

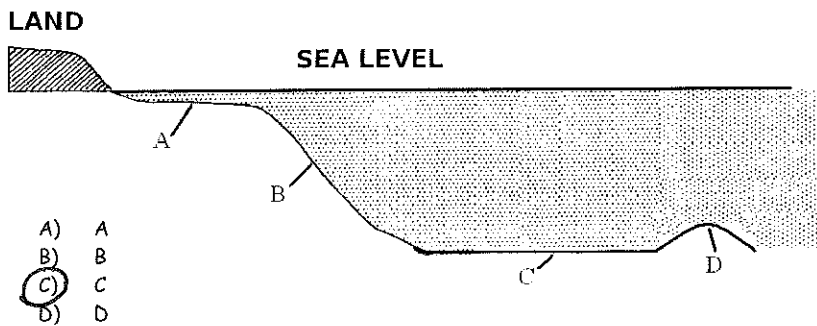
KEY

Grade 8 Science  
Unit 1 Test "Water Systems"  
SAMPLE TEST

Section A: Multiple Choice (20 pts)

Directions: Place the letter of the best answer on the answer sheet provided.

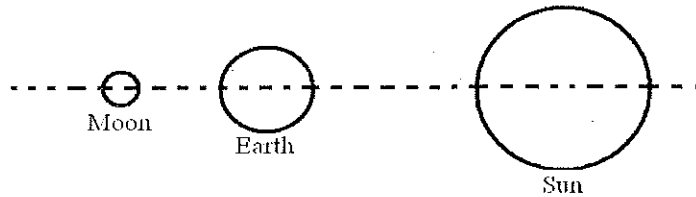
- Which term describes the total amount of water on the planet?  
A) Atmosphere  
B) Biosphere  
 C) Hydrosphere  
D) Lithosphere
- Which term describes a person who studies the biology, chemistry, geology, physics, and mathematics of the ocean?  
A) Botanist  
B) Hydrologist  
 C) Oceanographer  
D) Zoologist
- Which term describes the submerged area of the edge of the continents that drops steeply down to the ocean basin?  
A) Abyssal Plain  
B) Continental Shelf  
 C) Continental Slope  
D) Mid-Atlantic Ridge
- Which type of ocean floor exploration technology uses remotely operated vehicles (ROV's)?  
A) Satellite technology  
B) Weighted Wire Lines  
C) Sonar Mapping  
 D) Submersibles
- Which describes a large amount of ocean water that moves in a particular and unchanging direction?  
 A) Current  
B) Estuary  
C) Tide  
D) Wave
- What part of the diagram shown below is the abyssal plain?



7. Which type of action can produce a deep current?

- A) Coriolis Effect
- B) Salinity Differences
- C) Shape of the continent
- D) Wind

8. Which type of tide would occur if the sun, moon, and earth were aligned similarly to the diagram below?



- A) Neap Tides
- B) Spring Tides
- C) Current Tides
- D) Breaker Tides

9. Which would best describe the amount of runoff that would be produced in areas described by the table below?

Amount of Rain	High
Type of Soil	Rock
Slope	High
Amount of Vegetation	Very Little

- A) No runoff
- B) Low amount of runoff
- C) Moderate amount of runoff
- D) Large amount of runoff

10. Which shore would erode away the quickest?

	Wave Action	Slope	Type of Earth
<input checked="" type="radio"/> A)	Large Waves	High	Sand
B)	Large Waves	Low	Rock
C)	Small Waves	Moderate	Rock
D)	Small Waves	High	Sand

11. Which term describes the measure of how long it takes for a substance to heat up and cool down?

- A) Density
- B) Heat Capacity
- C) Temperature Gradient
- D) Salinity

12. Which global weather phenomena results in a cooling of the water in the Pacific Ocean?

- A) El Nino
- B) Gulf Stream
- C) Labrador Current
- D) La Nina

13. Which of the following results from the intersection of the Labrador Current and the Gulf Stream?
- A) Coriolis Effect
  - B) Decreased Temperature
  - C) Increased Fog
  - D) Salinity Current
14. Which water quality factor deals with how acidic or basic a water sample is?
- A) Dissolved oxygen
  - B) Phosphates
  - C) pH
  - D) Turbidity
15. Which term describes the cultivation (farming) of aquatic species?
- A) Aquaculture
  - B) Agriculture
  - C) Oceanography
  - D) Zoology
16. Which of the following is a marine ecosystem?
- A) Lakes
  - B) Ocean s
  - C) Streams
  - D) Wetlands
17. Which term represents a very large fast moving wave that is often produced by underwater events, such as volcanic eruptions?
- A) Breaker
  - B) Swell
  - C) Tsunami
  - D) Upwelling

18. According to the table below, which is the most polluted water?

Water Sample	pH	Phosphate Levels ( $\mu\text{g/L}$ )	Dissolved Oxygen Levels ( $\text{mg/L}$ )
<input checked="" type="radio"/> A)	1	21	3
B)	5	18	4
C)	7	1	10
D)	8	0	13

19. Which is an example of a technology developed to reduce erosion of shorelines?
- A) Breakwater
  - B) Submersibles
  - C) Trawlers
  - D) Sonar equipment
20. Which term refers to the amount of salt in a water sample?
- A) Density
  - B) Heat Capacity
  - C) Mass
  - D) Salinity

Section B: Scientific Literacy (10 pts)

Directions: Given the data below, answer the questions in the space provided.

