让我们哼唱我们的歌。当我们哼时，把你的手放在你的声带上。你能感觉到振动？什么在振动？</p> <p>S: 声带 (Teacher prompts as necessary.)</p> <p>T: 让我们来看看。怎么样让声带振动？ (Some children may have the idea of talking. If not, Teacher continues...)</p> <p>T: 先做吟唱-我们来感觉声带。(Teacher leads the first few lines of the chant.) 你感觉到声带的振动吗？</p>

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Key Elements	Lesson 2 Procedures - 声音的特性
	<p>S: Respond.</p> <p>T: 所以...当我们说话的时候，我们的声带会振动，我们(hesitate for students to provide either <i>sing</i> or <i>hum</i>) _____ 或_____的时候 我们耳语，我们可以发出声音吗？让我们试试，你有没有感到声带振动？</p> <p>T: (Whispering energetically, so as to be heard) 我们来试试看，大家一起来数，一，二，三。</p> <p>S: 一，二，三。</p> <p>T: 我耳语时，你能听到我吗？</p> <p>S: 能。</p> <p>T: 我也可以听到你。请问您耳语的时候，你的声带振动吗？</p> <p>S: 没有!</p> <p>T: 对！我不觉得我的声带振动。可是声带一定会振动，要不让你听不到我的声音。让我们再试试。我需要一个同学来帮我。(Teacher calls on a volunteer and hands the volunteer a tissue.) _____(name of Student), 请拿着这张卫生纸，我轻轻吹，你觉得卫生纸会怎么样？(Teacher whispers something the children will understand, such as my voice box doesn't vibrate.) 同学们，卫生纸会怎么样？</p> <p>S: <i>Various responses</i>—maybe 振动</p> <p>T: 让我们试试，我们的声带会怎么样？(Teacher shakes the hands to demonstrate vibration.)</p> <p>S: <i>Various responses</i></p> <p>T: 对了，我们耳语的时候，我们的声带也会像卫生纸一样的振动，只不过很小，我们感觉不出来，并不是声带没振动。</p> <p>T: 您已经学到了很多关于声音的知识！我们学了那些关于声音的字？</p> <p>S: 声调，高，低，快，慢。(Teacher uses gestures to prompt, as necessary.)</p> <p>T: 很好，音调教我们什么？</p> <p>S: 音调是告诉我们是高还是低的。</p> <p>T: 我们在我们的吟唱里再加几句歌咏。(Call and response, line by line, several times) 当我说话，或唱歌，或哼歌声的时候，我们的声带会(touch hand to throat) 振动(vibrate hand up and down).</p> <p>T: 现在让我们一起来吟唱. Ppt 2-4</p> <p style="text-align: center;">哼歌，耳语，或是说话 都可以感到声带的振动。</p> <p>我们现在来唱: 声音，声音，声音是什么？ Ppt 2-5</p> <p style="text-align: center;">声音，声音是什么声音？ 我们的四周由振动有了声音。 东西振动，使得声波传播 通过空气，到了耳朵。</p>

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Key Elements	Lesson 2 Procedures - 声音的特性
	<p>让我们听到了声音。 振动制造声音。 振动速度快，音调高； 振动速度慢，音调低。</p> <p>哼歌，耳语，或是说话 都可以感到声带的振动。 我们说话，唱歌，或哼着歌声； 我的声带像鼓一样。 振动制造声音。</p> <p>Literacy Activity: Learn and practice the word: 低. Use Worksheet 2b Closing Routine.</p>
<p><i>Evaluation</i></p> <ul style="list-style-type: none"> • <i>Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.</i> 	<p>We learned about different sounds.</p> <p>Opening Routine</p> <p>T: 我们学了声音和音调。什么样的振动会有高音？ S: 振动快 (fast vibration). T: 没错！你觉得音波的速度振动和高低音有关系吗？用你的手做给我们看。 Students make fast wave motion. T: 音波慢，音调就低，振动的速度是快还是慢？ Students make slow wave motion. T: 很好！音波看起来像是这样的时候 (draw a wave on the board that is far apart for low pitch) 音调是高还是低？ S: 低音。 T: 当声波看起来像是这样的时候 (draw a wave on the board that is very close together for high pitch) 音调是什么样呢？ S: 高音。 T: 很好，我们已经学到了很多！声音有音调。音调可能会很高(make a “high pitch sound” and show high with your hand.) 音调也可能会很低 (make a low pitch sound and show low with your hand) T: 谁记得振动和音调是什么关系？我们说：“振动速度快，音调怎么样？” S: 振动速度快，音调高； T: 音调低，振动速度慢。 S: 音调低，振动速度慢。 T: (Take out a whistle, blow) 哨子, 它有高还是低的音调。(show high and low with your hands) S: 高 T: 对了！哨子是高音。它的振动速度.....？ (wait for response, if they</p>

