

PLANETS Science Series:

Water in the Solar System

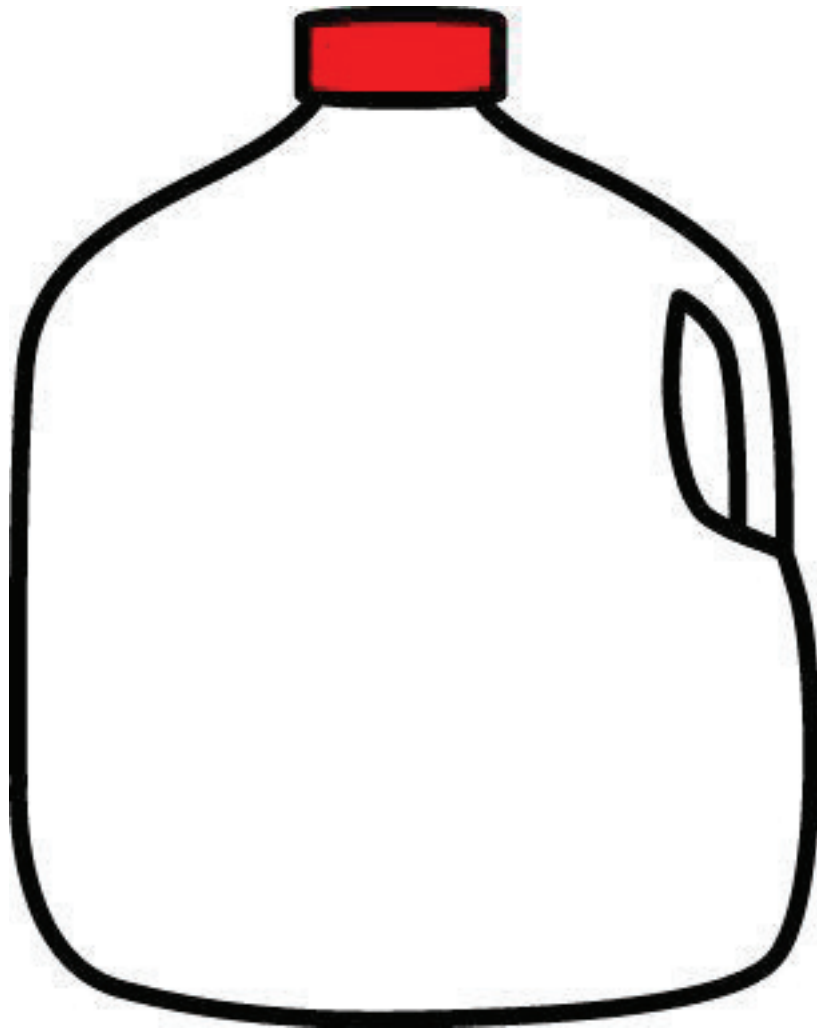
SCIENCE *NOTEBOOK*

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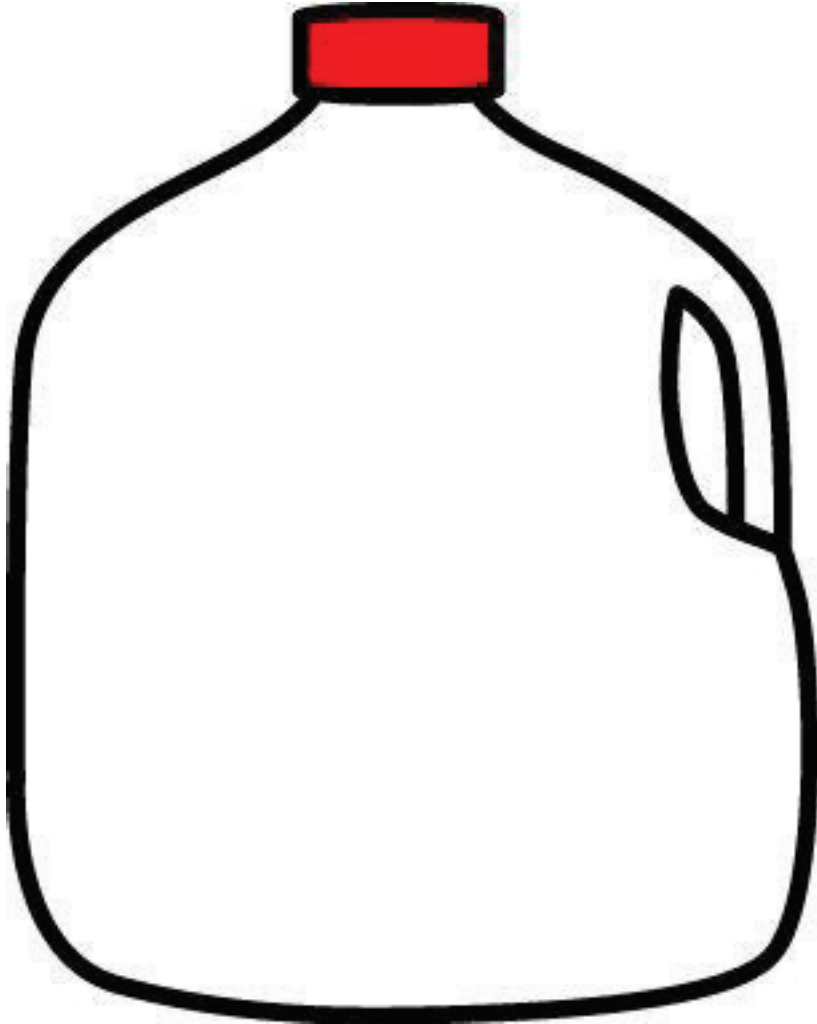
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Activity 1 **Water on Earth**

If all of Earth's available water was represented by a gallon jug, draw and label lines that show how much of it you think is accessible to humans and usable for humans.



