

**SCIENCE**  
**GRADE 10**  
**MULTIPLE**  
**CHOICE**  
**REVIEW**  
**ENVIRONMENT**

1. Which of the following communities living in a forest in the Abitibi region has the greatest biodiversity? Explain your answer.

A) 50 bears

60 hares

58 beavers

25 fir trees

15 birch trees

C) 50 bears

100 hares

7 beavers

25 fir trees

15 birch trees

B) 4 bears

30 hares

7 beavers

5 fir trees

7 birch trees

D) 50 bears

60 hares

58 beavers

5 fir trees

7 birch trees

2. Which statement is true about biodiversity?

A) The biodiversity of a community is high when all species in the community are equally distributed.

B) The biodiversity of a community is low when all species in the community are equally distributed.

C) The biodiversity of a community is high when the number of species is low.

D) The biodiversity of a community is low when the number of species is high.

3. Which of the following events is NOT a disturbance to a community?"

A) Flood

B) Mud slide

C) A high tide

D) A termite infestation

4. Which of the following statements is FALSE?

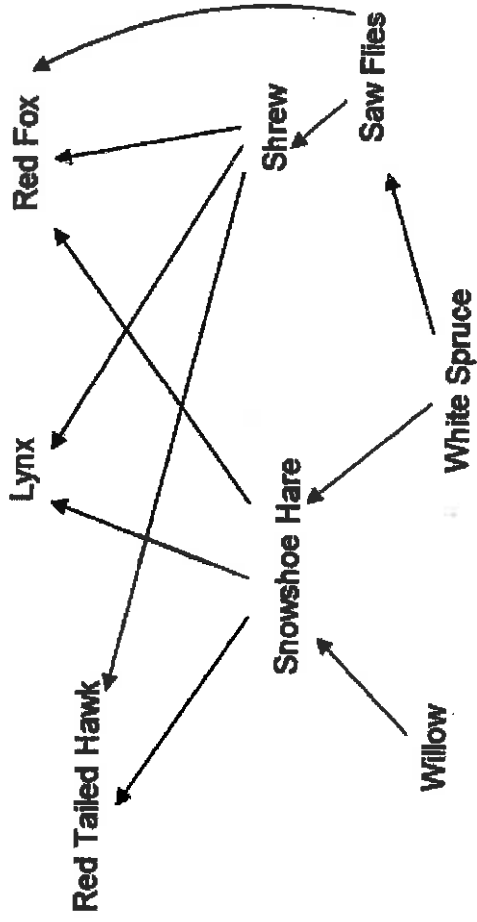
A) Drought is a natural disturbance.

B) An oil spill is a natural disturbance.

C) Flooding from heavy rain is a natural disturbance.

D) Overfishing is a human disturbance.

A food web is shown below.



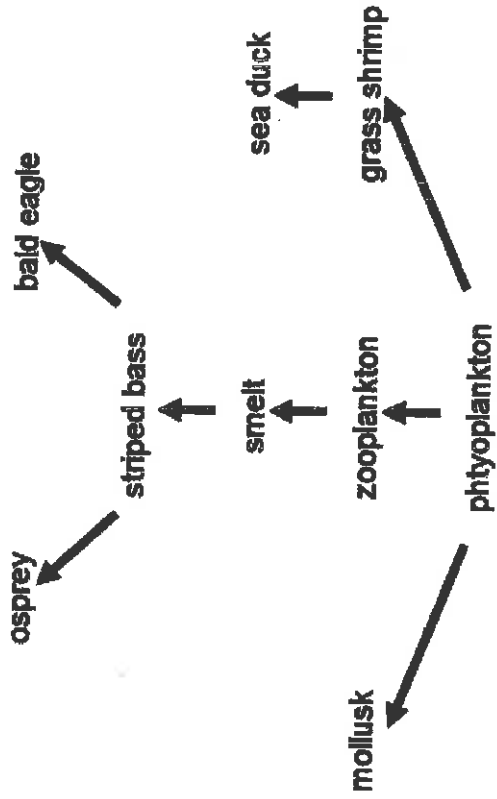
Based on the above food web, which organism can be classified as a First-order consumer?

- A) Red Tailed Hawk
- B) Shrew
- C) Willow
- D) Snowshoe Hare

Based on the above food web, which organisms act both as a second-order and third-order consumer depending on the individual food chain they are involved in?

- A) Shrew and Red Fox
- B) Lynx and Red Fox
- C) Lynx and Snowshoe Hare
- D) Red Tailed Hawk and Saw Flies

The following diagram shows a simple food web for the water birds of Chesapeake Bay.



7. Which of the following organisms is a producer in the food web?

- A) Zooplankton
- B) Phytoplankton
- C) Osprey
- D) Grass shrimp

8. Which of the following is false?

- A) Phytoplankton convert inorganic matter into organic matter
- B) Phytoplankton perform photosynthesis.
- C) Phytoplankton get their energy by eating other organisms.
- D) Phytoplankton introduce energy into the food web.

