

Bodies of Water- Science Lesson

Grade: 2		Subject: Science	
Materials: Bodies of Water PowerPoint Presentation, bodies of water drawing worksheet for each student, map of the world coloring sheet for each student, cut small green paper rectangles (3 per student), blue play dough (1 container for every 2 kids)		Technology Needed: Laptop and Smart-board for PowerPoint	
Instructional Strategies: Direct instruction Guided practice Socratic Seminar Learning Centers Lecture Technology integration Other (list)		Guided Practices and Concrete Application: Large group activity Independent activity Pairing/collaboration Simulations/Scenarios Other (list) Explain:	
Standard(s) 2-ESS2-2 Develop a model to represent the shapes and kinds of land and bodies of water in an area.		Differentiation Below Proficiency: Students that are below proficiency will be expected to create and draw 1 or 2 bodies of water rather than 3. Above Proficiency: Students that are above proficiency will be asked to write 1 or 2 things about each body of water under their drawing. Approaching/Emerging Proficiency: Students that are approaching proficiency will complete the lesson as written. Modalities/Learning Preferences: Visual, kinesthetic, auditory	
Objective(s) By the end of this lesson students will be able to distinguish between oceans, rivers, and lakes by learning about their features, creating a simple model of each with play dough, and drawing their play dough model. Bloom's Taxonomy Cognitive Level: Remember and Understand		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) <ul style="list-style-type: none"> Play dough is meant to help with learning. If students are misusing it while the teacher is talking, privileges will be rescinded. Students will raise their hand when they would like to ask a question. Students will keep a voice level of 0 or 1 while working independently. 	
Classroom Management- (grouping(s), movement/transitions, etc.) <ul style="list-style-type: none"> I will place the sheets of paper and play dough on the floor at the front of the room during different parts of the lesson. At these points, students will come up, retrieve their sheet of paper, and sit back down at their desks. 			
Minutes	Procedures		
20	Set-up/Prep: Pull up PowerPoint Presentation on the board, print out map of the world coloring sheet for each student, print out bodies of water worksheet for each student, cut out green rectangles to represent land (3 per student), separate blue play dough for each student and place in foam bowls.		
3	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) Open Bodies of Water Power Point to the second slide on water. I will start with an attention-getter: "Class, class, class." Students: "Yes, yes, yes." "I am going to ask you a question and I would like you to think about it. You are not going to answer right away. Just take a moment and close your eyes. When you think about water, what do you think about?" I will allow for about 30 seconds and then I will bring the students back. "In my head, I visualized a mighty waterfall. I was standing on a rocky beach and the water was falling over a cliff that was far above my head. I would like to hear what you thought about, but I am only going to ask my friends that are raising their hands respectfully to share." I will call on a few students and we will discuss their answers.		
20	Explain: (concepts, procedures, vocabulary, etc.) "Water is very important for us to live. It is found all over the world in many different forms. Areas of land that are covered		

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by water are called bodies of water.” I will reference my anchor chart. “There are many different kinds of bodies of water. A fun fact about bodies of water is that many of them around the world are connected in some way. We are going to learn about a few of these bodies of water today. The first is the ocean.”

I will move the Power Point to the next slide about oceans. “Oceans are the largest body of water. If you have been to the ocean please make a face like a fish. Very neat! The water in oceans is different than the water that you have at home. Ocean water is actually called salt water. Have you ever eaten a french fry that had lots and lots of salt on it? The water in the ocean has even more salt than that! It is not the kind of water that you want to drink after doing a three mile run. In addition to having salt water, oceans provide homes to many, many living things. They take up nearly 71% of the earth’s surface. From space, the earth looks like a blue marble because there is so much water on the earth. You are going to color in a map of the world to see what this looks like.”

I will move the Power Point to the image of the page they will color in. “This is the sheet of paper that each of you are going to color in. The areas that have the letter G should be colored green. The areas that have the letter B should be colored with the color blue. Can anyone think of why we are using these colors? Please raise your hand if you think you might know.” Students should say green is for land and blue is for the water. “Thank you. There are a few places that are hard to tell if they are land or water. (I will point to a specific area that is land.) “This spot is land and needs to be colored green. It was too small to place a G in there. Just do your best when you are not sure if it is green or blue. You may use markers, crayons, or pencils, but please no sharpies. I will give you 4 minutes to color the map in. This is not a lot of time so please be neat but know that you might not finish and that is okay.” Move slide to directions for the coloring sheet. I will call on individual students to read out the steps for the coloring sheet and continue. “Once you take out your colors, you can come to the front and pick up a sheet of paper. The directions will be on the board if you need a reminder. The timer is starting now.” I will walk around and make sure that students are following directions and understanding what we are doing. My goal with this activity is to have students understand the vast amount of water on the earth. By coloring in this sheet, students will be able to visualize the idea that the earth is 71% water.

