Appendix

Kids in the Creek

Tips and Tricks for Resource Specialists

"No one can teach anyone anything. One can only enable another to discover it for himself."

Carl Rogers

The good news: You don t have to prepare any lectures for *Kids in the Creek*! You should, however, be prepared by familiarizing yourself with the curriculum. Your role is to ask stimulating questions to get them on their way, and to be a guide. Here are a few tips and tricks that work for us:

- ❑ Introduce yourself. Tell the students what you do for a living. Ask for their names, too. Find out who the student leaders and chaperones are and let them know you re depending on them.
- ❑ Be aware that students may have different levels of preparation and adjust your presentation as needed.
- ❑ Speak clearly and loudly enough to be heard over outdoor sounds.
- ❑ Share intriguing trivia and use humor to keep the mood light.
- ❑ Be enthusiastic - attitude is contagious! If you are excited about the subject, they will be too. Provide for student interaction and group dynamics.
- ❑ Keep focused and on track. If discipline becomes a problem, stop and ask for assistance from the chaperone or teacher.
- ❑ If students have a question, engage in group discussion to determine an answer. If you don t know the answer, tell them so and encourage them to research it later.
- ❑ Be flexible. Grab those teachable moments.
- ❑ Above all, be yourself and have fun.

"Kids in the Creek" Application

Please print clearly or type and return by _____ to:

Chelan County Conservation District
301 Yakima, Room 307
Wenatchee WA 98801
(509) 664-0275 Fax: (509) 664-0255

Name _____

School _____

Address _____

Grade level and course _____

Name_____

Phone _____ Fax _____

Email _____

I would like (choose one):

❏ 1.0 Credit

❏ 10 clock hours

❏ None this year
(available through Central Washington University, approx. $30-35)

If you have a preferred method of receiving communications (e.g. fax, email, etc.) please let us know.

Explain why your students should participate in the *Kids in the Creek* program:

Attach two or more student letters explaining why their school should qualify for the program.

Teacher and student letters could include: connection with current studies, amount of preparation time that will be dedicated to the program, expectations, possible post work projects, and more.

Participating Agreement

Student Responsibilities

1. Wear appropriate field attire, which includes sturdy footwear, long pants and jackets. Remember, spring weather can change quickly.
2. All plants and animals are protected. Keep to designated trails to avoid stepping on or disturbing plants and wildlife.
3. If you walk and talk quietly, your chance of observing wildlife greatly increases.
4. Stay with your group! Each group must have a supervisor at all times.
5. Show respect to instructors and other students. When someone else is speaking, do not be distracting. If you have a question or a comment, wait until the opportunity arises.
6. Avoid littering the area. Be thoughtful and pick up trash you see.
7. Enjoy yourselves, learn much and use all your senses!

School Staff Responsibilities

1. I will keep to the dates and times that were initially negotiated.
2. On the sheet provided, I will list the teacher in charge and the names of the chaperones and the student leaders for each group. I will submit this list by May 1.
3. I will do the suggested pre-work to better prepare students, including all photocopying of station worksheets. After the field trip, I will conduct suggested follow-up activities with the students.
4. I will provide direct supervision of all students assigned to me and will stay with students at all times to insure safety and appropriate behavior.
5. I will provide a quiet learning atmosphere for instructors.
6. I will insure that students will comply with the student responsibilities listed above.

Partnership Agreement *continued next page*

7. I will insure that the students and I will be prepared with worksheets, clipboards, pencils, nametags, lunches and, if students have them, waders.

8. I will provide a translator or assistant for non-English speaking students where possible.

9. My students will be prepared to present the assigned Watershed Wonders scenario(s) on field trip day, and will bring any presentation materials or prepared visual aids needed for this activity.

10. I have read this document and understand my obligations. I further understand that this document must be completed and returned by the March 17 teacher inservice in order to PARTICIPATE.

