Water Cycle - Real World Situations

**Station #1 - Grandma Johnson Likes to Garden**

Scenario:

There is a sweet little old lady who lives down the street. Everyone calls her Grandma Johnson. One afternoon when you were walking home from school, you saw her standing in front of her house looking really frustrated. You stop and ask her what is wrong. She says that she is having a hard time with the plants in her yard. When she waters them around noon everyday she notices that the water dries up really quickly, and it doesn’t really seem like her plants are able to soak up the amount of water they need because they look droopy.

*How can you help out Grandma Johnson with your knowledge of the water cycle?*

**Station #2 - What’s wrong with my Mountain Dew?**

Scenario:

Your Aunt bought a 2 liter Mountain Dew for the whole house to share with dinner the night before. You decided to have a glass of it with your breakfast before school (even though this is very unhealthy!). You realized that you were about to miss the bus so you put the cap on and just left it on the counter in front of the window. When you got home from school later that day you noticed all these drops of liquid at the top of the bottle. You wonder how they got there.

*Using your knowledge of the water cycle explain which steps of the water cycle caused the drops of liquid to be at the top of the bottle.*

**Station #3 - Why is it so humid?**

Scenario:

Alyssa goes to school in Atlanta during the school year, but visits her dad in Wilmington (which is on the coast of North Carolina, close to the ocean) for a few weeks every summer. When she came this summer she noticed that it was VERY humid here compared to Atlanta. Weather is more humid when there is more water in the air.

*Explain to Alyssa why it is more humid in Wilmington than Atlanta.*

**Station #4:**

Scenario: Antarctica is a frigid place with lots of snow and many glaciers! [**Glaciers**](https://nsidc.org/cgi-bin/words/word.pl?glacier) are made up of fallen [**snow**](https://nsidc.org/cgi-bin/words/word.pl?snow) that, over many years, compresses into large, thickened [**ice**](https://nsidc.org/cgi-bin/words/word.pl?ice) masses. Glaciers form when snow remains in one location long enough to transform into ice. What makes glaciers unique is their ability to move. Due to sheer mass, glaciers flow like very slow rivers. Some glaciers are as small as football fields, while others grow to be dozens or even hundreds of kilometers long.

*Figure out the role that glaciers play in the water cycle.*

**Station #5:**

Scenario: Ms. Street is from the great state of Michigan! Michigan is surrounded by four of the Great Lakes (Lake Michigan, Lake Superior, Lake Huron, Lake Erie). These lakes are a part of the world’s **hydrosphere,** which is the liquid water component of the Earth (not solid, like ice, or gas, like water vapor).. It includes the oceans, seas, lakes, ponds, rivers and streams. The hydrosphere covers about 70% of the surface of the Earth and is the home for many plants and animals. Ms. Street goes back home to visit Michigan and she notices that the temperature is much hotter than it was a few months before. Since she is teaching her students about the water cycle, she wonders how this temperature change is impacting the water cycle.

*Help Ms. Street figure out how the world’s temperature change can impact the water cycle and more specifically the Great Lakes.*

Name:\_\_\_\_\_\_\_\_\_\_\_ Block:\_\_\_\_\_ Assignment #:\_\_\_\_\_

**Water Cycle - Real World Edition!**

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| **Station #1*** What time of day do you think water evaporates more quickly: morning, afternoon, or evening? Explain why.
* What time of day is Grandma Johnson watering her plants? Is that a good time? Explain why you think that.
* What time of day would you suggest Grandma Johnson water her plants? Why did you suggest that time?
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| **Station #2*** Where did you leave your bottle of Mountain Dew?
* What did you see in your bottle of Mountain Dew when you got home?
* What stage of the water cycle causes a liquid to turn into a gas (water vapor)?
* What stage of the water cycle causes a gas to change back into a liquid drop?
* What two parts of the water cycle caused the droplets at the top of your Mountain Dew bottle?
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| **Station #3*** Where does Alyssa live during the school year? Is that close to a body of water?
* Where did Alyssa visit during the summer? Is that close to a body of water?
* When it is humid there is more \_\_\_\_\_\_\_\_\_\_\_ in the air.
* What part of the water cycle takes water from different places on Earth and puts it into the air?
* Why is it more humid in Wilmington compared to Atlanta?
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| **Station #4*** What is a glacier?
* How is a glacier formed?
* Do glaciers move? If so, how?
* Do you think that water gets out of a glacier quickly/easily?
* Do glaciers hold on to water or move it around quickly in the water cycle? How do you know this?
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| **Station #5*** What Great Lakes surround Michigan?
* What is included in the hydrosphere?
* What part of the water cycle happens more when temperature increases?
* When the temperature increases in Michigan, what happens to the Great Lakes (in terms of the water cycle)?
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