

CHEMICAL WATER QUALITY TESTING

How does your local stream or lake measure up? Using a variety of real water quality testing equipment to gather current data, student scientists will evaluate the health of a local water body. Students will learn about sources of pollution and discuss steps they can take at home to maintain water quality and reduce pollution in their local watershed.

Lesson Reminders

Field experience option: This lesson is available for classroom presentations, but it is greatly enhanced if you have access to a body of water. Your presenter is available to meet your classrooms outside near a lake, river, stream, detention pond, etc. for this lesson. Please email us at education@snohomishcd.org for more information about Water Quality field experiences.

Learning Targets

- I can use scientific testing equipment accurately.
- I can interpret data to decide how healthy the water is for salmon.
- I can explain several ways to improve or monitor water quality in Snohomish County.

NGSS

This lesson complements Next Generation Science Standards listed below:

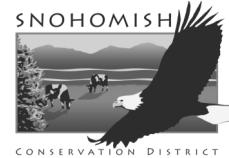
- 3-5-ETS1-2** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- 5-PS1-1** Develop a model to describe that matter is made of particles too small to be seen.
- 5-LS2-1** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
- 5-ESS2-1** Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
- 5-ESS3-1** Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Science Kits

This lessons complements the following science kits:

Environments | Ecosystems | Diversity of Life | Populations and Ecosystems

CHEMICAL WATER QUALITY TESTING



Salmon need: _____

oxygen rich

cold

clear

clean

pH neutral

water, in order to thrive.

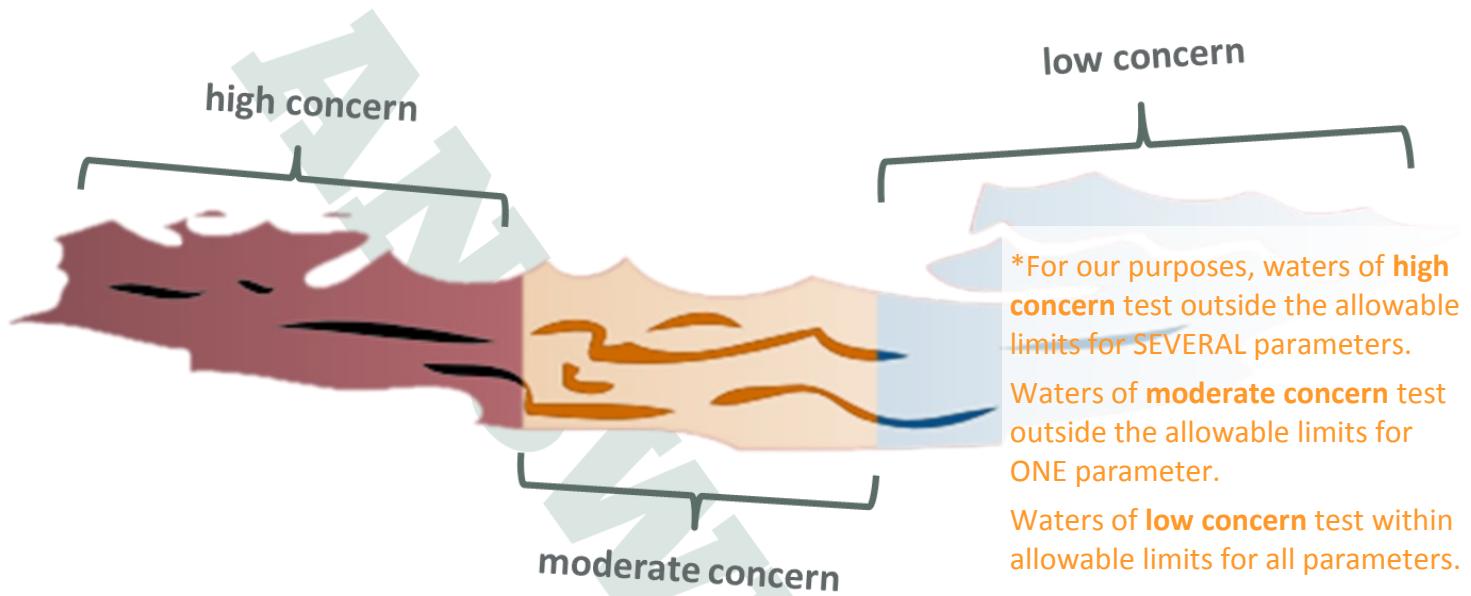
Water Quality Data Form (Fill this out carefully and accurately—that's just good science!)

Test site: _____ **varies** _____ Date: 00/00/00 *students circle applicable weather _____

Scientist: _____ **student name** _____ (that's you!) Weather: hot/cold sunny/cloudy dry/raining

Parameter (What you are testing)	Method used to measure	Washington State Surface Water Quality Standards	Your Reading	Does your reading meet standards?
Dissolved Oxygen units: mg/L (ppm)		At least 8.0 mg/L	*Answers will vary, even	
Temperature units: °C		Max. 17.5°C	among class data, as water	
Turbidity units: NTUs		Max. 15 NTUs	samples warm from testing.	
Phosphate units: mg/L (ppm)		Max. 1 mg/L		
pH units: pH units		6.5-8.5		

Results Take a look at your water quality data form. Based on your testing today, how would you rate the water quality? (Circle one)



In the video “Freddy the Fish”, you’ll learn about how people can cause **water pollution**. Answer the questions from the video and unscramble some ways to keep the water clean below.

Should you put your garbage in the trash can or recycle bin? Yes! No!

Should you pick up after your dog? Yes! No!

Should leaves and grass clippings get picked up and not left in the street? Yes! No!

1. Wash your **A R C C A R** in the yard or at the carwash.

2. E L C A N P U C L E A N U P pet waste and throw it away!

3. Make sure only rain goes down the storm **N R A D I D R A I N**.

4. Don’t **T R E T L I L I T T E R**!

5. Don’t put **V S L A E E L E A V E S** and grass clippings in the street.

