

Lesson 2

How Much Water is on Earth?



NEW BEDFORD WHALING MUSEUM
WHALES
GIANTS OF THE OCEAN



How Much Water on Earth?

WELCOME!

OVERVIEW

The Majority of the surface of our planet is covered by ocean water. Students will perform a fun, simple activity in which they will collect and tabulate data and compare their results of how much water covers the planet to estimates made by scientists.

GUIDING QUESTION

How much of Earth's surface is covered by water?

LESSON DURATION 30 minutes

BY THE END OF THIS LESSON STUDENTS WILL BE ABLE TO

- Explain how much of the earth's surface is covered by water
- Make and record a prediction using fractions or percentage
- Understand where whales, dolphins and porpoises live

KEY TERMS

Ocean
Percentage

BACKGROUND INFORMATION

The surface of the planet is covered mostly by water. Scientists estimate that approximately 71% of the earth's surface is covered by ocean water.

These activities will help students visualize what 71% looks like and provide a way for students to collect data and learn about fractions.



Photo: NASA Earth Observatory



Photo: WDC



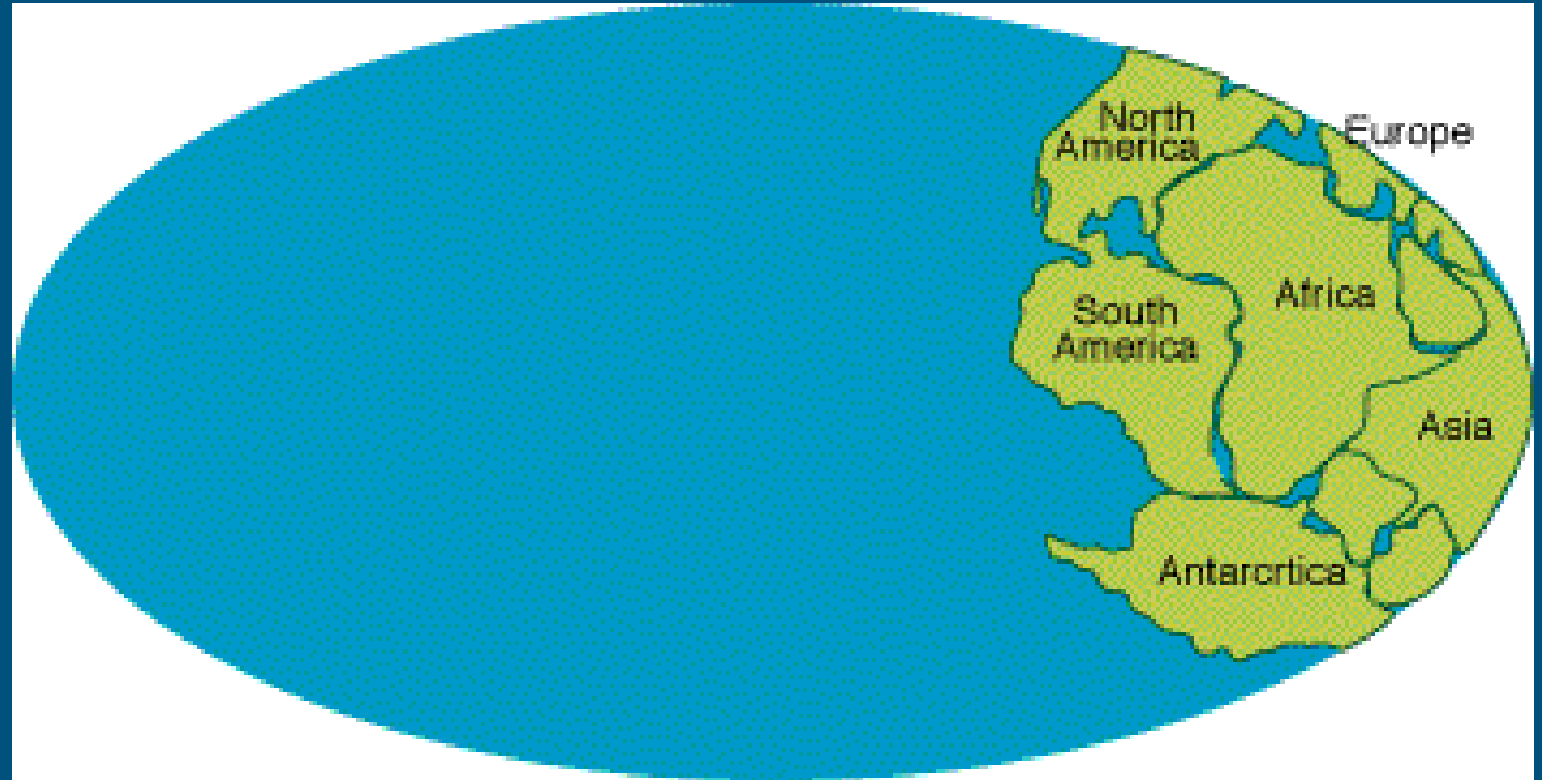
Make a prediction!