I will give the students a 1 minute warning to wrap up what they are doing and clean up. Once the 4 minutes are over, I will bring my students’ attention back. “If you can hear me clap once. If you can hear me clap twice. If you are not done, that is okay but I would like all eyes on me. Thank you. Please place your coloring sheets on the ground next to you and put your colors away if you have not already. (I will wait until I have everyone’s attention.) If you think that there is more water than land on earth make a wave motion with your hand. (I will demonstrate a wave motion.) If you agreed then you are right! Our earth has almost 3 times more water than land! Most of this water is found in our oceans.” I will move the slide to the picture of the ocean. “Take a few seconds to analyze this picture. We are not going to share yet, but I would like you to think about what you see. How big do you think it is? Can you see the other side? What do you think is under the water? Turn and talk to a friend about what you are analyzing.” Students will share with one another and then I will bring their attention back. “If you cannot see the other side of this ocean, make binoculars with your hands. That is right! We cannot see the other side of this ocean. It is so wide and deep that a picture cannot show how big it is.”

I will move the PowerPoint to the slide on lakes. “Next, we have lakes. Lakes are different than oceans. They do not have salty water. They have fresh water. They are still and surrounded by land on all sides. Do we have any lakes in North Dakota? Yes, we do!” I will move the PowerPoint to the slide on Lake Sakakawea. “Lake Sakakawea is a lake in North Dakota. Has anyone ever been there before? Raise your hand if you have.” I will call on a few students to see what they did and what they noticed at the lake. “Lake Sakakawea is surrounded by land on all sides. It is blocked in by land kind of like a swimming pool. Lakes do not move around. They are still and contained. Do you notice how you can see the other side of the lake in this picture? That shows how much smaller a lake is than an ocean.”

I will move the Power Point to the slide on rivers. “Next, we have rivers. Rivers have fresh water like lakes; however, they are not contained. Rivers flow and move around a lot. They do not have a certain shape, but sometimes they can look like a snake. They connect bodies of water that are very far apart. We have several rivers in North Dakota. One of them is the Little Missouri River.” I will move to the Little Missouri River slide. “Do you see how with this river we cannot see where it started and where it will end? The Little Missouri River starts in Wyoming and comes through Montana and South Dakota to get to North Dakota.

“We have learned about oceans, lakes, and rivers. Who can tell me something about oceans? Who can tell me something about lakes? Who can tell me something about rivers?”

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15	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <p>“Now that we know about oceans, lakes and rivers we are going to create them! Everyone is going to get some blue play dough. Please come up to the front, take some play dough, and bring it back to your desk. You can play with it for a minute.” Students will have a brief period of time to play with the play dough. While they are playing with their play dough I will pass out one green rectangular piece of paper for each student. After each student has one, I will bring their attention back. “Please put the play dough back in the container and bring your eyes to the front. Thank you. As you see, I placed a green piece of paper on your desk. This represents land. Your challenge is to create how the body of water looks on the land. What do you think a river might look like?” We will discuss that a river flows from one place to another. It is narrow and long. It would go across the paper similar to what a snake would look like. I will demonstrate what I would do as well. “You are only going to use a piece of the play dough because we will need the rest for the other bodies of water. Does anyone have any questions? Okay. You have 2 minutes to create your river.”</p> <p>While students are creating their rivers I will be walking around to pass out the next piece of paper and ensure that students understand what the river is supposed to look like. “Great work scientists! Hands off the play dough, please, and eyes on me! Thank you. You are going to create another body of water, but you need to save your river. Do not take it apart. Simply push your river towards the back of your desk to make room for our next body of water which is a lake! Remember that a lake has land surrounding it on all sides. Most lakes are roughly shaped like a circle, but they do not always have to be. For mine, I would start with a circle and stretch it out from there. (I will demonstrate this.) Does anyone have any questions? Okay. Take another piece of your chunk of play dough and create your lake! You have 2 minutes.”</p> <p>Once again, I will walk around with the final piece of paper. I will ensure that students are understanding what they are doing and answer any questions they might have. Once the paper is passed out and students are ready, I will introduce the final body of water. “Class, class, class class class!” Students “Yes, yes, yes yes yes!” Teacher: “I would like all lakes on the back of your desks and eyes to the front please! Thank you. We created a river, we created a lake, and now...the ocean! From what we know about the ocean, what do you think you are going to need to do? That’s right! You are going to want to cover all of the land with the play dough. Hopefully you have enough play dough left from the other two. If you do not, take a little from your lake but make sure that your lake still holds its shape. You will take the play dough, stretch it out over the whole piece of paper and make it look like the ocean. You have 2 minutes.”</p> <p>I will once again walk around and help students that need clarifications. Once students are finished with their three play dough bodies of water, we will move on.</p>
12	<p>Review (wrap up and transition to next activity):</p> <p>I will bring the students attention back and begin. “Each of you have three bodies of water in front of you. You are going to push the ocean away from you and make sure that your hands are empty. I will wait until everyone is ready to move on. Wonderful. You all did an amazing job. Now that we know what each body of water looks like, you are going to draw what you created with your play dough. (I will display the sheet of paper where they will draw their bodies of water.) There are three boxes: one for each body of water we learned about today. Under each box is the label river, lake, or ocean. If you are unsure which one is which, there is a poster in the front that shows each picture with their spelling for you to refer to.</p> <p>“First, you will draw the river. (I will demonstrate how to draw the river for students. On the white board, I will create a box to demonstrate the box on their worksheet. I will show them that my play dough river looked like a snake, so I take my dry erase marker and follow the lines that I had used for my play dough.) Second, you will draw the lake. (I will demonstrate how to draw the river for students. The lake should be outlined in a somewhat circular shape.) Third, you will draw the ocean. For the ocean, you may want to add waves to show the water. (I will demonstrate the ocean as well.) Does anyone have any questions?”</p> <p>Review expectations with students. “What are you drawing first?” Students: The river. “Second?” Students: The lake. “Third?” Students: the ocean. “Where can you find a place to look to make sure that you are completing the right drawing?” Students: The poster of bodies of water. “Thank you. When you receive this sheet of paper, I expect that you draw each body of water and write your name on it. Once you have drawn the bodies of water, you can color the drawing in. You may not use color with your bodies of water until after they are drawn. What did I say?” Students repeat that colors may not be used until after they have finished drawing the bodies of water. “Any other questions? You will have 7 minutes to do this.”</p> <p>During the 7 minutes, I will meet with my students that are below proficiency specifically. I will encourage them to draw at least one of the bodies of water, preferably two. I will give students a 1 minute warning. Once the time is up, I will bring my students’ attention back.</p>

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"If you are not done, that is okay. We need to prepare to move on so I need everyone to listen closely:

1. Name on paper
2. Turn into red bin
3. Play dough away
4. Green paper in recycling
5. Map of world home or recycling
6. Clean off desk

(This will also be displayed on the board.) Let's see if you can beat the timer. You have 2 minutes to do this."

Once students have finished these directions, they will come to the front of the room for a brain break and transition into their next activity.

Formative Assessment: (linked to objectives)

Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.

I will ask specific questions for understanding throughout the lesson. I will also walk around the room to answer questions and check-in with my students.

The worksheet of bodies of water drawings enables me to see if students were able to understand the form of each body of water and create it with their models and drawings.

Grading Criteria:

- 3- Student's drawings accurately distinguish between the bodies of water with the correct shapes, widths, and sizes.
- 2- Student's drawings show some accuracy in distinguishing between the bodies of water with some correctness in shapes, widths, and sizes.
- 1- Student's drawings do not accurately distinguish between bodies of water in regard to shapes, widths, and sizes.

