



Grade(s): 4th	Topic: Where is water found?	Time Frame: 2 (45min.) Class Periods
Lesson Description: This lesson is designed to help students understand the distribution of water and its forms on Earth.		
Specific Learning Outcomes: <ul style="list-style-type: none"> • TSW discover what percentage of the Earth’s surface is covered by water. • TSW identify the forms in which water is found on the Earth’s surface. • TSW recognize that there is a lot of water in the world, but that not very much of it can be used for drinking water. • TSW learn how oceans, glaciers, and fresh water play a role in the water cycle. 		Resources Needed: <ol style="list-style-type: none"> 1. 100 pennies or counters per group 2. Inflatable Globe or world map 3. Chart Paper 4. Markers 5. Water cycle handout 6. Article by Addie Moorefoot: For the world’s poor, drinking water can kill.
Activity Standards		
TN Science Standards	Next Generation Science Standard Practice	Common Core Standards
GLE 0407.8.1: Recognize the major components of the water cycle. Interdisciplinary Standard: SS4.3.8 Cause and effect between population and environment.	Practice 5: Using Mathematics and computational thinking	<ol style="list-style-type: none"> 1. Determine the main idea of a text and explain how it is supported by key details; summarize the text. 2. Draw evidence from informational text to support analysis, reflection and research. B. Apply Grade 4 Reading standards to informational text (e.g., “Explain how an author uses particular points in a text”)
Guiding Questions		
Also known as your essential questions. What do you want the students to be able to answer by the end of this lesson		
1. How does water influence the Earth’s composition?		
2. What is one of the main risks of drinking polluted water? Explain		
3. How does water distribution affect population distribution?		
Possible Preconceptions/Misconceptions		
1. Most of the Earth’s water is fresh water		
2. Water, especially drinking water, is easily accessible.		
3. The majority of Earth’s surface is land.		
Activities/Task		
What learning experiences will students engage in?		
Day 1		
In a whole group setting, teacher will give students an inflatable globe or color copy of a world map and ask them to write a short description of the globe or map.		
<ol style="list-style-type: none"> 1. In small groups of 4, instruct students to brainstorm and create a list of all the places and forms where water can be found on Earth. 2. Instruct students to make an observation about the similarities and differences between the items on their list and create three categories. Teacher will write the classifications: ocean, glaciers, and fresh water on the board. Teacher will explain to students that these are the classifications that water experts have developed. Discuss each category, and have students to record these heading in their journals. Have students to sort the items they recorded into these three categories. 		

- Have students engage in accountable talk to estimate the percentage of water found in each category. Using the following question: What percentage of the world do you think is ocean? Glacier? Freshwater?

Day 2

- Distribute 100 pennies or counters to each group. Have them to show their estimation using the pennies or counters. *** The total percentage should equal 100% correlating with 100 pennies or counters***.
- Provide students with the actual percentage: Oceans 97%, Glaciers 2%, and freshwater 1%. In a whole group setting, compare group estimation to the actual percentages.
- To help students conceptualize what 97% as ocean water, 2% as glaciers, and 1% as freshwater means, ask students to recreate these percentages by stacking 97 pennies (97% oceans), 2 pennies (2% glaciers) and 1 penny (1% freshwater). Have students' record true percentages in their science journal.
- Looking at the globe or map of Earth, describe the difference between how much land you see compared to water. Point out that 70% of Earth's surface is covered by water.
- Because water in the air is less than one penny, it is not represented numerically. Discuss with students that this 0.001% of water in the air is very important.
- Provide students with a copy of the water cycle and discuss each stage. Have students to answer the following question: What role does the three forms of water play in the water cycle?
- Have students create a table that describes how each state of the water cycle affects each form of water.
- Interdisciplinary Activity (Social Studies) – Have students to research the following web address and answer the following question; how does fresh water distribution affect population distribution in the United States of America? (<http://ga.water.usgs.gov/edu/wateruse-fresh.html>.)

<p style="text-align: center;">Reading Task</p> <p>One of the literacy shifts in common core is for students to focus on more complex, non-fiction literature.</p>	<p style="text-align: center;">Writing Task</p> <p>In science students are responsible for writing either an explanatory or argumentative piece. Below simply type the writing prompt in which students will dive into.</p>
<p>For the world's poor, drinking water can kill. By Addie Moorefoot.</p> <p>http://www.newsela.com/articles/clean-water/id/56/</p> <p>Lexile score can be adjusted to accommodate different reading levels.</p>	<ul style="list-style-type: none"> - <u>Task 1</u> - What is one of the main risks of drinking polluted water? - <u>Task 2</u> – Why does the author say, “That doesn’t reflect the reality (of the disease) killing something like 2 million children each year?” - <u>Writing Prompt</u>: Write a paragraph explaining the problem described in the article. Draw evidence from the text to support your response. Develop your paragraph with information from the article.
<p style="text-align: center;">Assessment</p> <p>How will your students be assessed? How will you use the above learning experiences as formative assessment opportunities? (If activity is several days long, please specify the day with the activity/reading task)</p>	
<ul style="list-style-type: none"> • Students understanding will be assessed with answers they record in their science journal for places water is found on Earth, the categories of their list, and estimations of the percentages of water found in Earth. • Student responses to the writing task and writing prompt will be assessed for specific problem stated and proposed solution presented by the author, supported for their response, and relevant, well-chosen facts, details and examples. 	
<p style="text-align: center;">Modification/Accommodations:</p> <p>What curriculum modifications and/or classroom accommodations can be made for students with disabilities in a class</p>	
<ul style="list-style-type: none"> • Provide print-out of map with different bodies of water for students to label. • Provide writing stems and accountable talk stems. • Provide students with percentages only and have them to label them as you discuss them in class. • Instead of pennies use counters to limit distractions. • Pair struggling students with more advanced students. • Lower the lexile score of the article to accommodate slower readers. 	