How much water is there on Earth?



What percentage of the Earth's surface is covered by ocean?

If all of the continents were clustered together, this is what the Earth would look like.



**Does this
change your
prediction?**

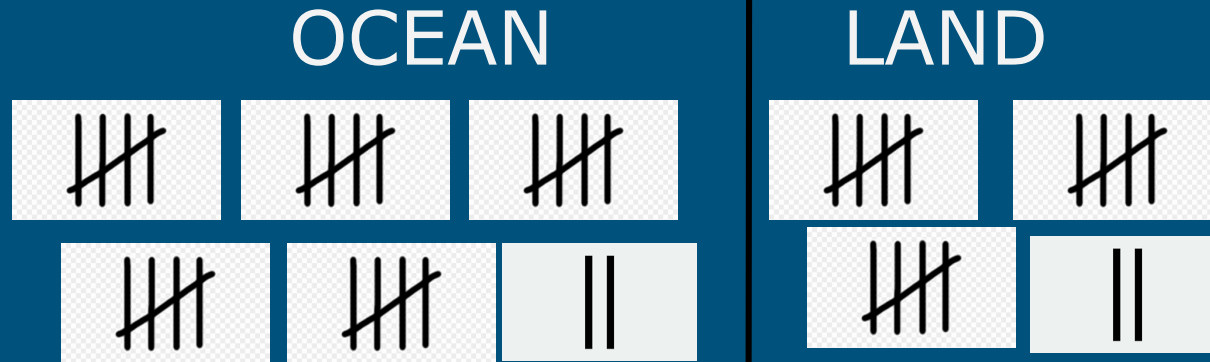
Let's test your predictions!

Video demonstration

- Toss a globe to another student or toss it up in the air
- Catch the globe with both hands
- Where are your thumbs touching? Are they touching land, ocean, both?
- Mark where each thumb is touching in the [data table](#) or a piece of paper.
- Toss the globe again!



DATA TABLE



For this example there are 21 students in the class, plus the teacher. The teacher gets to catch the globe, too.

The expectation is that the percentage of thumbs that were on OCEAN is approximately 70%.

50% of 44 = 22.

So, we know that the result > 50%, because 27 > 22.

$27 \div 44 = 61\%$.

The result is slightly below 70%.

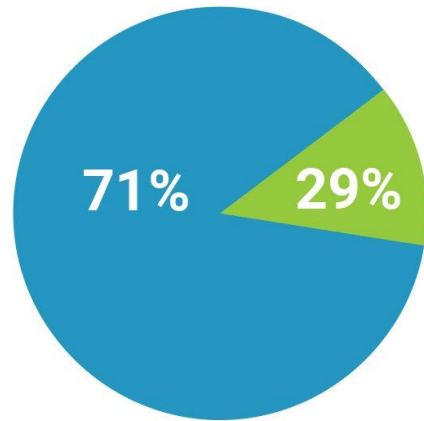
What does this say about our attempt to guess the % of earth cover using our thumbs? Is it a very scientific way to measure? How do you think scientists arrived at the number 71%?

In this situation, estimating what the result will be is helpful. We now have a good idea of how much habitat is available to whales.

Total = 44

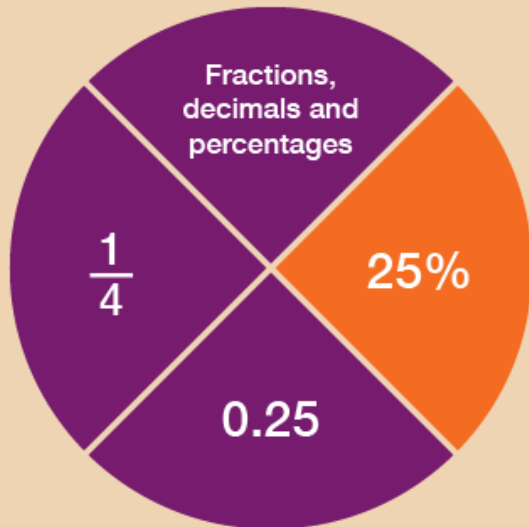
Ocean = $\frac{27}{44}$

Land = $\frac{17}{44}$



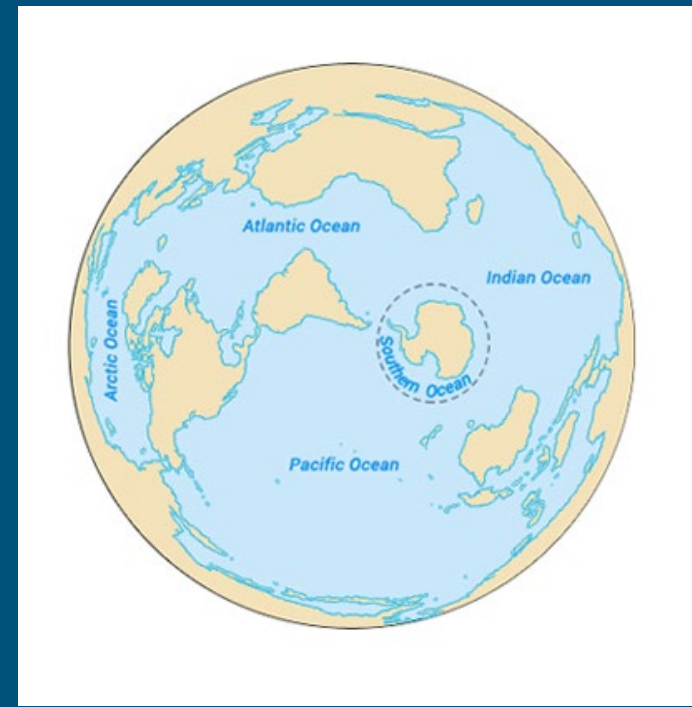
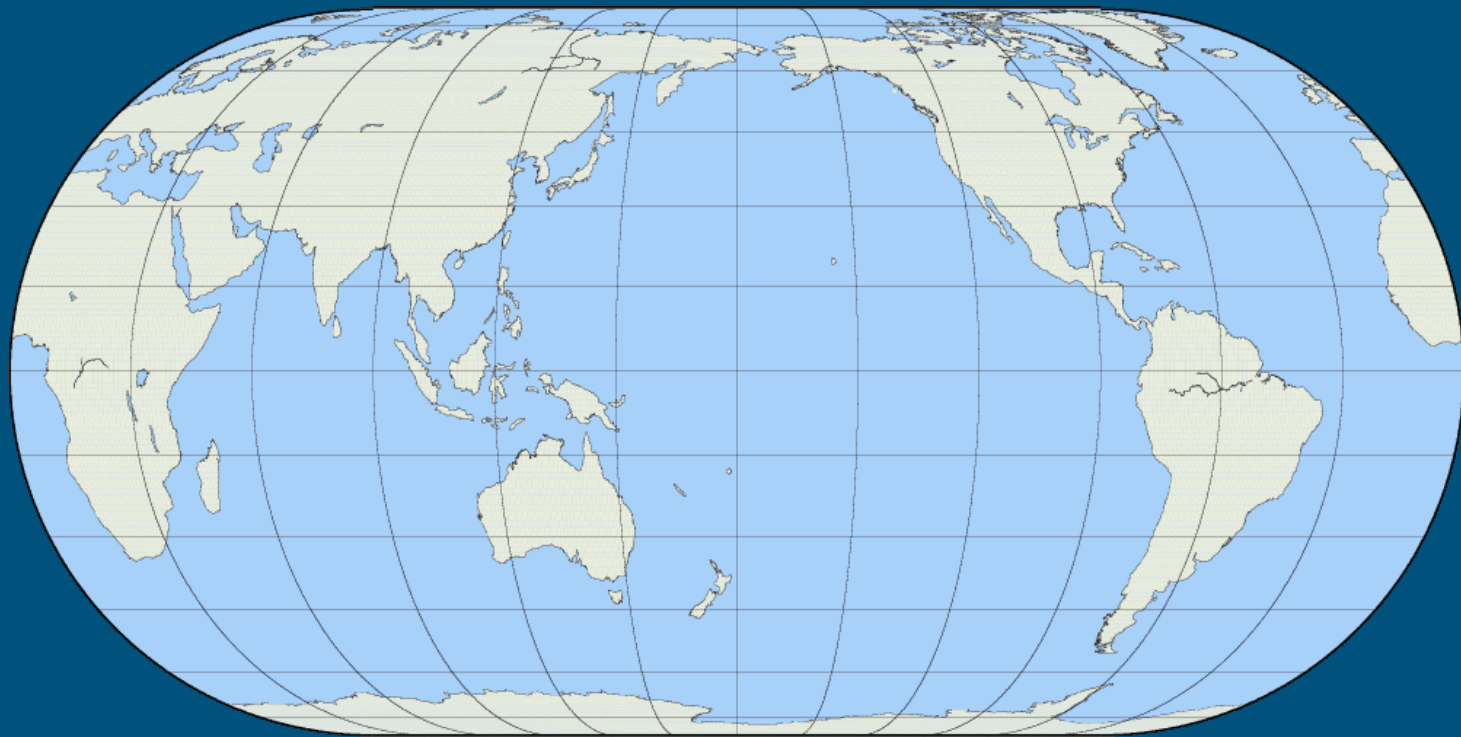
71% Water
29% Land