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	<p>don't offer answer, give them the choices fast or slow)</p> <p>S: 快</p> <p>T: 对了！它的振动速度快。因为音调高 (wait for students to fill the blank) 振动速度 _____. 我们再说一次。</p> <p>S: 振动速度快，音调高</p> <p>T: 当我们都唱高音 (model and have class join in). 当我唱高音时，我的声带振动快还是慢？</p> <p>Ss: (fast)</p> <p>T: 当我唱低音？我的声带。。。？</p> <p>Ss: 振动低</p> <p>T: 对了！因为当音调低的振动速度慢。我们的歌会帮我们记得声音的特性。大家一起来唱，并且一边唱，一边做动作。</p> <p>T: 今天大家都做得很好！今天我们学习了不同的声音。我们听到我们的橡皮筋吉他，它有高音和低音。我们听到鼓声，也听到我们的声带，都能制造高音和低音。</p> <p>Closing routine</p>

Teacher Reflections on Lesson 2 – [lesson two title/]	
<i>What worked well?</i>	
<i>What did not work well?</i>	
<i>What would I do differently?</i>	
<i>Other comments or notes</i>	

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Lesson 3 – Sounds we like and don't like 我们喜欢和不喜欢的声音

Lesson 3 of 5		Duration: 30 Minutes
<i>Objectives</i>	<p>I can:</p> <p>Oral language:</p> <ul style="list-style-type: none"> • I can talk about the sounds that I like • I can talk about the sounds that my friends like <p>Literacy:</p> <ul style="list-style-type: none"> • I can tell which sounds the whole class likes best and which sounds the whole class dislikes • Vocabulary: 音量，一种乐器(student's choice)打，吹，挑 <p>STEM and Other Subject Areas:</p> <ul style="list-style-type: none"> • I can describe different sounds using the concepts of pitch and volume. 	
<i>Vocabulary and Expressions</i>	<p>Content obligatory language: 音量，音调（再生纸），乐器 锣，鼓，哨子，木蛙，响葫芦，蜂鸣器</p> <p>Content Compatible languages: 好听，表演 我喜欢 我不喜欢 你为什么喜欢。。。。</p>	
<i>Materials/ Resources</i>	<ul style="list-style-type: none"> ○ Maraca, gong, hand drum, whistle oboe instruments or power point with pictures and sounds ○ Power Point ○ Worksheet 3a – Sounds I like and do not like ○ Worksheet 3b – Sounds that I like and sounds that I do not like ○ Worksheet 3c – Sounds my friend likes and does not like 	
<i>Lesson Storyline and Core Text</i>	<p>Students learn that sound is a very important part of our life. You can hear sound everywhere. Some sounds are pleasant and some are not so pleasant. Then students explore one of the beautiful sounds: music. They will know some musical instruments that make different kinds of sounds.</p> <p><i>Core text:</i></p> <p>那是什么？你能听到什么？ 你听到什么？ 我们都有喜欢的声音。 我们也有不喜欢的声音。 现在，我们来听听一些声音。 我把声音放在这个魔术声音口袋里。 在这张纸上，画出一些东西，有的会制造你喜欢的东西，有的</p>	