_____

Signature of Teacher in Charge Date

How to use the

Teacher Planning Sheet

Use for every activity in each chapter

E.A.L.R.s: *the appropriate state essential learning requirements*

E.L.s: *your school district s essential learning requirements*

Grade Level/Benchmark _____ Competency (#) Code: *fill your district s own*

Instruction

Competency	Instructional Resources
The student will:	*handouts, equipment, books, references, correlations into relevant text, etc.*
Learning Activity	**Integrated Competencies**
	Science primarily; list collateral subjects and primary bench marks

Assessment

Target	Performance Standard
Notes Knowledge *vocabulary, etc.* Reasoning *taking knowledge and applying it* Skill *water testing, invert keys, etc.* Product *something physical accomplished* Disposition *what change occurred in students; ie. - pre and post test*	Notes Scoring Sheet (Rubric) % Correct Established Standard *the target % of product* Other *purity*
Assessment Type	**Description Details**
Selected Response *multiple choice, etc.* Essay Performance Personal Communication *mostly verbal* Details:	

Teacher Planning Sheet

Use for every activity in each chapter

E.A.L.R.s: _____

E.L.s: _____

Grade Level/Benchmark _____ Competency (#) Code: _____

Instruction

Competency	Instructional Resources
The student will:	
Learning Activity	**Integrated Competencies**

Assessment

Target	Performance Standard
Notes Knowledge Reasoning Skill Product Disposition	Notes Scoring Sheet (Rubric) % Correct Established Standard Other
Assessment Type	**Description Details**
Selected Response Essay Performance Personal Communication Details:	

Student List Please print!

High School _____

_____ _____

Teacher in Charge Date of Field Trip

Mayflies	Riffles	Shredders	Cedars
_____	_____	_____	_____
Chaperone	Chaperone	Chaperone	Chaperone
_____	_____	_____	_____
Student Leader #1	Student Leader #1	Student Leader #1	Student Leader #1
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Student Leader #2	Student Leader #2	Student Leader #2	Student Leader #2
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Dont' forget your nametags!

For Chaperone

Student Responsibilities

1. All plants and animals are protected. Keep to designated trails to avoid stepping on or disturbing plants and wildlife.
2. Fish live in Icicle Creek. Do not disturb in any way.
3. If you walk and talk quietly, your chance of observing wildlife greatly increases.
4. Stay with your group! Each group must have a supervisor at all times.
5. Show respect to instructors and other students. When someone else is speaking, do not be distracting. If you have a question or a comment, wait until the opportunity arises.
6. Avoid littering the area. Be thoughtful and pick up trash you see.
7. Enjoy yourselves, learn much, and use all your senses!

Chaperone/School Staff Responsibilities

1. Designate students into groups of 12 or less before coming to the field trip.
2. Do suggested prework to better prepare students.
3. Provide direct supervision of all students assigned to you. Stay with students at all times to insure safety and appropriate behavior.
4. Provide a quiet learning atmosphere for instructors!
5. Thanks for your cooperation. You might like being in the creek and exploring too!

CHAPERONE CONTRACT

I have read the above field trip guidelines and will do my best to provide leadership and a learning atmosphere for all the students in my assigned group.

_____

Name Date

For Student Leader

Student Responsibilities

1. All plants and animals are protected. Keep to designated trails to avoid stepping on or disturbing plants and wildlife.
2. Fish live in Icicle Creek. Do not disturb in any way.
3. If you walk and talk quietly, your chance of observing wildlife greatly increases.
4. Stay with your group! Each group must have a supervisor at all times.
5. Show respect to instructors and other students. When someone else is speaking, do not be distracting. If you have a question or a comment, wait until the opportunity arises.
6. Avoid littering the area. Be thoughtful and pick up trash you see.
7. Enjoy yourselves, learn much, and use all your senses!