Consideration for Back-up Plan:

Summative Assessment (linked back to objectives)

End of lesson:

If applicable- overall unit, chapter, concept, etc.:

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

I think this lesson went really well overall. I could tell that students were very engaged through the questions they asked and their participation throughout. This lesson had a good balance of instruction and hands on learning. I moved through the content at a pace where learning happened, but students did not check out. I discussed the main points while including students in the learning. I made the rivers and lakes applicable to my students through including examples that were close to home and that some students had visited. For oceans, the concept of the world is hard to wrap our heads around so I had students color in a picture of the world to visualize the ocean and how vast it truly is. I know that even if students do not know exactly how much water is on the earth, they now know that most of the earth is made of water. Students then got to use play dough to create what they learned. Before they followed my directions for the play dough, students were given a brief period of time to get used to it with no specific instructions. This enabled their curiosity to be satisfied so they could focus better when they used the play dough to create their bodies of water. In this lesson, students learned how to distinguish between oceans, lakes, and rivers. They know the differences between each. I know that students learned this through the play dough models they constructed, the drawings they created of their models, and their questions and comments throughout. I felt very prepared and excited for this lesson. I put everything that I needed together beforehand and followed the timing I allotted for the lesson.

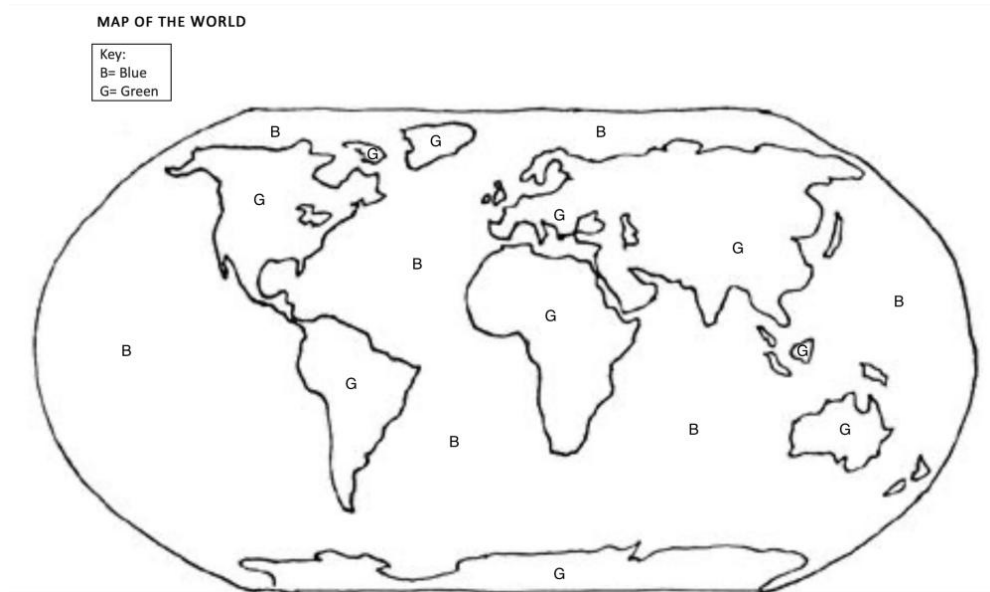
One of the biggest changes I would make is the expectations for using play dough. It did work out in the end, but I believe the lesson could have gone a little smoother if I had stated my expectations. Additionally, there was a lot of time management that occurred and students had very strict amounts of time to complete different parts of the lesson. While I did give students warnings, my practicum teacher suggested that I have a visual of the amount of time left so that students can plan accordingly. The timing was a little fast at parts and there was one student specifically who struggled with it. I was not always aware of his frustration. If I taught this lesson again, I would add some sort of visual for time to help students. I would also check on this student more regularly to make sure he is understanding what we are discussing and that he is doing okay.

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I would teach this lesson again given the chance. It was fun, informative, and engaging. There was quite a bit of prep work that needed to be done and the time went fast, but I think that it was worth it.

Appendix A:

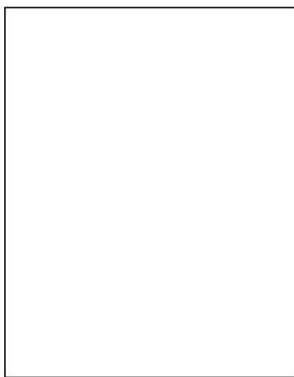
Map of the World Coloring Sheet



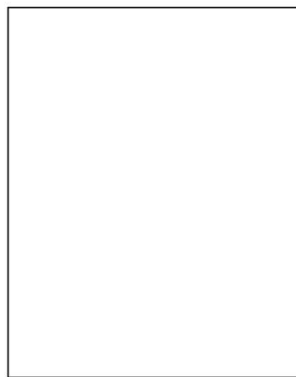
Worksheet of Bodies of Water Drawings

Name: _____

Drawings



River



Lake



Ocean