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	<p>会制造你不喜欢的声音。 世界上有许多不同的声音。</p> <p>我喜欢音乐！你喜欢音乐吗？ 你喜欢什么样的音乐？ 你不喜欢什么样的音乐？ 我不喜欢... 告诉我你不喜欢的音乐？ 音调太低了，声音不好听。</p> <p>现在，我会要求学生来访问我。 你们要访问我吗？</p>
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Key Elements	Lesson 3 Procedures - <i>Sounds we like and we don't like</i>
<p><i>Engagement</i></p> <ul style="list-style-type: none"> • <i>Object, event or question used to engage students.</i> • <i>Connections facilitated between what students know and can do</i> 	<p>Review what we have learned about sound 复习我们学过的声音</p> <p>Opening routine T: 我们学到了很多关于声音的知识！我们学到了什么？看我在做什么。 T: (Teacher has hand on ear as if trying to hear something, gives the students the quiet cue still with hand on ear) 那是什么？你能听到什么？你听到什么？(Pause to see if any student says the word "Sounds") S: 声音！</p> <p>T: (Teacher shakes hand.) 那是什么？什么声音？ S: 振动！ T: 太好了！振动可以... (Shake the hands very fast) S: 快！ T: 振动也可以... (Shake the hands very slowly) S: 慢！ T: 很棒！快速振动声音会是...(Show high using hands) S: 高音！ T: 慢速振动声音会是...(Show low using hands) S: 低音！ T: 太好了！让我们一起来吟唱。快速振动... (Students chant.) T: 我们现在静静的听。(No talking). 哇，我听到了很多声音！你听到声音吗？现在，我会给你一个小作业。你们想一想，在你的生活中，有什么声音？是什么东西制造的？你们每个人都画出那个东西。(Hand out the worksheets to students.) T: 我先来画个东西，我画的东西在这里。(Teacher can draw something like a bird) 它能制造什么声音？ S: (Do the sounds of birds).</p>

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

Key Elements	Lesson 3 Procedures - <i>Sounds we like and we don't like</i>
	<p>T: 太好了。现在画出你想要的东西，告诉我们它可以制造什么声音！ (Students share their pictures and what sound they can make)</p> <p>T: 学生们，我们的生活中有这么多不同的声音！让我们记住他们！下一堂课，我们会找出一些我们喜欢的声音和不喜欢的声音。</p> <p>Closing routine, including song</p>
<p>Exploration</p> <ul style="list-style-type: none"> • Objects and phenomena are explored. • Hands-on activities, with guidance. 	<p>The Sound we like 我们喜欢的声音</p> <p>Opening routine, including song or chant</p> <p>T: (Teacher plays some music in the classroom.) 我们来听一些音乐，我喜欢音乐。你喜欢音乐吗？</p> <p>S: 喜欢!</p> <p>T: 你喜欢什么样的声音？如果你不知道怎么说，你可以表演出来！</p> <p>T: 你不喜欢什么样的声音？如果你不知道怎么说，你也可以表演出来！</p> <p>(Students act out the sound they don't like.)</p> <p>T: 谢谢！你知道我不喜欢什么样的声音吗？我不喜欢的尖叫声。 (Teacher makes the sound of screaming.) 你们喜欢尖叫声吗？ (Students might say yes.)</p> <p>T: 是。我们有时会尖叫。你知道为什么我不喜欢尖叫声吗？</p> <p>S: 太大声。(Teacher shows big using hands)</p> <p>T: 是的，它太大声了。声音可以大或小。我们叫它音量。音量是声音的大小度。</p> <p>T: 很棒！尖叫声的音调怎么样？</p> <p>S: 高！</p> <p>T: 没错！我不喜欢太大或太高的声音。听起来很不舒服。你喜欢的声音呢？你不喜欢什么声音？它们的音调和音量什么样？</p> <p>Students give a variety of reactions. Ask some volunteers to try to describe some sound. Help them to use volume and pitch to describe sound.</p> <p>T: 我们都有我们喜欢，也有我们不喜欢的声音。现在我们一起来听一些声音。在我的魔术声音口袋里，有一些声音，让我们来听一听。在这纸上，画出一些东西，有的会制造你喜欢的声音，有的会制造你不喜欢的声音的东西。</p> <p>Use YouTube http://www.youtube.com/watch?v=fbDFAaPfl28</p> <p>第一次- 只放声音没有录像： 停一停，问一问</p> <ol style="list-style-type: none"> a. 问学生听得出是什么声音？ b. 问学生喜欢不喜欢那个声音？ <p>第二次- 给学生看整个影片</p>

