

Kids In The Creek

A Curriculum Guide for Secondary Students



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“You can imagine what might be learned in a place like this if one took the time. Think only of the odors, some single strand of which might be nipped between rocks, of wildflowers (lupine, avalanche lily, the white blossoms of bunchberry, yellow balsam root, crimson currant), of musk (needle-toothed weasel, sleek-furred mink, bright-eyed fisher, grizzly bear on his rump, eating the seed pods of dogtooth violet), of suncracked earth, the odor of granite. Just so, by these invisible extensions is the character of the river revealed, is there some clue to what goes unexamined.”

Barry Lopez

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and to the many resource specialists, educators and volunteers who contributed countless hours creating this dynamic program.



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It All Began With...

“Never doubt that a small group of committed people can change the world. Indeed, it is the only thing that ever has.”

Margaret Mead

...a small group of committed volunteers serving on the Board of Supervisors for the Chelan County Conservation District. They were concerned about how rapid growth and development would affect local water quality. They secured funding from the Washington Department of Ecology to monitor water quality, and then highlighted which watersheds could benefit most from improved management. The Wenatchee River Watershed made it on the list. A Technical Advisory Team formed, consisting of resource professionals. To fulfill the grant proposal, several subcommittees were next organized, including the Education Committee.

The committee consisted of resource specialists from the U.S. Fish & Wildlife Service, U.S. Forest Service, Natural Resources Conservation Service, Chelan County Conservation District, and science and Future Farmers of America (FFA) teachers from Eastmont, Wenatchee, and Cashmere High Schools. They met in 1992, adopted the hands-on field experience idea, and combined it with the subject of water. Hence, the birth of the *Kids in the Creek* program. The first all day field trip was in 1993, near Leavenworth, WA, on the beautiful Icicle Creek, tributary to the Wenatchee River.



Since then, hundreds of students from distant watersheds and many more resource agencies and private companies have joined this high quality educational effort. Throughout the years, the program has developed and evolved into what it is today. The basic tenets still remain: To connect students with aquatic and riparian ecosystems for an understanding of watersheds and the critical role of human land management activities.

The curriculum...

At first, resource specialists compiled and wrote scientific information for students to study before the field trip. After many meetings with classroom teachers, it became apparent that a more comprehensive product was needed. Teachers requested pre- and post-work to better prepare their students and extend the learning. They wanted the activities to be connected with the state academic learning requirements.



Resource scientists wanted assistance with teaching techniques. They requested direction and consistency, to facilitate times when people would be newly introduced to the program. Student worksheets needed to be developed that were easy to use, and clearly understood.

Countless brainstorming sessions occurred with conservation educators, classroom teachers, and resource specialists. The goal was to have a comprehensive, well-organized, adaptable activity guide. This publication is the culmination of many years of collaboration with our agency and education partners.

Author's Note

This curriculum is the result of a marvelous combination of energy given by dedicated individuals who truly care about the importance of learning about the connection between organisms, including humans, and their environment. A heartfelt depth of gratitude to all the contributors. What an incredible team effort!

Rebeca Franco

What is the “Kids In The Creek” program?

*Kids in the Creek
is...*



- A hands-on, interactive, engaging experience for high school students
- A field day investigating the stream ecosystem
- Exploring and Experiencing:
 - Invert Investigator
 - What's in That H2O?
 - Riparian Rx
 - Habitat Sense
 - Watershed Wonders
- Spending the day with professional resource specialists
- All about partnerships: agencies, schools, and communities
- Fun!



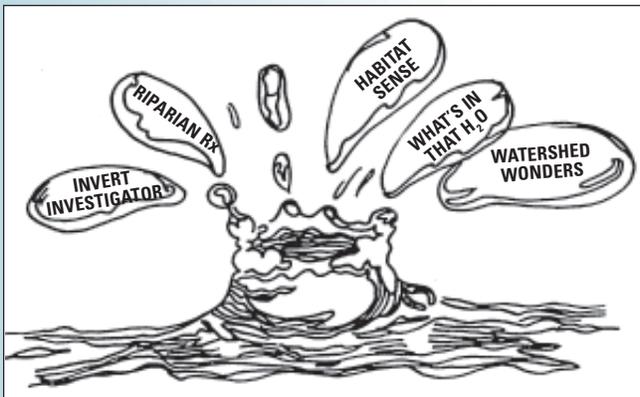
How Is “Kids in the Creek” Organized?

Program Basics

The activities are designed for high school students. Area schools are invited each year to apply for the program. Once approved and notified, the classroom teacher attends a training on the program and the curriculum. Teachers are asked to do pre- and post-work activities with students. They are to ensure that students and chaperones understand their responsibilities. This procedure may be formalized by using the application, contract, and teacher planning forms found in the Appendix.