Chaperone/School Staff Responsibilities

1. Designate students into groups of 12 or less before coming to the field trip.
2. Do suggested prework to better prepare students.
3. Provide direct supervision of all students assigned to you. Stay with students at all times to insure safety and appropriate behavior.
4. Provide a quiet learning atmosphere for instructors!
5. Thanks for your cooperation. You might like being in the creek and exploring too!

STUDENT LEADER CONTRACT

I have read the above field trip guidelines and will do my best to provide leadership and a learning atmosphere for all the students in my assigned group.

_____

Name Date

Scavenger Hunt

Name _____ Date _____

Fill out the answers throughout the day of Kids in the Creek.
Your classroom teacher wants to see what you ve learned!

Name one thing that affects plant growth. Why are they affected?

_____

_____

_____

_____

What are the names of the resource specialist instructors at:

Invert Investigator _____

Riparian Rx _____

What s in That H20? _____

Habitat Sense _____

Watershed Wonders _____

What can affect water quality?

_____

_____

_____

_____

Name one insect that has a difficult time with poor water quality. Why?

_____

_____

_____

_____

What is some evidence that humans have been here?

_____

_____

_____

_____

Scavenger Hunt *continued next page*

Describe one new thing you've learned today.

_____

_____

_____

_____

Give examples of how land use affects water quality.

_____

_____

_____

_____

Describe or draw one adaptation unique to riparian vegetation. What is the function of the plant you drew?

_____

_____

_____

_____

What can affect stream flow? How is the stream visited on the field trip affected?

_____

_____

_____

_____

_____

_____

If you went to a creek, how would you know if fish inhabit the area (aside from fishing it)?

_____

_____

_____

_____

_____

Name at least 6 types of cover that protect fish from predators?

Review your experience of the day.

Instructor Evaluation of "Kids in the Creek" Students

How to use this evaluation

1. All instructors at each station should fill out an evaluation form. Write comments in the space provided.
2. Print your name, school & team names. Check the name of the station.
3. Before you begin instruction identify the teacher and/or chaperone and student leaders of each group.
4. Ask the students about their pre-work for the station.
5. Weather conditions will be noted for the day, as they have a bearing on how instruction is given and received.
6. Circle only one rating per category, and only one Overall Group Rating.
7. When making comments, include names of outstanding students and what they did to excel.

Instructor_____ Date _____

School(s) _____

Station: ❑ Riparian Rx ❑ Habitat Sense ❑ Invert Investigator ❑ What s In That H2O?

Rotation 1: Team Name _____

Teacher present? ❑ Y ❑ N Chaperone present? ❑ Y ❑ N

Teacher/Chaperone Participation	Excellent	Good	Fair	Poor
Student Leader(s)	Excellent	Good	Fair	Poor
Pre-work Preparation	Excellent	Good	Fair	Poor
Attitude	Excellent	Good	Fair	Poor
Attention	Excellent	Good	Fair	Poor
Participation	Excellent	Good	Fair	Poor
Follow Directions	Excellent	Good	Fair	Poor
Overall Group Rating	Excellent	Good	Fair	Poor

Instructor_____ Date_____

School(s) _____

Station: ❑ Riparian Rx ❑ Habitat Sense ❑ Invert Investigator ❑ What s In That H2O?

Rotation 2: Team Name _____

Teacher present? ❑ Y ❑ N Chaperone present? ❑ Y ❑ N

Teacher/Chaperone Participation	Excellent	Good	Fair	Poor
Student Leader(s)	Excellent	Good	Fair	Poor
Pre-work Preparation	Excellent	Good	Fair	Poor
Attitude	Excellent	Good	Fair	Poor
Attention	Excellent	Good	Fair	Poor
Participation	Excellent	Good	Fair	Poor
Follow Directions	Excellent	Good	Fair	Poor
Overall Group Rating	Excellent	Good	Fair	Poor

Comments _____

_____

_____

_____

Instructor _____ Date _____

School(s) _____

Station: ❑ Riparian Rx ❑ Habitat Sense ❑ Invert Investigator ❑ What s In That H2O?

