2nd Sound Systems Unit
Unit Blueprint

Lesson	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (**Bolded** sections indicate portion of benchmark addressed)	Formative and Summative Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Monitor Student Learning
<u>Lesson 1: The Sound Museum</u> **Pacing Suggestions:** **Days 1 & 2 –** *Finding Out about Sound Centers* (Session 1 in Teacher's Guide) **Day 3 –** *Setting Up the Sound Museum* (Session 2 in Teacher's Guide) **Day 4 –** *Checking Understanding* (Session 3 in Teacher's Guide) **Teacher Resources:** 		12D(K-2)#1: Describe and compare things in terms of number, shape, texture, size, weight, color, and motion. 12D(K-2)#2: Draw pictures that correctly portray at least some features of the thing being described.	Use teacher-generated *Team Record Sheets*, which are available under "Teacher Resources" on the electronic curriculum. (See Steps 1-5 on pages 21-23 in Student Guide.)	**Descriptions on *Team Record Sheet*** • Do students select words that accurately (as possible) describe the sounds produced? **Drawings on *Team Record Sheet*** • Do students make legible drawings? • Do the drawings include all the parts of the systems? • Do the drawings accurately portray most of the systems?
	What causes sound? How do parts work together to make sound?	Related to 4F(K-2)#3: Things that make sound vibrate. 11A(K-2)#3: When parts are put together, they can do things that they couldn't do by themselves. 12E(K-2)#1: Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask the same question.	Question #4 on page 22 in Student Guide (See page 47 in Teacher's Guide for additional information and sample questions/dialog to use when interacting with the teams.) Poster Presentations (See Step #7 on page 50 in Teacher's Guide.)	• Do students' explanations include the interaction of parts? • To what extent do students display an understanding that objects that make sound vibrate? (This will be developmental—most likely, students will not make this generalization yet.) • During the Poster Presentation, do students use evidence to support their explanations about how they think their system makes sound?
		1C(K-2)#2: **In doing science, it is often helpful to work with a team and to share findings with others.** All team members should reach their own individual conclusions, however, about what the findings mean.	Class discussion about the process of sharing ideas. (See Step #8 on page 50 in Teacher's Guide.)	• Do students' comments and reflections about the process reveal an understanding of the value in sharing? • Do students relate their classroom sharing to ways scientists share information?

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<u>Lesson 2: Making Sound</u> **Pacing Suggestions:** **Days 1 & 2 –** *Make Sound Systems* and *Investigating Sound Systems* **Day 3-** *Teaching Strategies* Steps 6-9 **Day 4-** *Checking Understanding* **Teacher Resources:** 	What causes sound?	12D(K-2)#1: **Describe and compare things in terms of** number, shape, texture, size, weight, color, and **motion.** Introduce 4F(K-2)#3: Things that make sound vibrate.	*Lesson 2 Record Sheet* (Use teacher-generated sheet available under "Teacher Resources" on electronic curriculum.) *Checking Understanding* • Completed independently and collected by teacher (Use Teacher-generated sheet available under "Teacher Resources" on the electronic curriculum.) • Class discussion of statements (See page 63 in Teacher's Guide.)	***Lesson 2 Record Sheet*** • Are students able to identify parts of the system that move? • Do students provide clear descriptions of the motion of the parts? ***Checking Understanding*** • Are students able to identify parts of the system that move? • Do students provide clear descriptions of the motion of the parts?

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<u>Lesson 3: What Makes Sound</u> **Pacing Suggestions:** **Day 1 –** Session 1 on pages 68-71 in Teacher's Guide **Day 2 –** Session 2 on pages 71 & 72 in Teacher's Guide **Day 3 –** Session 3 on pages 72 & 73 in Teacher's Guide **Teacher Resources:** 	What causes sound?	4F(K-2)#3: Things that make sound vibrate. 12E(K-2)#1: Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask the same question. 1C(K-2)#2: In doing science, it is often helpful to work with a team and to share findings with others. All team members should reach their own individual conclusions, however, about what the findings mean.	*Testing Ideas about Sound Record Sheet* (Copy teacher-generated sheet, available under "Teacher Resources," on the back of BLM 3-1) Class discussion & class charts about what makes sound (See Step #6 on page 71 in Teacher's Guide.)	***Testing Ideas about Sound Record Sheet*** The Record Page provides the teacher at-a-glance information about students' current understanding about sound. If students agree with CQ, they are most likely confusing what **initiates** sound with what makes sound (vibrations). Question #2 should provide a "window" into students' current thinking and level of understanding. **Class discussion & Charts** • Do the students understand that vibrations produce sound? (This is developmental—some students will understand sound production and others will be focused on the force needed to initiate the sound.)

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<u>Lesson 4: Matching Ideas about Sound</u> **Pacing Suggestions:** **Day 1 –** Session 1 **Day 2 –** Finish stations (if necessary), Steps 6-10 on pages 83 & 84 **Teacher Resources:** 	What causes sound?	4F(K-2)#3: Things that make sound vibrate. 12E(K-2)#1: Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask the same question.	*A Closer Look Record Sheet* (BLM4-1) (See *Notes on Individual Systems* on pages 85 & 86 in Teacher's Guide.) *Sound Starters* and *Evidence of Vibrations* class charts (See Steps 6 & 7 on page 83 in teachers guide.)	***A Closer Look Record Sheet*** • Do students use evidence to support the idea that the system vibrates? • Are students able to differentiate between "sound starters" (the force used to initiate the movement/vibration) and evidence of vibrations? ***Sound Starters & Evidence of Vibrations Class Charts*** • During class discussion, do students use their evidence recorded on their sheets? • Do students' comments reveal an understanding that vibrations cause sound? (Students should understand this for at least the objects at stations 2, 3, 4, 6, and 8.)