Scientists have been collecting data at the Athabasca Glacier in Alberta to determine the effect of global warming on the size of the glacier. The following data was collected over a seven year period.

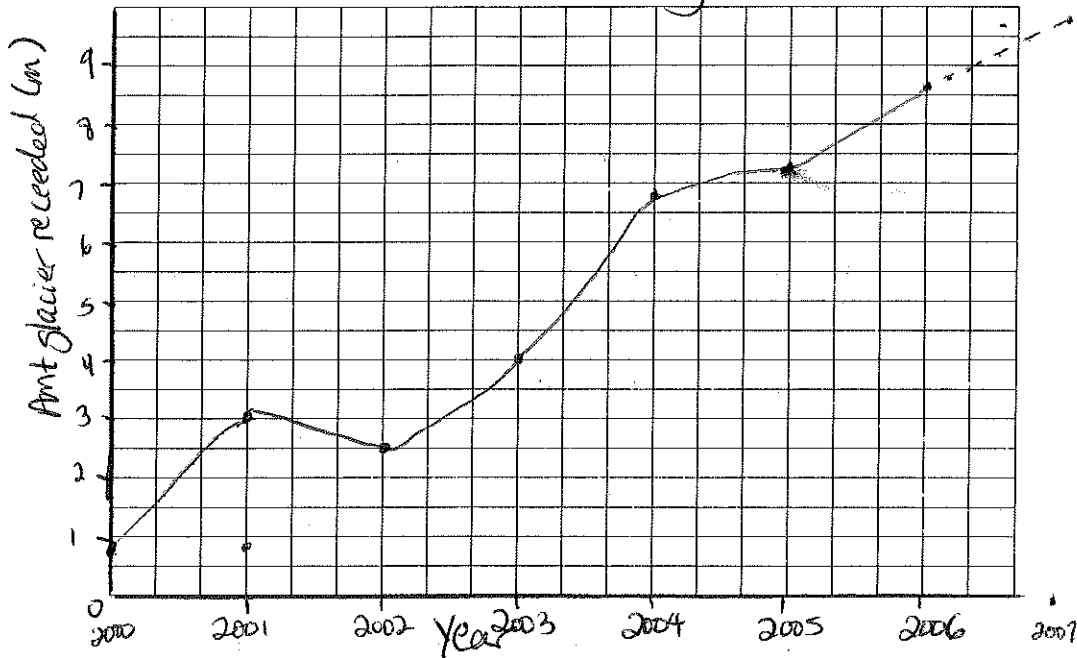
Year	Amount Glacier Has Receded (m)
2000	1.9
2001	3.0
2002	2.5
2003	4.0
2004	6.8
2005	7.3
2006	8.6

*Independent Variable*

*Dependant Variable*

- A. Graph the above data for the receding Athabasca Glacier in a properly labeled line graph. (6 pts)

*Athabasca Glacier receding over time*



*You will not have to draw a graph on this test. But it is a good skill to have*

- B. What do you predict will be the amount the glacier has receded in 2007? (1)

*~9.8 m*

- C. Give a reason as to why the Athabasca Glacier receded at different amounts during 2001 and 2002. (1 pt)

*Maybe 2002 was a very cold year and the glacier didn't recede or melt as much over the summer - Other answers are acceptable too*

- D. If the trend shown in the graph continues, what is one negative consequence that could occur in the environment? (2 pt)

higher water levels in ocean, flooding,  
no water left in the area - more answers  
are acceptable

**Section C: Constructed Response**

Directions: Answer the following questions in the space provided.

1. Use a graphic organizer to compare the two main types of ocean currents we have studied this unit. (6 pts.)

Surface Currents	Deep currents
<ul style="list-style-type: none"> <li>- flow in the top 100-200m</li> <li>- Affected by               <ul style="list-style-type: none"> <li>- wind</li> <li>- earth rotation</li> <li>- shape of continents</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- flow below 200m</li> <li>- Affected by               <ul style="list-style-type: none"> <li>- water temperature</li> <li>- salinity</li> </ul> </li> </ul>

2. Explain the difference between a spring and neap tide by completing the table below. (6 pts)

Type of Tide	Two Characteristics	Diagram (Labelled)
Spring Tide	1. Sun, moon + Earth are in a line 2. Extra high + low tides	
Neap Tide	1. Sun + moon at right angles 2. smallest tidal movements	

3. Describe one positive and one negative aspect of aquaculture by completing the table below. (4 pts)

Aquaculture	
Positive Aspect	Negative Aspect
<ul style="list-style-type: none"> <li>- Jobs</li> <li>- food</li> <li>- economic activity</li> </ul>	<ul style="list-style-type: none"> <li>- accidental release of organisms can affect ecosystem</li> <li>- diseases</li> <li>- introduce chemicals to environment</li> </ul>

4. Explain using examples why the weather on the coast of Newfoundland is different on in Central Ontario. (4pts)

- NL is stuck out in the ocean so we are tempered by the ocean
  - we have cooler ~~winters~~ <sup>summers</sup> + ~~warm~~ + warmer winters
  - Labrador current + gulf stream affect our weather - fog
- Ontario is inland so they don't get affected by all the heat in the ocean
  - they have colder winters + hotter summers
  - no currents so no fog