

Lesson Plan Template

Date: 1/29/2020

Grade: 2 nd		Subject: Science	
Materials: Mystery Science video: If you floated down a river, where would you end up?, paper, markers, garbage bags, stickers, spray bottles, "This land belongs to" paper		Technology Needed: computer and projector	
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input type="checkbox"/> Other (list) <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> PBL <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Modeling		Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain: <input type="checkbox"/> Hands-on <input type="checkbox"/> Technology integration <input type="checkbox"/> Imitation/Repeat/Mimic	
Standard 2-ESS2-3-Water is found in the ocean, rivers, lakes and ponds. Water exists as solid ice and in liquid form.		Universal Design for Learning Below Proficiency: Students who are below proficiency will have difficulty engaging in discussion and will have difficulty conducting the experiment. To help these students reach proficiency, I will have them listen and discuss with students who are actively participating in the discussions. In order to help them with the experiment, I will be walking the room to offer assistance as needed. Above Proficiency: Students who are above proficiency will have a deeper understanding of where rivers start and why water flows. In order to challenge these students, I will prompt them to go more in depth with their answers by giving examples. Modalities/Learning Preferences: <ul style="list-style-type: none"> • Visual: Students will see the Mystery Science videos. • Auditory: Students will hear the videos, instruction, and peer discussion. • Kinesthetic: Students will move around the room during transitions and as needed during the experiment. • Tactile: Students will be creating mountains and using a spray bottle to simulate rain. 	
Objective By the end of the lesson, students will be able to explain that all rivers end in oceans. By the end of the lesson, students will experiment with water to determine why it flows by manipulating their mountain model. Bloom's Taxonomy Cognitive Level: Understanding and Applying			
Classroom Management- (grouping(s), movement/transitions, etc.) <ul style="list-style-type: none"> • Students will be seated at the front of the room on their sit spots for the videos and discussion. • Students will be working at their desks during the experimentation time. • I will use call backs as needed to regain student attention. • I will use countdowns to signal transitions • I will use positive reinforcement to let students know how they should be acting. 		Behavior Expectations- (procedures/expectations specific to the lesson, rules and expectations, etc.) <ul style="list-style-type: none"> • Students will raise their hands to answer questions or make comments. • Students will not interrupt others • Students will use an appropriate voice level during instruction and work time • Students will be respectful of other's personal space 	
Minutes	Procedures		
	Set-up/Prep before lesson: <ul style="list-style-type: none"> • Mystery Science videos pulled up • Experiment materials ready to hand out 		
3 minutes	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) <ul style="list-style-type: none"> • Thank you for joining me at the front of the room! • Second graders, we are going to be detectives. We need to study water! • Why do we need to study water? Let's listen to Doug from Mystery Science to find out! 		
16 minutes	Explain: (teacher-led) <ul style="list-style-type: none"> • First turn and talk: <ul style="list-style-type: none"> ○ Has anyone floated down a river before? What was it like? ○ Why do we think a river flows? Turn and talk with your neighbor • Second turn and talk: <ul style="list-style-type: none"> ○ What patterns can you see? <ul style="list-style-type: none"> ▪ Remember this is a REAL map, but these are not all the rivers in North America. 		

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	<ul style="list-style-type: none">▪ Let's start with where the rivers start. Do we see any patterns here? Turn and talk▪ How about where the rivers end? Do we see any patterns or similarities here? Turn and talk• Third turn and talk:<ul style="list-style-type: none">○ What do we think?<ul style="list-style-type: none">▪ Could adding the hills and mountains to our map help us understand why rivers flow?▪ Why?
30 minutes	<p>Elaborate: (concrete practice/application with relevant learning task -connections from content to real-life experiences)</p> <ul style="list-style-type: none">• Alright learners, we are going to be doing an experiment to help us figure out why the water in rivers flow!• Before we can start, we need to find our desks.• Please be in your desk by the time I hit zero.<ul style="list-style-type: none">○ Count down from 10• Let's listen to Doug to find out more!• Each student needs 1 "Land" paper, one marker, four stickers/pieces of tape, and two blank pieces of paper.• Ask students to put their names on the "Land" paper. Model if needed.<ul style="list-style-type: none">○ Have students give a thumbs up when they are ready• We are going to be working with our across neighbor for this experiment.• Let's wave at our across neighbors to be sure we know who we are working with!• Follow along with video instructions to make the landscape and model as needed.<ul style="list-style-type: none">○ Make sure to tell kids to be GENTLE when crumpling the paper over a friend's fist. <p>* This is a good place to stop this lesson if we run out of time. (After students tape their landscapes to their paper)*</p> <ul style="list-style-type: none">• First Turn and Talk:<ul style="list-style-type: none">○ What is your land like? Turn and talk○ Share out○ Use vocabulary like mountains, valleys, and plains• Second turn and talk:<ul style="list-style-type: none">○ Where will the rain water go? Turn and talk○ Share out-ask them to be descriptive <p>*This is a good place to stop this lesson if we run out of time.*</p> <ul style="list-style-type: none">• Follow along with video instruction for marking the landscape. Model if needed.• Have students take a look at their neighbors' landscapes• Third turn and talk:<ul style="list-style-type: none">○ Are all of our landscapes the same?○ No! Our landscapes are all different, just like all the mountains on Earth are different.○ Even though our landscapes are unique, they will still help all of us figure out why water flows! <p>*This is a good place to stop this lesson if we run out of time*</p> <ul style="list-style-type: none">• Listen to instructions for spraying the mountains.• Repeat that we only spray our mountains FIVE times.• After that, we have to wait and watch! (for one minute)• After one minute, we need to spray our mountains again, but only FIVE times!• Then, we need to wait and watch what the water does again!• We also need to share our water sprayers-practice patience.• Ask students to repeat directions to me.• After observing the water flowing down the mountains, ask students to join me at their sit spots.<ul style="list-style-type: none">○ Count down from 10• We are going to talk about, or discuss, what we saw, and see if we can solve our mystery of why water flows.• Fourth turn and talk:<ul style="list-style-type: none">○ What happened when it rained on your model? Turn and talk○ Why do you think the water when where it did? Turn and talk○ Did it make anything that looks like a river?• Fifth turn and talk:<ul style="list-style-type: none">○ After observing our landscapes after some rain, what do you think we would find at the start of every river?○ Another way to ask this is: where do rivers start?○ Why do you think this?○ Let's listen to Doug again to help us solve our mystery.• Go to the online resource to show students which body of water the Missouri River leads to!