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Which of the following statements correctly describes permafrost?

- A) All the frozen water on the Earth's surface.
- B) A layer of soil frozen for more than two years.
- C) The snow which accumulates on the surface of glaciers.
- D) The upper layer of water which freezes when in contact with cold air.

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Which of the following is a consequence of melting permafrost?

- A) Increased primary productivity
- B) Decreased erosion
- C) Decreased levels of greenhouse gases
- D) Decreased decomposition of organic matter in soil

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Which of the following processes does not cycle carbon dioxide ( $\text{CO}_2$ ) back into the atmosphere?

- A) Photosynthesis
- B) Decomposition of waste
- C) Forest fires
- D) Volcanic eruptions

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Which of the following activities has the greatest impact on the flow of water in a catchment area?

- A) Filling up a child's swimming pool with 40 L of water.
- B) Treating drinking water for a city in a municipal water treatment plant.
- C) Rerouting rivers for the construction of a hydroelectric dam.
- D) Repairing a bridge connecting Montreal's South Shore to the Island of Montreal.

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Which of the following will increase the density of a solution?

1. Increasing the salinity
2. Decreasing the salinity
3. Adding water
4. Allowing water to evaporate

A) 1 only

B) 1 and 2

C) 1 and 3

D) 1 and 4

1. Different factors can affect the circulation of surface currents and deep currents in the ocean.

1. Temperature differences in the water
2. Air pressure differences in the atmosphere
3. Differences in the waters' salinity
4. The rotation of the Earth
5. The depth of the water

Which of the factors above only effect surface currents?

- A) 1 and 3 only      B) 2 and 4 only      C) 1, 3 and 5      D) 2, 4 and 5

2. What are the characteristics of ocean water which has a tendency to sink?

- A) Low temperature and low density
- B) Low temperature and high density
- C) High temperature and low density
- D) High temperature and high density

3. Which of the following statements concerning thermohaline circulation is true?

- A) Thermohaline circulation allows for the heat accumulated in ocean water at the Polar Regions to circulate to the Equatorial Region.
- B) Thermohaline circulation allows for the heat accumulated in ocean water at the Equatorial Region to circulate to the Polar Regions.
- C) Thermohaline circulation can be compared to a conveyor belt which moves warm and cold air masses around the Earth.
- D) Thermohaline circulation can be compared to a conveyor belt which moves warm and cold freshwater systems around the Earth.

4. Which of the following is true about glaciers and pack ice?

- A) Both glaciers and pack ice are formed on land.
- B) Both glaciers and pack ice are formed on the ocean's surface.
- C) Both glaciers and pack ice contain freshwater.
- D) Both glaciers and pack ice form icebergs.

5. Which of the following statements is true about pack ice?

- A) The melting of pack ice affects the salinity of the ocean water.
- B) The melting of pack ice does not affect the temperature of the ocean water.
- C) The melting of pack ice affects sea levels.
- D) The melting of pack ice does not affect oceans.

19. Which of the statements below correctly identifies the effect of the increase in the melting of pack ice due to climate change?

- A) Loss of habitat for arctic species
- B) Rise in the sea level
- C) Increase in the number of icebergs
- D) Flooding of low lying areas

20. Which of the following gases do not contribute to the greenhouse effect?

- A)  $\text{CO}_2$
- B)  $\text{CH}_4$
- C)  $\text{NO}_2$
- D)  $\text{SO}_2$

21. Which of the following statements about the Greenhouse effect is true?

- A) An increase in greenhouse gases in the atmosphere leads to an increase in the amount of heat that escapes into space.
- B) A decrease in greenhouse gases in the atmosphere leads to an increase in the amount of heat that escapes into space.
- C) An increase in greenhouse gases in the atmosphere leads to an increase in the amount of solar radiation that will enter the atmosphere.
- D) A decrease in greenhouse gases in the atmosphere leads to an increase in the amount of solar radiation that will enter the atmosphere.

22. Which of the following does not contribute to the formation of greenhouse gases?

- A) Decomposition of waste in landfills
- B) Burning of fossil fuels
- C) Melting of the permafrost
- D) Photosynthesis in plants

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4. A community in Gaspé is researching the environmental impacts of different energy sources.

Below is a list of possible environmental impacts

1. Tidal barrages can disrupt marine life.
2. Tidal power plants and coal power plants release greenhouse gases.
3. Nuclear power plants create no harmful waste products.
4. Flooding is a concern in the building of hydroelectric dams.

Which of the above statements are true?

- A) 1, 2 and 3      B) 1, 3 and 4      C) 1 and 4      D) 2 and 3

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4. Which of the following technologies uses an energy source derived from the lithosphere?

- A) Tidal barrage  
B) Wind turbine  
C) Photovoltaic cell  
D) Coal-fired plant