Rotation 3: Team Name _____

Teacher present? ❑ Y ❑ N Chaperone present? ❑ Y ❑ N

Teacher/Chaperone Participation	Excellent	Good	Fair	Poor
Student Leader(s)	Excellent	Good	Fair	Poor
Pre-work Preparation	Excellent	Good	Fair	Poor
Attitude	Excellent	Good	Fair	Poor
Attention	Excellent	Good	Fair	Poor
Participation	Excellent	Good	Fair	Poor
Follow Directions	Excellent	Good	Fair	Poor
Overall Group Rating	Excellent	Good	Fair	Poor

Comments _____

_____

_____

_____

Please evaluate your station:

Location _____

Staffing _____

Equipment/Tools _____

Information/materials _____

Logistics (table, benches, water, cups, toilets, trash cans, etc.)_____

_____

Instructor Meetings (field day, event day pre- & post-meetings) _____

_____

Comments: _____

_____

_____

Instructor_____ Date_____

School(s) _____

Station: ❑ Riparian Rx ❑ Habitat Sense ❑ Invert Investigator ❑ What s In That H2O?

Rotation 4: Team Name

Teacher present? ❑ Y ❑ N Chaperone present? ❑ Y ❑ N

Teacher/Chaperone Participation	Excellent	Good	Fair	Poor
Student Leader(s)	Excellent	Good	Fair	Poor
Pre-work Preparation	Excellent	Good	Fair	Poor
Attitude	Excellent	Good	Fair	Poor
Attention	Excellent	Good	Fair	Poor
Participation	Excellent	Good	Fair	Poor
Follow Directions	Excellent	Good	Fair	Poor
Overall Group Rating	Excellent	Good	Fair	Poor

Comments: _____

_____

_____

_____

_____

Please evaluate your station:

Location _____

Staffing _____

Equipment/Tools _____

Information/materials _____

Logistics (table, benches, water, cups, toilets, trash cans, etc.)_____

_____

Instructor Meetings (field day, event day pre- & post-meetings) _____

_____

Comments: _____

_____

_____

Watershed Wonders Evaluation of Students

Instructor _____

Date _____

School(s) _____

TIMBER MANAGEMENT	Team Name _____			
Attitude	Excellent	Good	Fair	Poor
Attention	Excellent	Good	Fair	Poor
Participation	Excellent	Good	Fair	Poor
Oral Presentation	Excellent	Good	Fair	Poor
Visual Aids	Excellent	Good	Fair	Poor
Include Pros/Cons/Proposal	Excellent	Good	Fair	Poor
Include Water Quality BMPs	Excellent	Good	Fair	Poor
Overall Group Rating	Excellent	Good	Fair	Poor

RECREATION	Team Name _____			
Attitude	Excellent	Good	Fair	Poor
Attention	Excellent	Good	Fair	Poor
Participation	Excellent	Good	Fair	Poor
Oral Presentation	Excellent	Good	Fair	Poor
Visual Aids	Excellent	Good	Fair	Poor
Include Pros/Cons/Proposal	Excellent	Good	Fair	Poor
Include Water Quality BMPs	Excellent	Good	Fair	Poor
Overall Group Rating	Excellent	Good	Fair	Poor

AGRICULTURE	Team Name _____			
Attitude	Excellent	Good	Fair	Poor
Attention	Excellent	Good	Fair	Poor
Participation	Excellent	Good	Fair	Poor
Oral Presentation	Excellent	Good	Fair	Poor
Visual Aids	Excellent	Good	Fair	Poor
Include Pros/Cons/Proposal	Excellent	Good	Fair	Poor
Include Water Quality BMPs	Excellent	Good	Fair	Poor
Overall Group Rating	Excellent	Good	Fair	Poor