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Activity 2 Where Can You Find Water in the Solar System?

Before exploring the cards:

Do you think other planetary bodies have the same water reservoirs as the Earth?

Where do you think most of the water in the solar system is located?

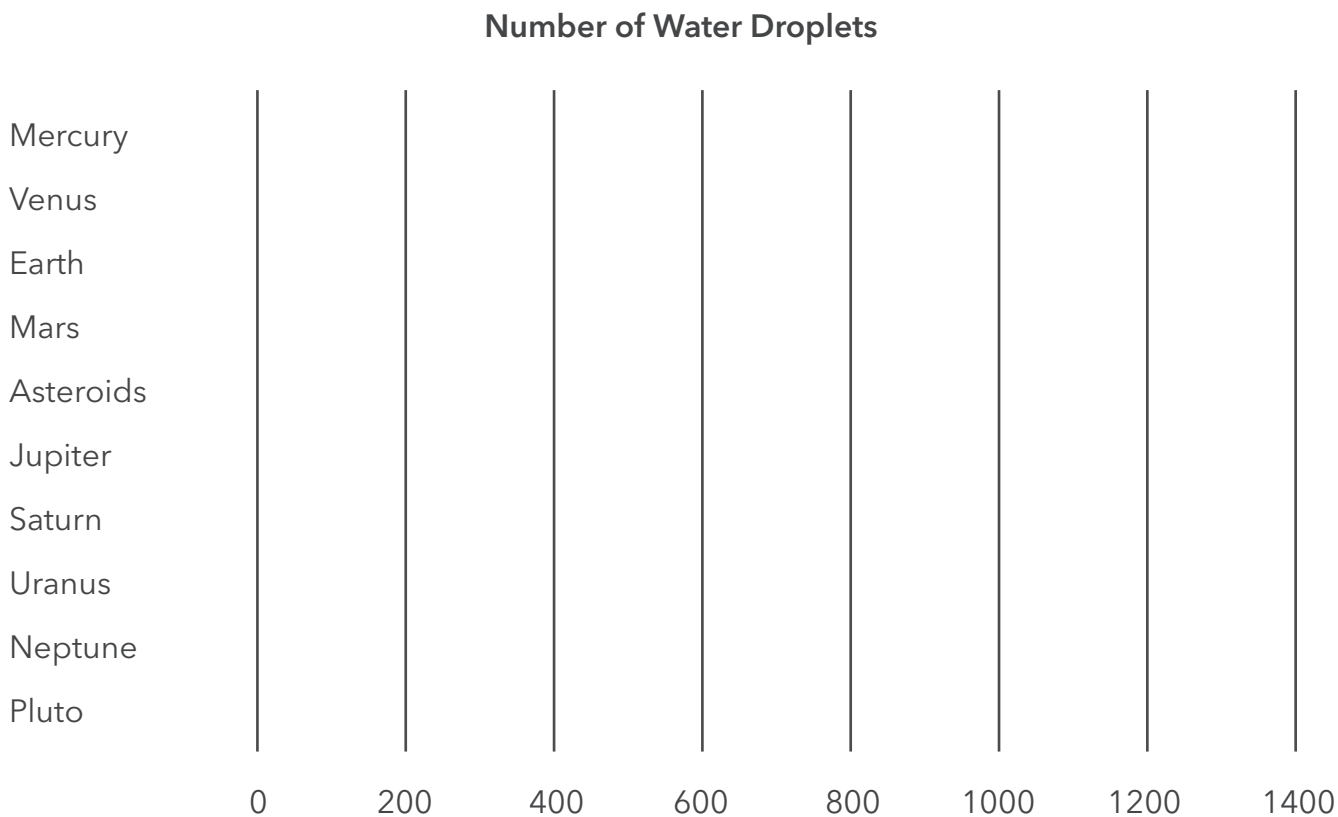
After exploring the cards:

How did your predictions compare to the chart results?

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Activity 2 Where Can You Find Water in the Solar System?

After the water in the solar system charts are finished, chart the number of water droplets on the bar graph for each planetary system (the planet and its moons):



What patterns do you see in the charts and the bar graphs?



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Activity 3 Where Can You Find Water in the Solar System?

You've entered a NASA contest to choose a planetary body to explore in our solar system that has potential for usable or habitable water. Look through all your cards and choose up to 3 to investigate. Gather and record your evidence in the chart below.

Name	Water Availability	Water Accessibility		Water Usability	Rank in order of potential for exploration
Name of Planetary Body & Water Reservoir	How much water is there (droplet value)?	Subsurface, Surface, or atmosphere?	Is it liquid, ice, or vapor?	*Could it be pure water? Is there evidence of salinity or other chemicals?	1 = most promising 3 = least promising

*If the card says mostly water ice or two different kinds of ice (i.e. carbon dioxide and water), there might be evidence that it's not pure water. We don't know much about the salinity of water elsewhere in the solar system but what we do have some evidence for is included on a few cards.

Next, choose the most promising planetary body out of your whole group. Why did you choose your first preference for exploration? Explain your choice.

Are there reservoirs that are more promising for primitive life than for humans? Note: There is no wrong answer if you support your claim with evidence.

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Activity 3 Where Can You Find Water in the Solar System?

Optional Guide for Presentation

(Answer these questions to use as a script for your presentation):

What reservoir in the solar system did you choose to explore?

Are you choosing to explore this for the possibility of primitive life, for human use, or both?

If your water is not pure, liquid, and located on the surface, what is your argument for the water's potential?

Is there anything else you are considering for your mission other than the water's availability, accessibility, usability, and/or potential habitability?



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More room for optional notes or drawings: