

Chapter 15 Ocean Water and Ocean Life

Section 15.1 The Composition of Seawater

This section describes substances found in seawater, the temperature profiles of oceans, and the density profiles of oceans.



Reading Strategy

Previewing Before you read, preview the figures in this section and add three more questions to the table. As you read, write the answers to your questions. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Questions About Seawater	Answers
What processes affect seawater salinity?	a.
b.	c.
d.	e.
f.	g.

- Circle the letter of each sentence that is true about seawater.
 - Seawater contains dissolved substances that give it a salty taste.
 - Sodium chloride, other salts, metals, and gases are dissolved in seawater.
 - Every known naturally occurring element is found in at least trace amounts in seawater.
 - Seawater is suitable for drinking and irrigation of crops.

Salinity

- Is the following sentence true or false? The average salinity of seawater is 35 percent. _____
-  Most of the salt in seawater is _____, or common table salt.
-  What are two sources of dissolved substances in the ocean? _____

- How do elements from Earth’s interior get into seawater?

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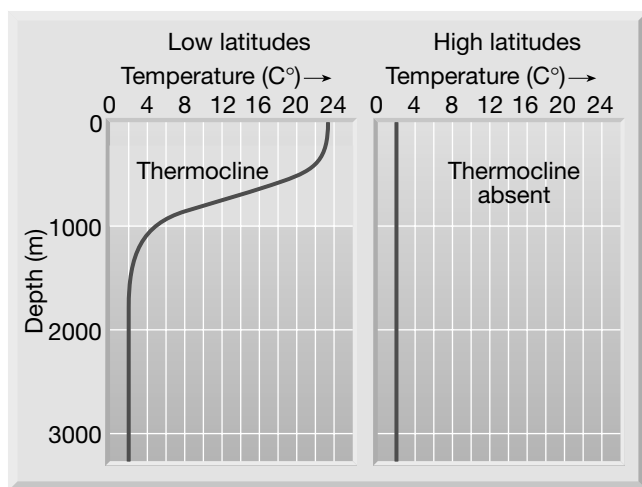
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6. What are four ways in which fresh water is naturally added to seawater, decreasing its salinity? _____

7. What are two natural processes that increase the salinity of seawater? _____

Ocean Temperature Variation

8. ➡ Is the following sentence true or false? The ocean's surface water temperature varies with the amount of solar radiation received, which is primarily a function of longitude. _____
9. Using the following graph, what temperature is seawater below 1500 m in the low latitudes? _____



10. What is the temperature profile of seawater in the high latitudes, according to the graph? _____

Ocean Density Variation

11. ➡ Circle the letters of the two main factors that influence density of seawater.
- | | |
|---------------|----------------|
| a. salinity | b. temperature |
| c. pycnocline | d. thermocline |
12. Circle the letter of the ocean layer where there is a rapid change of density with depth.
- | | |
|-----------------|--------------------|
| a. surface zone | b. thermocline |
| c. pycnocline | d. transition zone |

Ocean Layering

13. ➡ Is the following sentence true or false? Oceanographers generally recognize a three-layered structure in most parts of the open ocean: a shallow surface mixed zone, a transition zone, and a deep zone. _____