**Ocean World Game**

**Materials**

* 1 beach ball globe
* 1 white board, poster paper, or chalk board
* A dry erase marker, watercolor marker, or chalk

**Objective**

Witness that the chance of landing in the ocean when choosing a spot on Earth randomly is high, concluding that Earth is mostly covered with ocean.

**Set-up**

|  |  |
| --- | --- |
| **Ocean** | **Land** |
| IIII | II |

Draw a score chart with two columns on

the white or chalk board or paper:

**How to play**

1. Have students stand up near their desks or arrange themselves in a circle.

2. Ask them to hold up the first finger on their left hand. They will catch the ball with their right hand and the first finger of their left hand. Modify as needed.

3. Toss the Earth ball to a student and record whether their finger landed on ocean or land.

Feel free to work in Geography or other topics, should you choose. For extra thought, have students say where their fingers landed and what marine research they would conduct there. Caveat: having each student do this in a class will take a LOT more time than just stating *earth* or *ocean* when they receive the ball.

4. Tally responses under the appropriate column in the score chart.

5. When all have caught the ball, calculate the percentage (a *yes-we-use-math-in-the-real-world* moment) of Earth covered by ocean.

6. Guide a brief discussion for students to share their thoughts about the outcome.

7. Share with them that 70% of the Earth is covered with ocean, but we have only explored 5% of that!

**Where in the World is Water Activity**

Ask students how they could ***model*** how much of the world’s water is in the ocean compared to other sources using 5 gallons of water. Take suggestions. Follow their suggestions, inviting each team to model water sources or do it as a whole class. Offer these for background information and materials:

**Materials**

* 5-gallon container (80 cups), preferably clear, such as an aquarium, filled with water. This represents all of the water on Earth.
* Blue food coloring (for fun and to make the model more striking visually)
* Measuring spoons and/or plastic syringes
* 5 equally-sized, clear containers. Repurposed drink bottles work well.
* Labels for students to mark containers with
* Water source key:
	+ 1 ¾ cups = amount of the world’s freshwater in **polar ice caps and glaciers**
	+ ½ cup = amount of the world’s fresh water in **groundwater**
	+ 1.7 mL or .0072 cups = amount of fresh water in the world’s **rivers, streams, and lakes**.
	+ 0.9 mL or .004 cups = amount of fresh water in **soil moisture**.
	+ 0.2 mL or .0008 cups = amount of freshwater in the atmosphere as **water vapor**

Keep these models on display in class throughout your unit and beyond. They have the bonus of catching light in a beautiful way.

**Math Extension**

1. Have students calculate the percentage of Earth’s water in each of these sources and add it to their labels.

 **Key**

 Water vapor = .0008 cups/80 cups = 0.001%

Soil moisture = .004 cups/80 cups = 0.005%

Freshwater rivers, streams, lakes = .0072 cups/80 cups = 0.009%

Groundwater = ½ cup/80 cups = 0.6%

Polar Ice Caps and Glaciers = 1 ¾ cups/80 cups = 2.2%

Oceans and other salt water sources = 77 ¾ cups/80 cups = 97.2%

2. Have students calculate the ***scale*** of this model compared to the actual amount of water in each of these sources.

Source: Project WILD Aquatic. 1992. Aquatic education activity guide. Association of Fish & Wildlife Agencies. <https://www.fishwildlife.org/projectwild/aquatic-wild/activity-resources-aw> Last accessed 2-18-2021