earth science

Hydrology and Oceanography

Global Water Distribution

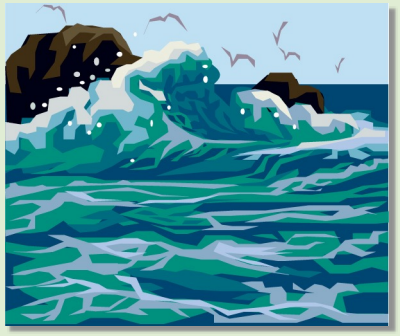
Your Name

How is water distributed on Earth?

Lab Tasks —

If all of Earth's water could fit inside a 2-liter (2000 mL) bottle, how much water in that bottle would be from each water source, total and fresh?

1. On the back of the paper, develop an equation and show the math for calculating each water source.
2. Use the lab materials to create accurate physical models (with labels) showing the total and fresh global water distribution.
3. Use a computer and Excel to create excellent graphs showing the total and fresh global water distribution.



Graphing Hints: Be sure to show all decimal places on your graph, and be sure your pie-of-pie graphs show smaller data clearly.

Global Water Distribution — Data Source: Gleick, P. H., 1996: Water resources. In *Encyclopedia of Climate and Weather*, ed. by S. H. Schneider, Oxford University Press, New York, vol. 2, pp. 817-823.

Graph the data below by creating 2 pie-of-pie charts:

- Graph #1: Total Water
- Graph #2: Fresh Water

You may create the graphs by hand or use digital tools such as Google Sheets. Check your work — be sure to include all the elements of a well-designed graph, including a **masterpiece caption**. Refer to your **Help Guides** for an editing checklist and more information.

	Graph #1	Graph #2	Additional Data
Water Source	**Percent of Total Water**	**Percent of Fresh Water**	**Volume (km^3)**
Oceans, Seas, and Bays	96.5	0	1,338,000,000
Ice Caps, Glaciers, and Permanent Snow	1.74	68.7	24,064,000
Groundwater (Fresh)	0.76	30.1	10,530,000
Groundwater (Saline)	0.94	0	12,870,000
Soil Moisture	0.001	0.05	16,500
Ground Ice and Permafrost	0.022	0.86	300,000
Lakes (Fresh)	0.007	0.26	91,000
Lakes (Saline)	0.006	0	85,400
Atmosphere	0.001	0.04	12,900
Swamp Water	0.0008	0.03	11,470
Rivers	0.0002	0.006	2,120
Biological Water	0.0001	0.003	1,120
Total	**100**	**100**	**1,385,984,000**

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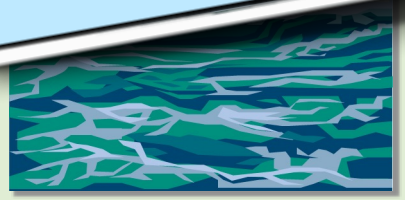
by Jack Ganse

- Students create and analyze graphs showing distribution of water on planet Earth

, P. H., 1996: Water resources. In *Encyclopedia of* University Press, New York, vol. 2, pp. 817-823.

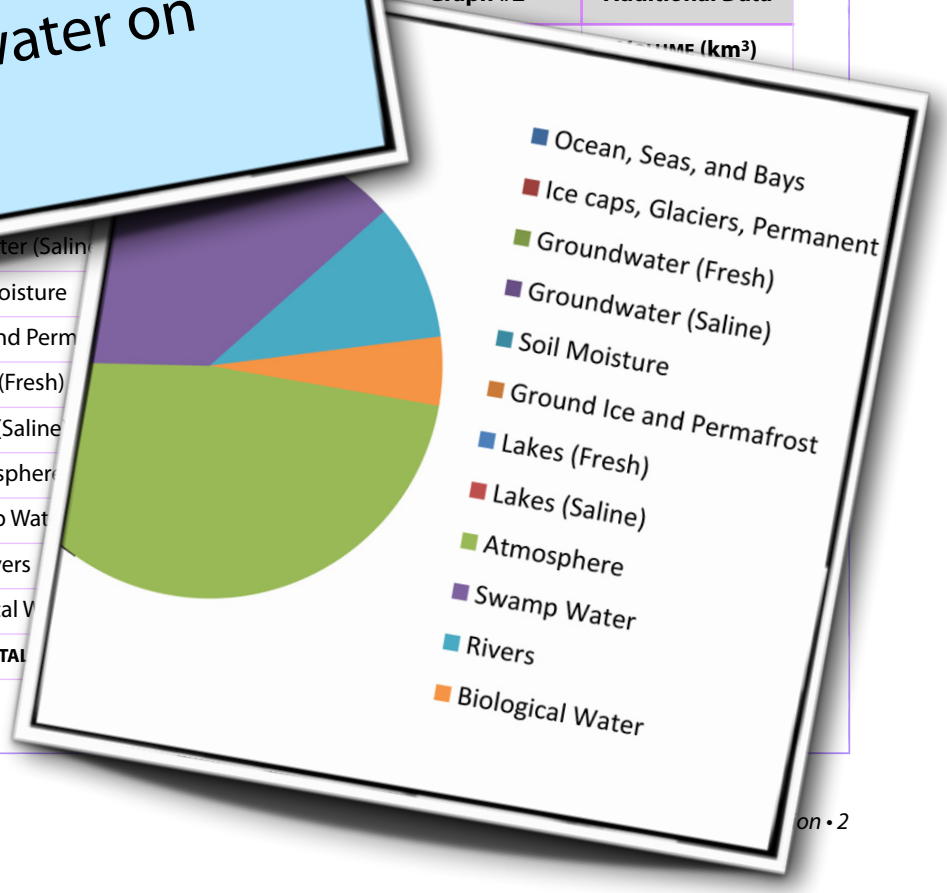
uch as Microsoft Excel (using the Pie-of-Pie signed graph, including a **masterpiece** on. If you use a computer, make sure your re emailing.

Graph #2	Additional Data
	ME (km³)
Soil Moisture	
Ground Ice and Perm	
Lakes (Fresh)	
Lakes (Saline	
Atmospher	
Swamp Wat	
Rivers	
Biological V	
TOTAL	



Pie-of-Pie Quick Tutorial —

- Select pie wedges
- Right click the wedges
- Choose "Format Data Series"
- Look for "Second plot contains the last X values



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