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

Key Elements	Lesson 3 Procedures - <i>Sounds we like and we don't like</i>
	<p>Teacher distribute handout, Worksheet 3a, students can draw or write down the sound they like or don't like.</p> <p>T: 把你们的作业都放在我这里。下次我们做完剩下的部分。</p> <p>Closing routine, including chant</p>
<p>Explanation</p> <ul style="list-style-type: none"> • Students explain their understanding of concepts and processes. • New concepts and skills are introduced as conceptual clarity and cohesion are sought. 	<p>Let's listen to some instruments 我们来听一些乐器</p> <p>Opening routine, including song</p> <p>T: 上次我们谈到在我们的生活中的声音。有些声音我们喜欢和也有些声音不喜欢。你能告诉我你喜欢什么样的声音，你不喜欢什么样的声音吗？</p> <p>Note: If students can't get the answers, teacher reminds students to look at the worksheets they worked on last time. Students volunteer to talk about the sounds they like and the sounds they don't like.</p> <p>T: 好。生活上有这么多不同的声音。我喜欢音乐！你喜欢音乐吗？ (Many students will say yes.)</p> <p>T: 音乐是声音的一种。我们需要乐器来制造声音。你知道什么乐器？</p> <p>T: (Display the drum made for an earlier lesson.) 看！这个乐器是我做了。你知道这是什么乐器？</p> <p>S: 这是鼓</p> <p>T: 没错！鼓是一种乐器。你喜欢鼓吗？</p> <p>S: 喜欢/不喜欢 (Teacher shows several pictures of some musical instruments.)</p> <p>T: 这是什么？我喜欢这个乐器！这是一个小提琴！你喜欢听小提琴吗？</p> <p>S: (some students may indicate they play the violin).</p> <p>T: 我知道你们有些人会拉小提琴。世界上有很多乐器，每种乐器会制造不同的声音。让我们来听听几个这些声音。</p>
<p>Elaboration</p> <ul style="list-style-type: none"> • Activities allow students to apply concepts in contexts, and build on or extend understanding and skill. 	<p>不同的文化有不同的乐器</p> <p>T: 你知道，不同的文化有不同的乐器。像中国有锣，古筝。。。你们有谁听过锣，古筝的声音吗？</p> <p>Note: Teacher proceeds to make each sound from the power point presentation. This is an opportunity to pick culturally relevant artifacts.</p> <p>T: 我们来听听这些乐器的声音。(Teacher uses flipchart or power point with pictures and sounds to demonstrate for students. After the whistle, the teacher should point out that a whistle isn't always considered a musical instrument, but it is sometimes used in music. If there is no access to these technologies then the actual instruments will be needed. Let the</p>

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

Key Elements	Lesson 3 Procedures - <i>Sounds we like and we don't like</i>
	<p>students listen to all the sounds first. Then, on the second time through, while the teacher is making the sounds the students will be filling in worksheet 3b with the sounds that they like and the ones that they do not.</p> <p>For each sound use the following pattern:</p> <p>T: 这个叫锣，锣的音调是高音还是低音？ S: 高/低音。 T: 如果你喜欢锣的话，你在喜欢那儿上打个勾，如果你不喜欢锣的声音的话，在你不喜欢那儿打个叉。 (Teacher repeats the same procedure and utterances for other musical instruments.) T: 都勾好了吗？我们已经知道了这么多的乐器！我最喜欢的是_____。你们呢？我们来看看我们班最喜欢的是哪一种乐器？ T: 让我们来看看我们班喜欢什么。我这里有一个表，这上面都是我们听过的声音。然后我给你们每个人一张小纸条，把你的名字写在小纸条上。我们一起来完成这张表。 (When the teacher comes to the sound that the student liked the best, they will put their construction paper square on to the chart if it is low tech or fill it in the with "pen" on the smart board if it is high tech.) T: 哪些乐器是我们最喜欢的？我要把这句话写在黑板上： 我们班最喜欢的乐器是_____。 Closing routine</p>
<p>Evaluation</p> <ul style="list-style-type: none"> • Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness. 	<p>Interview my partner about the sound he/she likes</p> <p>Opening routine</p> <p>T: 在这一课中，我们学了 we 喜欢的声音。你能告诉我一些你喜欢的声音吗？ Students give responses. T: 哪些是我们不喜欢的声音？ Students give responses. T: 今天每一个人要问两个同学他们喜欢和不喜欢的音乐。 Worksheet 3c T: 我要一位志愿者，所以我们可以练习怎么访问同学。 T (Work with a student volunteer): 你喜欢什么声音？ S: 我喜欢... T: 你不喜欢听什么声音？ S: 我不喜欢听... T: 你为什么不喜欢听那个声音？ S: 音调太低，不好听。(And any possible answers.) T: 现在，换你来回访问我。 (Teacher will be interviewed by the student. Try to talk about the pitch</p>

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

Key Elements	Lesson 3 Procedures - <i>Sounds we like and we don't like</i>
	<p>and volume.)</p> <p>另一名学生重复问问题，然后全班同学问老师问题。然后让全班同学问另一位志愿者问题。最后，学生彼此问问题。</p> <p>(Teacher can decide how partners are assigned either by the teacher or by the students based on class knowledge. The teacher should circulate throughout the room and ensure that students are remaining on task and working through in the target language. Students will finish Worksheet 3c)</p> <p>Closing routine</p>

Teacher Reflections on Lesson 3 –[lesson three title]	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

Lesson 4 – We can make sound

我们能制造声音

Lesson 4 of 5 - 我们能制造声音		Duration: 30 Minutes
Objectives	<p>I Can:</p> <p>Oral language:</p> <ul style="list-style-type: none"> • Name my instrument • Describe the sound using important concepts of sound including volume and pitch. <p>Literacy:</p> <ul style="list-style-type: none"> • Vocabulary: 弹，摇，吹，打，拉 <p>STEM and Other Subject Areas:</p> <ul style="list-style-type: none"> • Explain different ways of instruments making sounds. • Make an instrument that produces sound • Identify the sound that the instrument makes • Identify the pitch of my instrument 	
Vocabulary and Expressions	<p>Content obligatory language: 打鼓，弹琴，弹，摇，吹，打，拉</p> <p>Content Compatible languages: Play (instrument)</p>	
<i>Materials/Resources</i>	<ul style="list-style-type: none"> • See list of instrument instructions for all necessary materials • Recorder instrument • It would be very helpful to have parents or other assistants come in to help with the instrument construction near the end of this lesson. • Worksheet 4a – Instruction for Mr. Music puppet • Worksheet 4b - Assessment • Worksheet 4c – Instructions for Making Instruments 	
<i>Lesson Storyline and Core Text</i>	<p>Students meet Mr. Music who knows a lot about music, musical instruments, and sound. He wants students to have a concert with him. For that, students must understand how musical instruments make sound. Then they can make their own musical instruments and use the instruments to make sounds in different pitches and volumes. Then they will play some music in a concert.</p> <p>Core Text</p> <p style="text-align: center;">今天我们有一个客人。 让我把他介绍给你们！ 他的名字叫音乐先生！ 音乐先生您好！</p>	

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

	<p>哇，你们学到了这么多的东西！ 你们真棒 我印象非常深刻！ 我来到这里是因为我想和你们上一节音乐课。</p> <p>有时候，我吹气， 有时候，我敲打， 有时候，我弹弦， 有时候，我摇动东西。 这些都可以制造振动。</p> <p>声音，声音，什么是声音？ 振动制造了声音。</p>
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Key Elements	Lesson 4 Procedures - <i>We can make sound</i>
<p><i>Engagement</i></p> <ul style="list-style-type: none"> • <i>Object, event or question used to engage students.</i> • <i>Connections facilitated between what students know and can do</i> 	<p>音乐先生在这儿</p> <p>Teacher prepares the music puppet. It can be any puppet with a notation symbol glued on top of it.</p> <p>Opening routine</p> <p>T: 我来介绍一下我们今天的客人！ (Shows the puppet to the student.) 他叫音乐先生！大家跟音乐先生问好。</p> <p>S: 音乐先生你好。</p> <p>Mr. Music: 大家好！很高兴见到你！也很高兴听到你们正在学习有关声音的知识！你知道，我喜欢做音乐。音乐也是声音。你们学了什么声音的知识呢？</p> <p>S: (Give a variety of responses. Teacher encourages students to talk about the important concepts about sound such as vibration, pitch, and musical instruments.)</p> <p>M: 哇，你们学到了很多东西！你们真棒！我也想和你们上一节音乐课。</p> <p>T: 我们学了许多的乐器。我们班最喜欢的是哪种乐器？</p> <p>Ss: respond.</p> <p>M: 我喜欢所有的乐器！音乐会要有不同的乐器！有人去过音乐会吗？ (Teacher shows several pictures of a concert, including local concerts, if possible. Ppt 4-1.) <i>Has anyone here attended a concert? Has anyone here been in a concert?</i> (If necessary, give examples of local or school concerts and ask if any of the students were there.)</p> <p>Students give a variety of response.</p> <p>M: 有的音乐会上，有人唱歌或演奏乐器，我喜欢音乐会。音乐会把美丽的声音都放在一起，非常好听！</p> <p>T: 我也喜欢音乐会。我们也可以有我们自己的音乐会。可是我们应该知</p>