Format

Participants work in small groups led by resource specialists.



Approximately one hour is allocated per station. The stations are:

Invert Investigator	What's In That H ₂ O?
Riparian Rx	Watershed Wonders
Habitat Sense	

For a quality experience, we prefer 12 students or less per station at any one time. Groups with names like mayflies, riffles, shredders, and cedars, start the day in the creek at the four stations and rotate through every hour until all groups converge at Watershed Wonders.

The Day's Start and Finish

The resource specialists meet 30 minutes before the buses arrive to set up stations and receive any last minute news.

Before students go to the stations, they meet as a large group and receive a brief orientation about the day. Students put on waders and proceed to the first station. At the final station, Watershed Wonders, students meet as a large group with the resource specialists and discuss how the day's activities relate back to the classroom and community.

Be sure to check the list in the “Don't leave home without...” section before coming to Field Day.

At the day's end, students and classroom teachers conduct evaluations of the program. A special memento can be given to students as an incentive to complete the evaluation and Scavenger Hunt worksheets.

The resource specialists gather at the end of each day to evaluate their experiences and make note of any modifications or supplies needed for the next event.

How To Use This Guide



This curriculum is divided into the following categories:

- 1) Introduction
- 2) Five color-coded chapters: Invert Investigator, Riparian Rx, Habitat Sense, What's In That H₂O?, and Watershed Wonders
 - Each Chapter is divided into a Teacher Section, Student Section, and Resource Specialist Section
 - Each **Teacher Section** includes objectives, connections to WA State Essential Academic Learning Requirements, site description, vocabulary, and classroom pre- and post-work with activity objectives, materials needed, background information, procedure, assessment, and extensions.
 - **Student Sections** have worksheets for pre- and post-work and for the field trip
 - **Resource Specialist Sections** contain a complete description of what procedures and equipment are used for each particular station
- 3) Appendix, including:
 - Tips and Tricks for Resource Specialists
 - Kids in the Creek program application form
 - Participating Agreements: School staff and student responsibilities
 - Teacher Planning Sheet with boxes for competency, instructional resources, the learning activity, integrated competencies, and assessment methods
 - Student Leader/Chaperone Roster to be used during the field trip
 - Field Trip Guidelines for Chaperones and Student Leaders; for teachers to distribute to the field trip leaders
 - Kids in the Creek Scavenger Hunt form
- 4) Evaluations, including samples of evaluation forms distributed to students, teachers, and resource specialists
- 5) Bibliography
- 6) Glossary

Logistics

General Stuff



Confirm the date as well as the start and end times for the day with the teacher well in advance of the field day. Information packets provided to teacher should include location specifics such as a map and driving directions along with estimated travel time from the school to the site. Also provide information about:

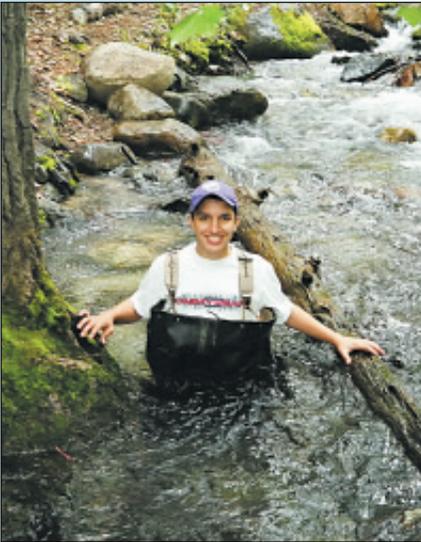
- Bus access
- Drinking water (and cups if provided)
- Trash receptacles and recycling opportunities
- Bathroom facilities
- Lunch plans (eat at stations or in central area, use of tables, benches, etc.)
- Handicap accessibility

Station Layout

- Select a stream with sufficient access, safe water levels during the season you will be using it, and a variety of habitat to study. Campgrounds and parks can often provide both the stream habitat and the amenities needed to host the event.
- The five (5) stations should be within walking distance of each other and should be well-marked.
- Limit impacts to the stream by establishing designated access points for the various stations.



Don't Leave Home Without...



- Doing the pre-work. It is important that students are prepared before attending the field day. Pre-work activities help the students to understand concepts and makes their field experience more meaningful.
- Layered clothing suited for the weather. Be prepared for the wet and cold!
- Hip boots or chest waders (if you prefer your own). Bring extra socks in case waders leak.
- Snacks and a lunch.
- Student worksheets for all stations, Kids in the Creek Scavenger Hunt, pencils, and a clipboard. Water resistant paper is a good choice for the worksheets, if available.
- Most importantly, a good attitude!