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	<ul style="list-style-type: none"> ○ First see if they know the name of the Missouri River. (What is the closest river to us?) 	
4 minutes	Closure (wrap up and transition to next activity): Ask one or both depending on how far we get in the activity: <ul style="list-style-type: none"> • Learners, what did we learn about where all rivers lead? • What makes water flow? • Lets' turn our attention to Mrs. Allen so we can get ready to go home! 	
	Formative Assessment: (linked to objective, during learning) <ul style="list-style-type: none"> • Progress monitoring throughout lesson (document of student learning, data collection) <ul style="list-style-type: none"> • Student answers to questions • Student discussion during turn and talks • Students' comments and wonderings during the experiment • Final product of the experiment • Students' final comments and wonderings after the experiment 	Summative Assessment (linked back to standard, END of learning)
Teacher Reflection (What went well? What did the students learn? How do you know? What changes would you make?): <p>Went well:</p> <p>I thought that this lesson had great engagement. Students were involved the whole time and were excited to learn about why water flows and where it ends up. I had one student who needed some time to calm down from recess. He was in the "safe" corner, and I let him know that he could join us when he was ready. He joined shortly after talking to him, and he was engaged in the lesson for the rest of the time.</p> <p>Something else that went well were the ideas that came from the turn and talks. Students had great theories about why water flows. None were accurate, but their reasoning behind what they thought was interesting to hear.</p> <p>We ran out of time during this lesson, but students needed the extra time for discussion. I was happy that I did not try to rush to finish the lesson. By taking our time, I ensured that students got the most out of the experience.</p> <p>Another thing that went well during this lesson was the classroom goals. Our goals were to use appropriate voice levels and to not interrupt others while they were talking. My students' voice levels were great, and we did pretty well with not interrupting others. There were a few instances in which interruptions happened, but students were able to practice self-control and stop talking until their classmate was finished.</p> <p>What did students learn:</p> <p>Students learned that water flows from high places to low places. I know that they learned this because I listened to their discussions during the videos and during the experimentation. Students were able to discuss why water flows when they were spraying water on their mountains, and they were also able to explain that all rivers eventually end in an ocean.</p> <p>Changes:</p> <p>If I were to change anything about this lesson, I would start with implementing movement somehow. As engaged as my students were, they are only second graders. It does not matter how engaging something is, they still need to move around a bit so that they can come back and focus. I think it would have worked well to incorporate some stretch breaks between videos. I could have led them in reaching high and low along with other stretches.</p> <p>Another thing I would do differently if I could teach this lesson again would be to dig deeper into background knowledge. I could have asked more about rain, puddles, how water flows down a street, etc. I think this would have helped students connect water flowing to their own lives and see that water does not only flow down a mountain or down a river.</p> <p>Something else I would do differently would be to create an assessment in which students would show their understanding of the concept of water going downhill. All students participated in the experiment and discussions, but a tangible assessment would have been an asset to this lesson. I think I lost some potential for this lesson by not assessing students at a deeper level than I did.</p> <p>One other thing that I would change about this lesson is the experiment. The mountain was a great start, but I would add another part to the experiment. I would let students devise their own experiment to test how water flows. They would need parameters, but allowing students to create their own experiment would have solidified their understanding of the concept of flowing water. This also could have worked for an assessment.</p>		