


Science Lesson Plan - MMLC

Grade: K-6		Subject: Science
Materials: yarn, plastic cups, metal spoons, paper and markers		Technology Needed:
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/ cooperative learning <input type="checkbox"/> Guided practice <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> PBL <input type="checkbox"/> Learning Centers <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Lecture <input type="checkbox"/> Modeling <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) <input type="checkbox"/> Other (list)		Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input type="checkbox"/> Independent activity <input type="checkbox"/> Technology integration <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Imitation/Repeat/Mimic <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:
Standard(s) 4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.		Differentiation Younger vs. Older Student: pair them up so that the older students who will grasp the material faster or who have already been exposed to the concept can help the younger students learn the basis of the material that is being presented Modalities/Learning Preferences: Visual: posters with the different sound waves Auditory: hearing the difference in the spoon
Objective(s) By the end of this lesson, students will understand that sound travels in waves and experiment with hearing different sounds.		
Bloom's Taxonomy Cognitive Level: understand and apply		
Classroom Management- (grouping(s), movement/transitions, etc.)		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)
Minutes	Procedures	
5-10 min	Set-up/Prep: <ul style="list-style-type: none"> • Prepare posters for introduction of material <ul style="list-style-type: none"> ○ Example of sound wave ○ Amplitude and frequency questions • Prepare spoons for first activity <ul style="list-style-type: none"> ○ Tie yarn to the spoons • Prepare cups and yarn for telephones <ul style="list-style-type: none"> ○ Cut yarn approximately six-foot lengths ○ Punch a hole in the bottom of all the cups ○ Make an example telephone 	
5 min	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) <ul style="list-style-type: none"> • Transition the students to sit on the floor in the circle in the center of the court <ul style="list-style-type: none"> ○ Remind students to have their masks on • Introduce the idea of sound waves <ul style="list-style-type: none"> ○ “Do any of you know anything about how sound travels?” ○ “What things affect how sound travels?” • Present posters about sound waves <ul style="list-style-type: none"> ○ Explain that there are two things that affect what a sound wave looks like: amplitude and frequency ○ Test the students on which one is louder (hold up a 1 or a 2) for amplitude ○ Test the students on which one has a higher pitch (hold up a 1 or a 2) for frequency 	
5 min	Explain: (concepts, procedures, vocabulary, etc.) <ul style="list-style-type: none"> • Use the spoons activity to explore more about waves traveling through the air vs. directly to our ears (https://theresjustonemommy.com/sound-wave-experiment-with-hanger/) <ul style="list-style-type: none"> ○ Hit the spoon with another spoon ○ Ask the students what they are hearing – is it loud? Different than the expected? • Show the students how to hold the spoon and yarn – wrap the yarn around the pointer fingers and place in your ears and lean forward so that the spoon is hanging in the air, not on their shirt *do not shove your fingers in your ears* • Allow the students to try <ul style="list-style-type: none"> ○ Divide the students into three groups ○ Have them line up in a single-file line and take turns placing the yarn with the spoon in their ears 	



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	<ul style="list-style-type: none"> ○ The teacher or classroom assistants can tap another spoon against the other spoon ● Discuss what the students heard <ul style="list-style-type: none"> ○ “Was it loud or quiet?” “What did the sound remind you of?” ○ “Why do you think it sounds like that?” ● Explain that the sound becomes louder because the sound wave is able to travel up the yarn, directly to their ears <ul style="list-style-type: none"> ○ Talk about the difference for sound waves traveling through the air vs along a string; what else could sound waves travel through?
<p>10 min</p>	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <ul style="list-style-type: none"> ● Introduce the second activity of making telephones (http://www.housingaforest.com/string-telephone/) <ul style="list-style-type: none"> ○ Show them my telephone ○ “Has anyone made one of these before?” “What do you think it is?” ● Show example and explain the steps to make the process <ul style="list-style-type: none"> ○ Take your yarn and thread it through the hole at the bottom of the cup; tie a knot at the end that is large enough to not come back through the hole – if you need assistance ask ○ Repeat for the other end of the yarn with the other cup ● Tell the students to find their own spot on the floor <ul style="list-style-type: none"> ○ Pass out two cups and one piece of yarn ○ Use classroom assistants ● Build the telephones <ul style="list-style-type: none"> ○ Allow the students to build their cups ○ Use both the assistants and older students to help the younger ones build their telephone ● Teach the students how to use the telephones <ul style="list-style-type: none"> ○ Stand apart so that the yarn is tight; talk at a voice level that is louder than a whisper but not quite yelling; one end is held up to the speakers mouth and other end is held up to friends ear; ● Play a game of telephone <ul style="list-style-type: none"> ○ Stand in a circle, far enough apart so that their yarn is tight ○ Give the first student a phrase ○ Have them say the phrase to the next student; continue around the circle until it gets to the last student ○ Have the last student say what they heard through their telephone ○ Compare to what phrase was initially stated ○ Can repeat for the desired time <div data-bbox="954 604 1502 961" style="text-align: right;">  <p style="text-align: right; font-size: small;">housingaforest.com</p> </div>
<p>2 min</p>	<p>Review (wrap up and transition to next activity):</p> <ul style="list-style-type: none"> ● Discuss if their telephones work or if they have problems with the telephones <ul style="list-style-type: none"> ○ The sound travels along the string ○ Had problems if the string was sagging or if something were to touch the yarn ○ “Did you have to yell when talking? What voice level did you talk in?”
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check- in strategies, etc.</p> <ul style="list-style-type: none"> ● Asking questions to the students throughout ● Beginning activity – hold up a 1 or 2 to show understanding <p>Consideration for Back-up Plan:</p>	<p>Summative Assessment (linked back to objectives) End of lesson:</p> <p>If applicable- overall unit, chapter, concept, etc.:</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p> <p>I feel that this lesson plan went okay. I feel that it would have been better in a classroom setting. The group that comes on Tuesdays/Thursdays have a lot of energy. They had a long day of distance learning and many were frustrated by the end. They were also given the chance to have PE that day and were wound up after that.</p> <p>In addition, when I was teaching this lesson, it was me and only one other assistant. When planning for this activity, I assumed there would be around 5 of us. Making the telephones was a struggle for many of the students and since it was hard to help them all at the same time.</p>	

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We ended up cutting the lesson short, not playing the game of telephone. It was clear to me that the students needed to get their energy out and I knew that another teacher was coming in to teach a lesson. With this in mind, we took the students outside so they could burn off some steam. They ended up getting a game of kickball together. Two of the girls, however, took their telephones outside and used them as dogs that they could walk on a leash. It was great to see their imagination flowing.

If I were to teach this lesson again, I would check how many assistants I had before doing a project that might be too difficult. It ultimately depended on the fact that they had a rough day of distance learning. It was great that they were able to grasp the material. Many of the students knew what was happening with the sound waves and the string and why they noise was traveling the way it was.