URBAN DEVELOPMENT	Team Name _____			
Attitude	Excellent	Good	Fair	Poor
Attention	Excellent	Good	Fair	Poor
Participation	Excellent	Good	Fair	Poor
Oral Presentation	Excellent	Good	Fair	Poor
Visual Aids	Excellent	Good	Fair	Poor
Include Pros/Cons/Proposal	Excellent	Good	Fair	Poor
Include Water Quality BMPs	Excellent	Good	Fair	Poor
Overall Group Rating	Excellent	Good	Fair	Poor

Comments _____

Team Evaluation Summary

Date_____ School_____

Team Name_____

	Riparian Rx				Habitat Sense				Invert Investigator				What s In That H_2O?				Watershed Wonders			
	E	G	F	P	E	G	F	P	E	G	F	P	E	G	F	P	E	G	F	P
Teacher Present (Y/N)																				
Teacher/Chap Part.																				
Student Leader(s)																				
Pre-work Prep																				
Attitude																				
Attention																				
Participation																				
Follow Direction																				
WW Oral Presentation																				
WW Visual Aids																				
WW Pro/Con/Proposal																				
WW Include WQ BMPs																				
Overall Group Rating																				

Comments:_____

_____

Team Name_____

	Riparian Rx				Habitat Sense				Invert Investigator				What s In That H_2O?				Watershed Wonders			
	E	G	F	P	E	G	F	P	E	G	F	P	E	G	F	P	E	G	F	P
Teacher Present																				
Teacher/Chap Part.																				
Student Leader(s)																				
Pre-work Prep																				
Attitude																				
Attention																				
Participation																				
Follow Directions																				
WW Oral Presentation																				
WW Visual Aids																				
WW Pro/Con/Proposal																				
WW Include WQ BMPs																				
Overall Group Rating																				

Comments:_____

_____

Team Name_____

	Riparian Rx				Habitat Sense				Invert Investigator				What s In That H_2O?				Watershed Wonders			
	E	G	F	P	E	G	F	P	E	G	F	P	E	G	F	P	E	G	F	P
Teacher Present																				
Teacher/Chap Part.																				
Student Leader(s)																				
Pre-work Prep																				
Attitude																				
Attention																				
Participation																				
Follow Directions																				
WW Oral Presentation																				
WW Visual Aids																				
WW Pro/Con/Proposal																				
WW Include WQ BMPs																				
Overall Group Rating																				

Comments:_____

_____

Team Name_____

	Riparian Rx				Habitat Sense				Invert Investigator				What s In That H_2O?				Watershed Wonders			
	E	G	F	P	E	G	F	P	E	G	F	P	E	G	F	P	E	G	F	P
Teacher Present																				
Teacher/Chap Part.																				
Student Leader(s)																				
Pre-work Prep																				
Attitude																				
Attention																				
Participation																				
Follow Directions																				
WW Oral Presentation																				
WW Visual Aids																				
WW Pro/Con/Proposal																				
WW Include WQ BMPs																				
Overall Group Rating																				

Comments:_____

_____

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Glossary

Adaptation changes an organism makes to adjust to a different or changing environment.

Anadromous fish that migrate from saltwater to fresh water for spawning.

Aspect a position facing or fronting a particular direction.

Aquatic organisms that live in or frequent water.

Best Management Practices methods adopted by resource users designed to mitigate harm to the environment that might result from their activities.

Benthic pertaining to the bottom of a body of water.

Biome a large geographic area with somewhat uniform climatic conditions; a complex of communities characterized by a distinctive type of vegetation and maintained under the climatic conditions of the region.

Canopy the layer of branches and leaves formed by forest trees and shrubs.

Catadromous fish that migrate from freshwater to saltwater for spawning.

Class a taxonomic group broader than an order or family and narrower than a phylum. Examples: mammals, fishes, birds, spiders, insects.

Collector aquatic invertebrates that feed on fine material in water.

