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# Global Precipitation Measurement Mission

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Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

## Earth Wheel IQuest: Introduction Student Capture Sheet

Objective: Demonstrate an understanding of Earth's water cycle and the importance of freshwater resources.

How would you describe water? Be sure to include information on where water came from, what water is, and how we use water in our daily lives. \_\_\_\_\_

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To begin the IQuest, go to <http://1.usa.gov/1nYdhCJ>.

"Water's Family Tree" article:

1. What is the chemical formula for water? \_\_\_\_\_

2. Where are molecules of water created?  
\_\_\_\_\_

3. Why was it important for Earth to develop an atmosphere for water to exist on Earth?  
\_\_\_\_\_

4. How do scientists think water arrived on Earth?  
\_\_\_\_\_

5. Why can't we just combine two atoms of hydrogen and one atom of oxygen and make water?  
\_\_\_\_\_

*Earth as the "Water Planet":* Why do you think Earth has this nickname? About how much of Earth's surface do you think is covered by water? How much of Earth's water is freshwater?  
\_\_\_\_\_  
\_\_\_\_\_



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*“Show Me the Water” video:*

1. Using both quantitative (numbers) and qualitative (words) data, explain why Earth’s actually has very little freshwater resources even though over 70% of Earth’s surface is covered by water? \_\_\_\_\_

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2. In the U.S., use both quantitative and qualitative data to explain how we use our freshwater resources. \_\_\_\_\_

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*“Precious Freshness” article:*

1. Look at the pie graph that illustrates how freshwater resources are used in the US. What do we use most of our freshwater for? \_\_\_\_\_

2. Explain what it means when we say “water is finite”.

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3. Why isn’t desalination a good option for increasing how much freshwater we have to use?

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4. What are some good practices that communities can take to conserve our freshwater resources?

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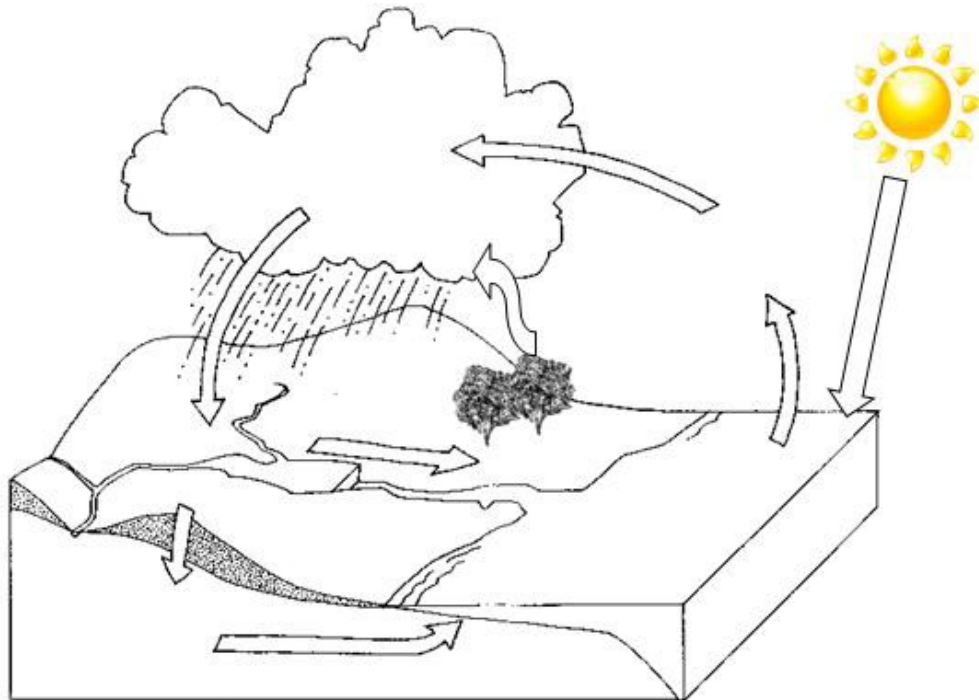
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## Earth's Water Cycle:

Use what you learn in the water cycle animation to add labels to the diagram below with the words in the Word Bank.



### Word Bank

Evaporation  
Condensation  
Precipitation  
Transpiration  
Radiation  
Run-off  
Groundwater  
Infiltration

### "The Water Cycle: Featuring Molecule Man" video:

1. What are some of the things that we are learning by using satellites to study Earth's water cycle?

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2. How do you think the use of satellites increase our understanding of Earth's water cycle? Why can't we just rely on data we collect from the ground?

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3. If you were going to be able to design a satellite to study one process of Earth's water cycle, what would you choose to study? What would you want to learn about it? Why would

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you choose that aspect of Earth's water cycle to study?

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## Earth-Observing Satellites Data Table:

Use the information from the four satellite websites to complete the data table below.

Mission	What water cycle processes will this mission study? (precipitation, etc.)	How will this improve our understanding about climate change?
<b>Terra</b> <a href="http://1.usa.gov/1peGdM0">http://1.usa.gov/1peGdM0</a>		
<b>Aquarius</b> <a href="http://bit.ly/1viBngo">http://bit.ly/1viBngo</a>		
<b>TRMM</b> <a href="http://1.usa.gov/1p5GdYI">http://1.usa.gov/1p5GdYI</a>		
<b>GRACE</b> <a href="http://1.usa.gov/XMnGeP">http://1.usa.gov/XMnGeP</a>		

*Extra for Experts:* If you have a little more time, please go to <http://eosps0.gsfc.nasa.gov> and spend a little time learning how NASA is studying Earth from space.

