Gr. 2 – Understanding Matter and Energy

Properties of Solids and Liquids

Super Listener Earphones

Specific Expectations:

2.1 Follow established safety procedures during science and technology investigations.

2.2 Investigate the properties of liquids and solids.

2.7 Use a variety of forms to communicate with different audiences and for a variety of purposes.

3.2 Describe the properties of solids and liquids.

Big Idea (for lesson):
Students investigate sound through everyday objects, and build a makeshift stethoscope to explore sound in liquids and solids.

Accommodations:
- Increase time
- Visual Aids
- Manipulatives
- Chunking
- Step-by-Step
- Scaffolding
- Copy of Notes
- Student Grouping

Differentiated Instruction:
- Content: Use demo to show the content as you offer verbal descriptions.
- Process: Have students work in pairs and support each other if physical impediments exist.
- Product: Students may submit their final product in pairs, and communicate their findings either verbally, visually, or through written means.

Bloom’s Taxonomy:
- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

Multiple Intelligence:
- Verbal/Linguistic
- Logical/Mathematical
- Visual/Spatial
- Bodily/Kinesthetic
- Naturalist
- Musical/Rhythmic
- Interpersonal
- Intrapersonal

Delivering The Lesson:

<table>
<thead>
<tr>
<th>Portion &amp; Timing</th>
<th>Grouping: W S L</th>
<th>Introduction: Teacher begins by asking students how doctors can tell if certain organs (ie. the heart or the</th>
<th>Materials</th>
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<tbody>
<tr>
<td>Minds On: 5 mins</td>
<td>☒ ☐ ☐</td>
<td>-Thunder tube</td>
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**Gr. 2 – Understanding Matter and Energy**  
*Properties of Solids and Liquids*

<table>
<thead>
<tr>
<th>Action: 30 mins</th>
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<th>S</th>
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<tbody>
<tr>
<td><strong>Lungs</strong> are working correctly? (Answer: eventually prompt them towards the idea of “listening” for abnormal sounds in the body.)</td>
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<td>-How are sounds produced? (If no one answers something along the lines of “vibrations”, proceed straight to the demo anyways.)</td>
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<tr>
<td>Teacher does a Predict, Observe, Explain demo with students showing how sound is made. Ask students to predict what will happen when you shake the thunder tube around?</td>
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<td>-Shake the Thunder Tube around, producing a loud sound. Ask students the following questions:</td>
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<td>-Why did that happen? (Answer: The coil vibrated, sending sound up and out of the tube.)</td>
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<td>-Based on your observations, what needs to happen for sound to be produced? (Answer: there must be some sort of disturbance or vibration.)</td>
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<tr>
<th>Action: 5 mins</th>
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<td>Teacher brings the class back together to ask a couple of closing questions about sound and solids/liquids:</td>
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<tr>
<td>-What do the particles in solids look like? (Answer: they are tightly packed together, with not much space in between.)</td>
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<tr>
<td>-What do the particles look like in liquids?</td>
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Note: The password can be substituted with a high-five for the in-class movement activity.

They then listen to solid and liquid objects as a partner taps them, following the directions of the handout. The teacher can ask which was louder, listening through air or the solid/liquid. They can also ask about the clarity of the sound.


**Super Listener Earphones Handout** (Materials listed)

**W** = Write, **S** = Speak, **I** = Imagine
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<td>(Answer: they aren’t as close as in solids, but closer than gases which are quite spread apart.) -Where does sound come from? (Answer: vibrations/taps/disturbances) -Why does it move faster in solids? (Answer: because in solids the particles are closer and vibrate to pass on a sound wave more quickly.)</td>
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