



Salish Sea Drayton Harbor Water Quality Laboratory

School, Class, and Group _____ Date _____

Marine water designated uses and criteria for Washington State (WAC173-201A-210)

Uses of Drayton Harbor for aquatic life:

(ii) **Excellent quality** salmonid and other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

Excellent Quality Aquatic Life Use Criteria - What are the ideal parameters?

Temperature	< or = to 16°C (60.8°F)
Dissolved oxygen	> or = to 6.0 mg/L (milligrams per liter)
pH units	7.0-8.5 (above 8.0 protects formation of shells in shellfish larvae).
Fecal coliform bacteria	Geometric mean of 14 colonies or less and not more than 10% of samples greater than 43 colonies.

1. Water Temperature: - What is the temperature in degrees Celsius? _____ °C

Based upon your measurement would this water body pass the temperature test for excellent water quality?

Yes or **No** (circle one)

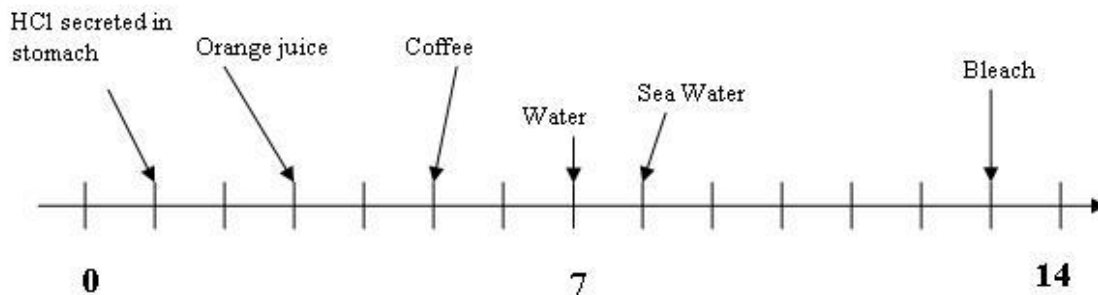
2. Dissolved Oxygen - What is the dissolved oxygen content of this water body in milligrams per liter? _____ mg/L

Based upon your measurement would it pass the test for excellent marine water quality? **Yes** or **No** (circle one)

3. pH - What is the pH of this water body? _____

Based upon your measurement, is the formation of shells in shellfish larvae protected? **Yes** or **No** (circle one)

Mark the pH (acidity or hydrogen ion content) you found on this scale:



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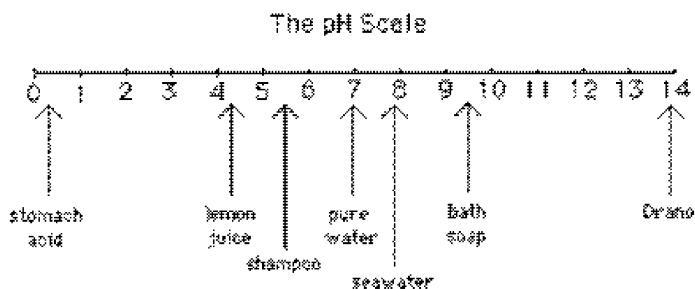
4) Fecal bacteria - Based upon the number of colonies filtered from 100 mLs of water, would it be safe to harvest shellfish? Yes or No (circle one).

Human Smokestack Demonstration:

Circle the word that best describes what happened in the demonstration.

- 1) The solution became more **acidic/basic**. (circle one)
- 2) The breath that was blown into the solution represented the burning of fossil fuels, such as gasoline and oil. When we burn these fuels, carbon dioxide is released into the atmosphere. Some of the carbon dioxide is absorbed into the oceans causing the water to become more **acidic/basic**.
- 3) Explain what happens to sea water and to shellfish when excess CO_2 is absorbed by oceans.

pH Scale -



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Blaine Harbor Data Sheet

Name: _____

Station 1

Weather observations (clouds, rain, etc.)

	Air temp.	Water temp.	Turbidity	Wind speed	Barometric pressure	Latitude	Longitude
Field data							
Unit							

Station 2

	pH			Dissolved Oxygen	Salinity
	Litmus Paper	Pocket pH Meter	Color Indicator		
Field Data					
Unit					

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Station 3 - Organism inventory

Above the surface

Below the surface

Draw a diagram of at least one organism. Include information such as location (above or below surface) and species.

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