Fractions	Decimals	Diagram	Out of 100	Percentages
$1/10$	0.1		10/100	10%
$2/10$	0.2		20/100	20%
$3/10$	0.3		30/100	30%
$4/10$	0.4		40/100	40%
$5/10$	0.5		50/100	50%





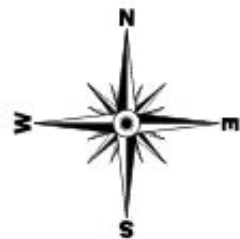
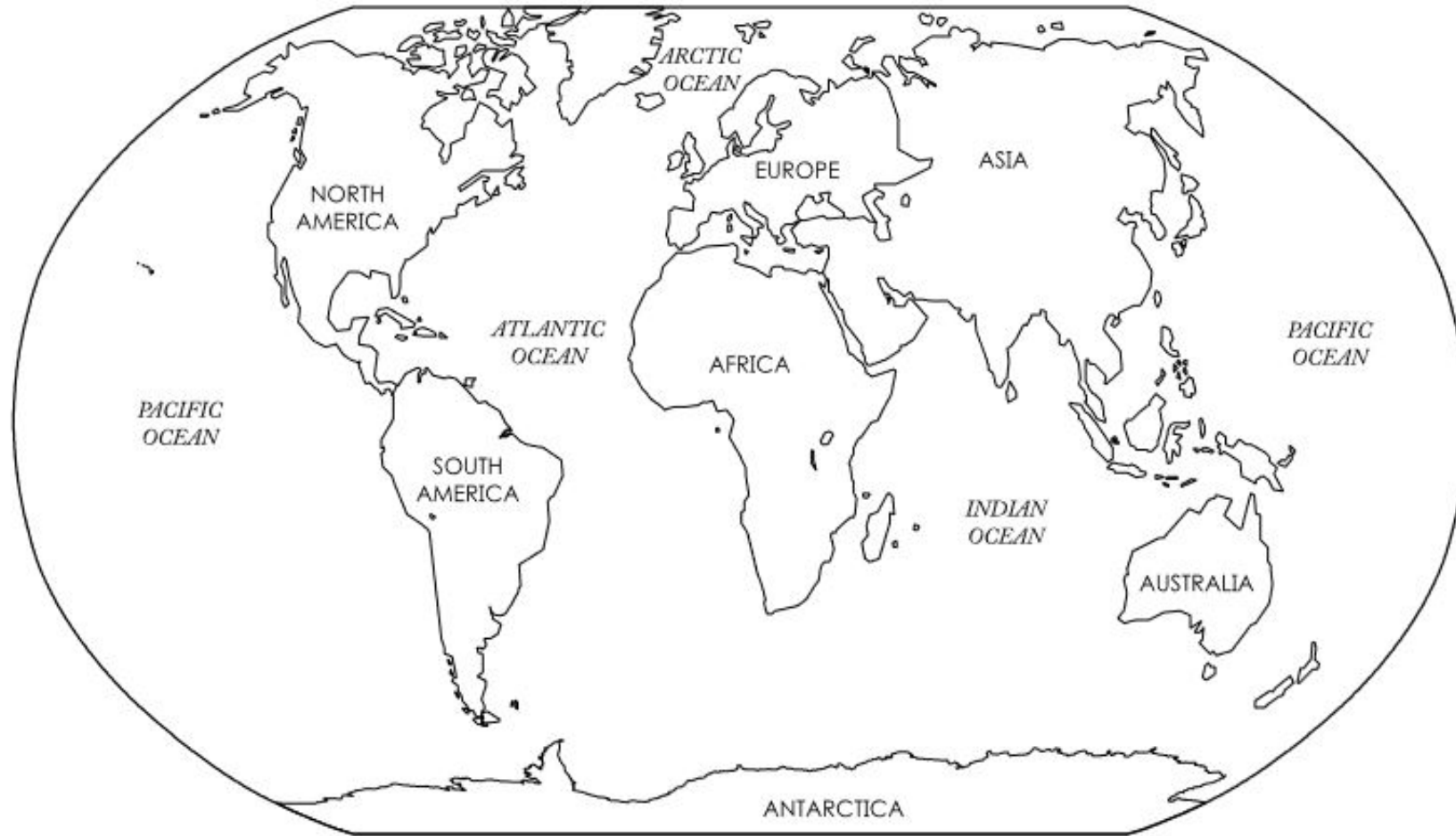
Follow-up Activity How Many Oceans?



The Earth as seen from the South Pole, looking north.

Investigate and respond

Continents and Oceans of the World



Follow-up Activity
Where Are the Oceans?