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

Key Elements	Lesson 4 Procedures - <i>We can make sound</i>
	<p>道怎么用乐器制造声音。我问你们一个小问题：你们会玩什么乐器？谁会拉小提琴？</p> <p>(Students who know how to play violin <i>raise their hand</i>. Repeat with the same procedure and utterances for other instruments such as piano, guitar, maraca, drums, and flute.)</p> <p>M: 哇。你会玩乐器！</p> <p>T: 我有一个建议。下次我们去音乐室。音乐室里有很多乐器。</p> <p>M: 或者你们也可以带上自己的乐器来表演。下次见！这实在太好了。</p> <p>T: 我们也很高兴。音乐先生再见。</p> <p>Closing routine</p>
<p><i>Exploration</i></p> <ul style="list-style-type: none"> • <i>Objects and phenomena are explored.</i> • <i>Hands-on activities, with guidance.</i> 	<p>Play the instruments (Teacher takes students to the music room if possible.)</p> <p>Opening routine</p> <p>M: 老师好，同学们好！</p> <p>T: 你好先生音乐。很高兴见到您！</p> <p>M: 我不会错过这个音乐会！今天，我知道有些学生要演奏乐器！</p> <p>T: 没错！有没有同学带你的乐器来？带什么乐器？</p> <p>(Students might bring different kinds of instrument and play some song that they know. The total time that students play their instrument should not be longer than 6-8 minutes.)</p> <p>M: 哇！我喜欢所有的音乐。我喜欢所有的乐器。你们知道这些乐器是怎么制造这些美丽的声音？</p> <p>T: 这是一个很好的问题！这些乐器是怎么制造这些美丽的声音？</p> <p>S: 振动制造声音。</p> <p>T: 太好了！但是，不同的乐器是怎么振动的？</p> <p>M: 你们看看 (T shakes the maraca.) 这个乐器可以制造什么声音？</p> <p>T: 我知道。同学们，你可摇，摇，摇。</p> <p>(Students do the action of shaking.)</p> <p>M: 没错！当我摇，摇，摇的时候，我制造振动。</p> <p>At this point go back to every instrument students brought to play, and identify how the sound was produced.</p> <p>T: 怎么样？(Shows students the instrument and how to make <i>any wind instrument sound</i>)</p> <p>M: 啊，这太好玩了！当我吹气的时后，振动发出声音，！</p> <p>(Teacher does the action of blowing.)</p> <p>T: 我们一起来吹吹！(Students do the action of blowing.)</p> <p>M: 我们可以吹出声音，我们可以摇出声音！还有其他的方法吗？</p> <p>T: 吉他可以怎么制造声音？(Or other string instrument)?</p> <p>M: 这个好问题！你弹一下弦！</p> <p>T: 同学们，我们弹弦的时候，制造振动，振动制造声音。</p>

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

Key Elements	Lesson 4 Procedures - <i>We can make sound</i>
	<p>M: 你们很棒，我这里还有一个木琴！很多学生喜欢它，你知道木琴怎么制造声音？</p> <p>If students can't find the answer right away. Ask students to say the sentence together with the teacher.</p> <p>S: (Do the hitting action.)</p> <p>M: 好棒，木琴用敲打制造声音。你可以帮我吗？</p> <p>Ss: responses.</p> <p>Ask questions for students to display their learning.</p> <p>T: 今天我们学到了很多乐器怎么制造声音。现在我们来吟唱：（使用调用和响应，以实际行动）</p> <p style="text-align: center;">当我吹乐器时我可以感觉声音振动。 有时候，我只是摇动东西。 有时候，我弹，或吹，或打，或拉； 有时候，我只是摇动东西。</p> <p style="text-align: center;">声音，声音是什么？ 我们的四周由振动有了声音。</p> <p>M: 我们今天学了很多有意思的知识！我们想在可以自己来做个乐器！</p> <p>T: 你们已经看到了，我做了一个鼓。我们如何让鼓制造声音？</p> <p>S: 我们打鼓！</p> <p>T: 打鼓可以制造振动，振动制造音波？</p> <p>T: 下次，我们自己做乐器！</p> <p>M: 我们能帮你做乐器。</p> <p>Closing routine, including entire chant, Ppt 4-2a to 2d</p>
<p><i>Explanation</i></p> <ul style="list-style-type: none"> ● <i>Students explain their understanding of concepts and processes.</i> ● <i>New concepts and skills are introduced as conceptual clarity and cohesion are sought.</i> 	<p>Opening routine, including song</p> <p>T: 音乐先生你好。</p> <p>S: 你好。</p> <p>M: 你好！很高兴见到你！我知道，你们今天想自己制作乐器？</p> <p>T: 是的！我们学会了四制造声音的办法，它们是什么？</p> <p>S: 吹，打，摇，和弹。</p> <p>T: 你们做好的乐器在哪儿？</p> <p>S: 吉他。</p> <p>T: 吉他怎么发声呢？</p> <p>S: 你弹橡皮筋，橡皮筋制造声音！</p> <p>T: 鼓怎么制造声音？</p> <p>S: 我们打鼓。</p> <p>T: 现在我们已经做了一个乐器，我们也打了鼓！</p> <p>M: 如果我们开个演唱会，我们应该有更多的乐器！我们应该吹，打，</p>

World Language-STEM MODULE COVERSHEET

Good Vibrations/Sound

Key Elements	Lesson 4 Procedures - <i>We can make sound</i>
	<p>摇，和弹的乐器！</p> <p>T: 好吧！我们将有五个组。锣，笛子，吉他，响葫芦，鼓。</p> <p>T: 我们到每一个组，我就教你们怎么用这些乐器。</p> <p>(As students walk to each station, the teacher shows a sample of the instrument, plays it, and explains how the sound is produced and what is vibrating. Then the teacher gives a brief demonstration of how to make the instrument, describing each step along the way.)</p> <p>各检查信息与学生和他们哑剧每个仪器上的行动，产生声音：After each station, review the information with the students and have them pantomime the actions that produce the sound on each instrument:</p> <p style="padding-left: 40px;">响葫芦: 摇</p> <p style="padding-left: 40px;">吉他: 弹</p> <p style="padding-left: 40px;">笛子: 吹</p> <p style="padding-left: 40px;">鼓: 打</p> <p style="padding-left: 40px;">锣: 打</p> <p>After the demonstrations, give each child three squares of paper, numbered 1, 2 and 3. Have children write their names on the squares of paper. Then place the instruments they will make the next day in a row on a desk or table in the front of the room.</p> <p>T: 大家看，每种乐器都有一个数字，你们每个人都可以抽到一个纸条，纸条上有一个数字。你的数字是几号，你就到那个数字的乐器那里去。</p> <p>Continue to use call and response, because part of the chant is new. Have the children walk past the instruments and deposit their slips, pretending that their choices are a big secret!</p> <p>Closing routine.</p>
<p><i>Elaboration</i></p> <p><i>Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.</i></p>	<p>Making our own instruments</p> <p>Note: 这节课最主要是让学生们可以自己做乐器。学生们可以选择他们想做的乐器，并且开个音乐演唱会。每个学生都应该有机会，表演他们自己做的乐器。</p> <p>Opening routine, including song with all new instruments added</p> <p>T: 今天，我们将开始做我们自己的乐器。你听到了你的名字，就到你那组。</p> <p>T: 首先，双簧管。我们怎么用双簧管制声音？</p> <p>Ss: respond</p> <p>T: 这是的双簧管团组。他们都要做双簧管：(Read names)</p> <p>Continue this procedure for each of the instruments. When all the names have been read, continue:</p> <p>T: 我们一起努力做出最好的乐器。如果我们按时完成，也许你可以再做</p>

World Language-STEM MODULE COVERSHEET
Good Vibrations/Sound

Key Elements	Lesson 4 Procedures - <i>We can make sound</i>
	<p>另一种乐器。</p> <p>During the work time, Mr. Music can circulate among the groups, asking about their projects:</p> <p>M: 你做什么？</p> <p>(Student volunteers talk about their instruments.)</p> <p>M: 怎么让你的乐器制造声音呢？</p> <p>(Student volunteers talk about how they make sound by hitting, blowing, rubbing, plucking, and shaking. Students continue working on the instruments and should try to finish the instrument in this class.)</p> <p>M: 你们做的乐器我都喜欢。你们可以制造不同的声音吗？</p> <p>T: 我们可以制造什么声音呢？音乐那么好听。你教教我们吧。</p> <p>M: 当然！你们可以用乐器制造，不同的音量吗？</p> <p>T: 嗯...这就是说，我们可以制造大的声音和小的声音。</p> <p>M: 对了。</p> <p>(Students try their instruments.)</p> <p>M: 我们要制造音乐，有一件事是非常非常非常重要的！你知道什么吗？就是音调。什么是音调？</p> <p>T: (show high and low using the hands to remind students.)</p> <p>S: 是不是高和低的聲音？</p> <p>M: 没错！你可以试着制造一些高音调和一些低音调的声音吗？</p> <p>(Students try their instruments.)</p> <p>M: 我们要好好的练习，制造好听的音乐！</p> <p>T: 谢谢你，音乐先生。我们将有一个很好的音乐会。</p> <p>Closing routine</p>
<p><i>Evaluation</i></p> <ul style="list-style-type: none"> • <i>Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.</i> 	<p>Opening routine</p> <p>Note: 此评估只能在所有的学生完成乐器和知道如何使用他们的乐器。如果许多学生的乐器还没有完成，在最后一节课，这节课可以用来让他们完成乐器，或做另一个乐器。这个评估可以作为评估模块。用</p> <p>Worksheet 4b</p> <p>T: 我们做了这么多的乐器！我们来看看同学们做了什么乐器。</p> <p>(Students display their instruments.)</p> <p>T: 哇！我喜欢所有的乐器！自己做乐器是不是很好玩？让我们把我们怎么做乐器的方法写出来！（评估 4A）。让其他同学也学习怎么做乐器。</p> <p>(Students observe their instrument, listen to the sounds, and fill in Assessment 4b. Teacher's reference 4c)</p> <p>T: 让我们来介绍我们的乐器？我先介绍我的！</p> <p>(Teacher models the presentation. Students should present the name of the</p>

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Key Elements	Lesson 4 Procedures - <i>We can make sound</i>
	<p>instrument, how the instrument makes sound, and whether the instrument has high or low pitch.) Rotate among instruments, so that each instrument presented is different from the last.</p> <p>T: 大家都说的很好，我们一起来唱振动歌。</p> <p style="padding-left: 40px;">声音，声音，声音是什么？ 我们的四周由振动有了声音。 东西振动，使得声波传播通过空气，到了耳朵。 让我们听到了声音。声音，声音，这就是声音。 声音，声音是什么声音？ 东西振动，使得声波传播通过空气，到了耳朵。 振动速度快，音调高； 振动速度慢，音调低。</p> <p style="padding-left: 40px;">有时候，我吹，或弹弦； 有时候，我只是摇动东西。 我们说话，唱歌，或哼着歌声； 我的声带像鼓一样。 振动制造声音。</p> <p style="padding-left: 40px;">我可以感觉声音振动当我吹乐器时 (Acting out blowing) 有时候，我只是摇动东西。(Acting out hitting) 有时候，我吹，或弹弦；(Acting out rubbing and plucking) 有时候，我只是摇动东西。(Acting out shaking) 声音，声音，声音是什么？ 我们的四周由振动有了声音。</p> <p>Closing routine</p>

Teacher Reflections on Lesson 4 – <i>We can make sound.</i>	
<i>What worked well?</i>	
<i>What did not work well?</i>	
<i>What would I do differently?</i>	

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<i>Other comments or notes</i>	
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Lesson 5 - Assessment Task

Lesson 5 of 5	Duration: 30 Minutes
<i>Objectives</i>	<p>In this lesson all the elements of the module come together in a performance. There should be several days of practicing for this performance. The elements of the performance include singing the song, in which all the students make the motions for each verse but only the group holding the instrument actually will make the sounds on their instrument. All the percussion instruments should beat an accompaniment to the song. The chant might be accompanied by all the instruments, one group for each of the verses, or students might take turns leading the chant, or different groups of students might perform different parts of the chant. Students should help make these decisions for their concert.</p>
<i>Vocabulary and Expressions</i>	No new vocabulary or expressions
<i>Materials/Resources</i>	<ul style="list-style-type: none"> ○ Worksheet 5a – Student Can-Do Statement ○ Recorder

Performance Assessment
Interpretive Task
<p>At the final performance, the teacher introduces the instruments and sound, students step forward based on how the sounds of their instruments are made and whether the pitch is high or low.</p> <p>Rubric 5a</p>
Presentational Task
<ul style="list-style-type: none"> • Students perform (1) the “If you’re happy” song, and (2) the Sound Chant, while playing instruments that they have made. • Students describe the sound of their instruments and their characteristics, including pitch and frequency.
Interpersonal Task
<ul style="list-style-type: none"> • Students interview one another during lesson 3 in order to see which sounds each likes and

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does not like.

- Students interview one to two classmates to find out what their instrument looks like, how their instruments are made, and what the sound is. They will use the information they get from the interview to fill in the worksheet and these worksheets can be collected and published as a Class Instrument Book.

Teacher Reflections on Lesson 5 – <i>Assessment Task</i>	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	