



## What You Learned

### > Section A) Multiple Choice Quiz

1. Water is composed of:
  - a. Three hydrogen atoms and one oxygen atom.
  - b. One hydrogen atom and two oxygen atoms.
  - c. Two hydrogen atoms and one oxygen atom.
  - d. Two hydrogen atoms and two oxygen atoms.
  
2. Ways to conserve fresh water include:
  - a. Adding chlorine
  - b. Installing water-saving appliances.
  - c. Using treatment plants to remove contaminants from wastewater.
  - d. a and c
  
3. Table salt is also known as:
  - a. Sodium chloride
  - b. Sodium chlorine
  - c. Sodium chromate
  - d. Sodium hydroxide
  
4. Canadians:
  - a. Are the second biggest consumers of water in the world.
  - b. Use 340 litres of water per person a day for household activities, on average.
  - c. Add chlorine to our water supply to kill germs.
  - d. All of the above
  - e. None of the above



Name: \_\_\_\_\_

5. Which of the following statements is true:
  - a. The higher the salinity of seawater, the less dense it is.
  - b. The average salinity of an ocean is 30 percent.
  - c. One cubic metre of water from a lake has a higher mass than the same volume of water from an ocean.
  - d. Lakes and rivers have low concentrations of salts.
  
6. Which of the following statements is false:
  - a. It's possible to remove the salt from seawater to make it drinkable.
  - b. Canada contains 3 percent of the world's fresh water.
  - c. Lakes, rivers, clouds and soil moisture make up 0.01 percent of the world's water.
  - d. The average German uses one third of the water that the average Canadian uses in a day.
  
7. Photosynthesis is:
  - a. The process plants use to produce glucose and oxygen from sunlight, water and carbon dioxide.
  - b. The process plants use to produce carbon dioxide from sunlight.
  - c. The process plants use to convert sunlight and oxygen into energy.
  - d. The process plants use to convert carbon dioxide and oxygen into glucose and water.
  
8. Water can be contaminated by adding:
  - a. Motor oil
  - b. Industrial waste
  - c. Paints
  - d. a, b and c

**Canon**



Name: \_\_\_\_\_

9. About \_\_\_\_\_ percent of the Earth's surface is covered by water:
- a. 99.99
  - b. 3
  - c. 70
  - d. 30
10. Which of the following statements is true:
- a. When liquid water evaporates it becomes ice.
  - b. When liquid water evaporates it becomes a gas.
  - c. When ice condenses it becomes a gas.
  - d. When water freezes it becomes a gas.

**> Section B) Short Answer Quiz**

1. What are the processes by which water changes its state?

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2. What happens to water vapour when it condenses?

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3. What is the "world ocean"? Why is it called that?

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Name: \_\_\_\_\_

4. Explain why people can float in the Dead Sea without effort:

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5. Describe some of the wasteful ways that Canadians take advantage of our abundant supply of fresh water:

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6. Describe some of the ways we could conserve water:

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7. We need it to drink, grow crops and wash, but what are some other ways that humans also rely on water?

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> **Section C) Group Project: Research and Presentation**

As a group, discuss the meaning of the following statement:  
“Fresh water is considered by many to be ‘blue gold’.”

Research and deliver a class presentation that considers the value of fresh water from the following perspectives:

- i) The financial value of fresh water: What countries are rich in fresh water? What countries are poor in fresh water? How does an abundance or lack of fresh water affect the economy of a country?
- ii) Technology and fresh water: How are humans using or exploring technologies like desalination and the transportation of glaciers to provide fresh water for countries that need it?
- iii) Selling fresh water: Research the bottled water industry. Where does most bottled water come from? Is bottled water standardized? Is bottled water really more superior to tap water?
- iv) Are there any moral issues to consider when selling fresh water?
- v) Fresh water and ecology: What are the ecological effects of removing large quantities of fresh water from its source and selling it?
- vi) The hidden value of fresh water: Economics aside, what other value does fresh water have?
- vii) The hidden costs of fresh water: What is the “real” cost of fresh water?
- viii) Is access to fresh water a basic human right?
- ix) Consider this: more than one billion people around the world have no access to clean drinking water.



## Answers: What You Learned

### Section A) Multiple Choice Quiz

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|------|-------|
| 1. c | 6. b  |
| 2. b | 7. a  |
| 3. a | 8. d  |
| 4. d | 9. c  |
| 5. d | 10. b |

### Section B) Short Answer Quiz

1. Evaporating, condensing, melting, and freezing.
2. When water vapour condenses, it becomes liquid water.
3. The “world ocean” includes the five major oceans: Pacific, Atlantic, Indian, Arctic, and Southern. It is called this because the parts are interconnected and make up one enormous system.
4. Open – The salinity of the Dead Sea is as high as 30 percent, which increases the density of the water. Because the water is so dense, people can float in it.
5. Open – Could include:
  - Irrigating large lawns and golf courses.
  - Contaminating water by pouring chemicals like oil and paint down the drain.
  - Pollution from industries like paper milling and aluminium smelting.
6. Open – Could include:
  - Installing water-saving toilets, shower heads and washing machines.
  - Planting drought-resistant plants in our gardens so frequent watering is not needed.
7. Open – Should include:
  - Transport goods by ship.
  - To manufacture products we use every day.
  - To generate electricity.

**Canon**



## Answers: What You Learned (continued)

8. Open – Should include:

- Metabolism is the process whereby animals convert food into energy.
- Photosynthesis is the process whereby plants convert sunlight, water, and carbon dioxide into glucose and oxygen.

9. Desalination is the process of removing salt from seawater to make it drinkable.

10. Open – Could include:

- Fresh water is the only resource we could not live without.
- Fresh water is often called “blue gold”.
- Plants and animals both need it to survive.
- As far as we know, no life can exist without water.
- Water forms the habitats of many species, and clean water is crucial to all species.

### Section C) Group Project: Research and Presentation

i-viii) Open

**Canon**