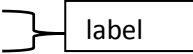



Instructional materials *FOSS Physics of Sound Grade level 3*

<p>Big Idea: Sound is a form of energy. 4-5 PS3A, B, & D</p>	<p>Vocabulary: energy, explain, generate, transfer, communicate, labeled energy diagram</p>
<p>Learning Target: To show and explain how sound energy is received.</p>	<p>Common Misconceptions: I make sound by my actions. The object makes the sound.</p>
<p>Success criteria: I can draw an energy diagram to show how sound energy is received. I can explain what is happening.</p>	
<p>Elicitation Activity*: Partner review: sound source, sound transfer</p> <ul style="list-style-type: none"> • Partner-up – draw a sound source • Switch papers – draw sound energy being transferred from the source  • Professor walk – dot paper – check under document camera <p>Smart Board review: sound source and sound transfer</p>  <p>Sound energy transfer Sound energy source Clipart: Microsoft</p>	
<p>Target introduction/lesson Activities:</p> <p>Today's target: <i>To show and describe how sound energy is received.</i></p> <p>Introduction: If a tree falls in a forest, will it make a sound? What would hear it? →</p> <p>Activities: Smart Board – tree in the forest. If you think the sound energy is heard by animals with ears, how do you think the energy transferred (moved) from the source to the ear? Group work: 6 students per group. String bundle for each group. Students plan a group demonstration of a sound source generating sound, and the sound energy transferring through the air (string sound waves), to a sound receiver. Demonstrations: Each group performs Teacher talk: Ear: shape funnels sound energy, vibrating sound energy causes parts of the ear to vibrate. Video: Ear receiving sound energy.</p>	

Talk structures, discourse strategies:

Student to student discourse – partners

Whole class popcorn discourse – smart board

Need to plan for student think time and student-to-student discourse in response to this question before the students see the Smart Board forest animation.

Group planning.

Do the Science

Embedded Formative Assessment:

Draw and label a sound energy diagram to show how sound energy is transferred from a source to a receiver.
Describe what is happening.

Students self-assess: Present success criteria to the students and have them check their work for each criterion.

Success criteria:

- Show:
 1. I can draw a diagram of sound energy transfer.
 2. I can label all the parts of my sound energy diagram.
- Explain :
 1. I can explain what is happening at each part of my sound energy diagram.

Adjustment Trigger *What level of student performance will necessitate an instructional adjustment?*

Student work is incomplete or is inaccurate.

Instructional Adjustment (if needed):

If majority of class -- reteach.

If a few students – establish small groups in which peers who have demonstrated understanding help those who are struggling.

Reflection:*

Wrap up: Smart Board animation of barrier placed between the sound source and the sound receiver – *“The sound receiver is blocked! What happens now?”*

* Opportunity for formative assessment