

Water Distribution on Earth

From the first lesson with the globe toss, we know that about 70% of the Earth's surface is covered by water. And, we also know most of that water is found in the oceans and is salty. In this lesson, you will model the distribution of "all" the water on Earth to identify where the freshwater is located. Since it is the freshwater that humans and ecosystems need for survival, we will take a look at this precious resource.

As you proceed with the lesson, keep the focusing question in mind.

? What is surprising about the distribution of freshwater on Earth ?

MATERIALS

Different size beakers and graduated cylinders
Variety of containers to hold water (gallon jugs, clean jars, etc.)
Food coloring

PROCEDURE

1. Listed below are the percentages of Earth's water in all categories. Study the percentages and then make a model choosing from the materials listed above.
2. Be prepared to show the class your model and discuss why you chose that scale.

Water Resources on Earth

97.2% oceans (salt water)
2.8% freshwater

Freshwater
2.15% ice sheets and glaciers
0.7% other freshwater resources
 0.62% groundwater
 0.009% lakes
 0.008% saline lakes and inland seas
 0.005% soil moisture
 0.001% atmosphere
 0.0001% rivers and streams

3. If you don't have the materials to carry out the demonstration, calculate the volumes of water you would use to set up the demonstration and devise a visual way of illustrating the relative volumes of each component.

Consider getting a rain gauge for your school and joining CoCoRaHS (Community Collaborative Rain, Hail Snow Network) to allow your students to be citizen scientists. Go to <http://www.cocorahs.org> for more information

ANALYSIS QUESTIONS

1. Based on the different models depicting the percentages of Earth's water in all categories, which model do you think represented the water the best? Explain your answer.
2. The Colorado River and all of the rivers and streams on Earth only represent 0.0001% of all the water on Earth. Why is this river so important in Colorado and California?
3. The largest body of freshwater on Earth is found in the Great Lakes. How might this source of freshwater be useful to the West?



CONCLUSION

Use the data from this lesson to answer the focusing question