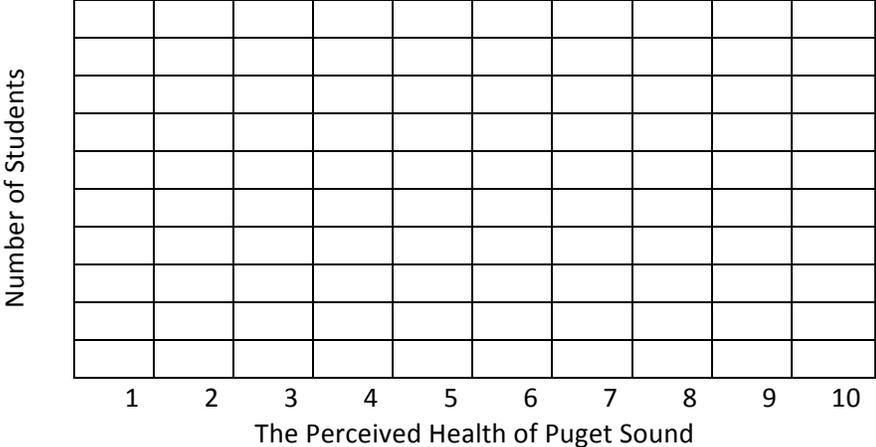


Conservation Challenge: Pollution Prevention Projects

Intended grade level	This lesson is written for fifth grade		
Big Ideas	<ul style="list-style-type: none"> The Puget Sound is not as environmentally healthy as it should be. Fifth graders can make a positive impact on the environment of Puget Sound. 		
Essential Questions	<ul style="list-style-type: none"> What is wrong with Puget Sound? What can we do to improve the environmental health of Puget Sound? 		
Links to State Standards	4-5 LS2F: People affect ecosystems both negatively and positively.		
Vocabulary	storm water	pollutant	toxic
	interdependence	conserve	conservation
	human impact	bacteria	
	non-point source pollution	pesticide	watershed
	point source pollution	fertilizer	food web
Possible Misconceptions	<ul style="list-style-type: none"> The Puget Sound is healthy because it looks so beautiful on the surface. As kids, we have little power to make changes that would impact the Puget Sound. 		
Instructional Strategies	<p>Prerequisite activities:</p> <ul style="list-style-type: none"> Foss <i>Land and Water</i> kit: lessons 1-5, 10, 13, and 16 Estuary lessons from padillabay.gov: <ul style="list-style-type: none"> What is an estuary? What species are most common in estuaries? (Trip to Padilla Bay) Estuary food web Recycling of water (Trip to wastewater treatment plant) Human impact on an ecosystem, session 5 only <p>Instructional strategies for this lesson:</p> <ul style="list-style-type: none"> Brainstorming ideas in science notebooks: Webpage exploration and note taking: Individual projects: 1 to 2 weeks of in-class and at-home work 		

Assessments	<p>Four-point rubric to assess final Pollution Prevention Project:</p> <ul style="list-style-type: none"> • Scientific Accuracy and Clarity • Persuasiveness and Authority • Language Arts standards
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Lesson Description	<p><u>Introduction:</u></p> <p>Day One</p> <ul style="list-style-type: none"> • Post empty bar graph on whiteboard with title: How environmentally healthy is Puget Sound? <div style="text-align: center;">  <p style="margin-left: 100px;">Number of Students</p> <p style="margin-left: 100px;">1 2 3 4 5 6 7 8 9 10</p> <p style="margin-left: 100px;">The Perceived Health of Puget Sound</p> </div> <ul style="list-style-type: none"> • Hand students 2x3" post it notes and ask them to sign their name on them. • Students put their post-it in the column that shows how healthy they <i>think</i> the Sound is, from 1-10, 1 being dead and 10 being pristine. • Analyze and discuss results. <p><u>Materials needed</u></p> <ul style="list-style-type: none"> • bar graph poster • 3x2" post-its • computer (s) with internet access • document projector • digital video camera • various props for ads • tag board or butcher paper • markers • science notebooks <p><u>Procedure</u></p> <ol style="list-style-type: none"> 1. Discuss answers to the question: What is wrong with Puget Sound? Students keep organized list in notebooks
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as teacher records class ideas on board:

- a. Brainstorm student ideas
- b. Explore and find facts from web:
 - psp.wa.gov
 - pugetsoundstartshere.org
 - www.ecy.wa.gov/washington_waters
 - other sites
- c. Combine and organize main ideas into major groups/themes
- d. Allow students to move their post-it showing how healthy they think Puget Sound is. Analyze and discuss changes.

Day Two

1. What can we do to make Puget Sound more healthy?
Students take notes as teacher records class ideas:
 - a. Brainstorm student ideas
 - b. As a class or in a visit to the computer lab, partners explore and find more ideas from same websites listed above. (Locate Take Action Now and Drain Ranger pages on PugetSoundStartsHere)
2. Discuss all ideas. For each, clearly identify:
 - The problem
 - The human connection
 - The new behavior that will alleviate the problem.
3. Distribute rubric and brainstorm ways to communicate issues with community, friends and family:
 - a. Videos
 - b. Public service announcements on TV and radio
 - c. Posters
 - d. Flyer
 - e. School newsletter
 - f. School web page
 - g. Class blog for families
 - h. School-wide morning announcements or assemblies
 - i. Earth Day grocery bag decoration for local grocery store
 - j. Skit, song, or chant for community events
4. Students work in groups of individually.

Days Three to Seven

Support students as needed.

Checkpoint or Assessment

- Conduct ongoing check-ins with individuals as they prepare their projects to ensure that scientific information is accurate and that students are progressing satisfactorily in their work
- Final assessment: use pollution prevention project rubric: see assessments, above

Reflection, Sharing, and Closure

Periodically conclude work time with a five minute reflective writing time in which students are given the opportunity to sum up their Big Ideas of the day into a few phrases or sentences.

When projects are completed, students present their projects to the rest of the class.

Students will also be given the opportunity to share how their behavior and that of their family and community have changed in regard to protecting the environment.

Extension

Go to [PugtSoundStartsHere](#) and select the link "In Your Local Area" and "Get Involved" to find ways to volunteer with organizations that are helping clean up Puget Sound.