

Below the Blue

Use location labels, a graph, and a depth map to study oceans.

S6E3.c “Ask questions to identify and communicate, using graphs and maps, the composition, location, and subsurface topography of the world's oceans.”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each location clue, circle each seawater-composition fact, and number the two map details that show depth.

Reading the Global Ocean

- ① Earth's oceans form one global ocean, but scientists name regions by location. The Pacific lies between Asia and the Americas. The Atlantic lies between the Americas and Europe and Africa. The Indian Ocean is mainly south of Asia. The Southern Ocean circles Antarctica, while the Arctic Ocean surrounds the North Pole. Location labels help scientists compare places.
- ② Ocean water is not pure H₂O. About 96.5 percent of seawater by mass is water, and about 3.5 percent is dissolved salts. Sodium and chloride ions make up most dissolved salts. The bar graph compares the two broad parts of seawater. A scientist can ask, “Which part makes up more seawater?” and use values to communicate the answer.

PARTS OF SEAWATER BY MASS



- ③ Scientists study subsurface topography, the shape of land below the ocean surface, with bathymetric maps. These maps use shaded bands and labeled depth numbers to show changes in depth. A broad, raised seafloor area may be a mid-ocean ridge. A narrow, very deep area may be a trench. Map readers use labels and depth information to locate features.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 A sample is collected in the ocean that circles Antarctica. What ocean name should a scientist report?

2 Use the bar graph. How many percentage points greater is the amount of water than the amount of dissolved salts?

3 What are the two broad parts of seawater compared in the bar graph?

4 Name the two map details that bathymetric maps use to show changes in depth.

3 YOUR TURN _____ Your own words

Use the two panels to communicate ocean information. In Panel 1, draw a two-bar graph using the seawater data, with a title, category labels, and a percent scale. In Panel 2, sketch an imaginary ocean-basin map with a north arrow, a location label, a key for shallow and deep water, and a ridge or trench. Under the panels, write two questions your visuals can answer, one about composition and one about topography or location.

PART 1 • READ AND MARK

Underline each location clue, circle each seawater-composition fact, and number the two map details that show depth. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	A sample is collected in the ocean that circles Antarctica. What ocean name should a scientist report?	Southern Ocean.
2	Use the bar graph. How many percentage points greater is the amount of water than the amount of dissolved salts?	93 percentage points.
3	What are the two broad parts of seawater compared in the bar graph?	Water and dissolved salts.
4	Name the two map details that bathymetric maps use to show changes in depth.	Shaded bands and labeled depth numbers.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Panel 1: Title: Parts of Seawater. Percent scale with bars for Water, 96.5%, and Dissolved salts, 3.5%. Panel 2: North arrow, the label Echo Basin, a key showing dots for shallow water and solid shading for deep water, and Echo Ridge in the north. Questions: What percent of seawater is dissolved salts? Where is Echo Ridge located?

Accept equivalent location descriptions and depth-map terms such as depth labels for labeled depth numbers. For the open task, check that the graph accurately represents both values and that the map includes the required key, direction, label, and seafloor feature.