Cryptogam flowerless and seedless organisms that reproduce by spores, such as fungi, algae, mosses, and ferns.

Dichotomous key a key for the identification or organisms based on a series of choices between alternative characteristics.

Dissolved oxygen oxygen dissolved in water.

Ecosystem a system formed by the interaction of a community or organisms with their environment.

Embeddedness the degree larger rock particles are surrounded by silt. Measured in a percentage.

Glossary *continued next page*

Entomologist one who studies insects.

Erosion the physical removal of soil or soil particles by a transport agent such as moving water, wind.

Ethnobotany the plant lore of a race of people.

Family a taxonomic group broader than a genus or species, and narrower than an order or class.

Fauna pertaining to animals.

Forb any herbaceous plant other than a grass.

Geomorphology the study of the forms, characteristics, and processes related to the land forms on earth.

Glide an area in a stream with gently moving water, usually over a uniform river or stream bottom. Usual a transition zone between pools and riffles.

Gradient degree of slope, or steepness of a geographic feature.

Herb a plant that has a fleshy stem, as distinguished from the woody tissue of shrubs and trees, and that generally dies back at the end of each growing season. Includes the plant groups forbs and grasses.

Hydrologic cycle the continuous circulation of water in systems throughout the planet, involving condensation, precipitation, runoff, evaporation and transpiration.

Hyporheic zone the volume of saturated sediment beneath and beside streams and rivers, where ground water and surface water mix.

Indicator species an organism whose prominent presence in an environment serves as a marker for that particular ecosystem.

Instar the stage of an insect between successive molts.

Intermittent a stream that does not flow year-round.

Issue a point of debate, discussion, or dispute.

Kingdom one of five primary divisions into which natural objects are classified, eg. plant, animal, fungus, etc.

Lateral line a series of pores through scales along the sides of fishes; the pores lead to sensory organs beneath the scales.

Loam fertile and humus-rich soil consisting of clay, silt and sand.

Macroinvertebrate organisms that lack an internal skeleton and are large enough to be seen with the naked eye.

Metamorphosis the process by which larval animals transform to adults.

Mitigate to lessen the effects of potentially harmful activities.

Nephelometer an instrument that measures the turbidity of water by determining the amount of light passing through.

Non point source pollution pollution deriving from many unidentified sources.

Nymph the young of an insect with incomplete metamorphosis.

Order a taxonomic group broader than a family, genus or species and narrower than a class.

Parts per million units per equivalent million units, equal to milligrams per liter.

Percolation the process of filtering or trickling through a porous substance.

pH a measure that indicates the relative acidity or alkalinity of a substance; the scale ranges from 0 (most acid) to 14 (most basic), with a pH of 7 being neutral.

Phylum a major taxonomic unit broader than a class and order and narrower than a kingdom comprising of organisms sharing a fundamental pattern of organization and presumably a common descent.

Pocket pool small area of relatively still water behind boulders or other obstructions.

Point source pollution deriving from one source.

Pool an area in a stream that is generally deeper than the surrounding area with slower water moving through it. Sometimes there is an obstruction creating it; usually has scoured out areas.

Pool tail-crest the point where water from a pool breaks into a riffle or plunges to a pool below.

Glossary *continued next page*

Predator aquatic invertebrates that feed on other macroinvertebrates.

Pyloric caeca organ of a fish, also called blind sacs, function includes digestion and absorption.

Resources matter and energy available for use by organisms.

Riffle an area in a stream that may be shallow or deep with swift water flowing over different sized substrate.

Riparian located or living along or near a stream, river or body of water.

Runoff water that drains or flows off the surface of the land.

Scraper aquatic invertebrates that feed by scraping the surfaces of rocks, primarily harvesting algae.

Sediment the solid matter that settles to the bottom of a liquid.

Shredder aquatic invertebrates that feed on the leaves or wood that fall into a stream.

Side channel a channel fed by the mainstem river and nearly parallel to it.

Silt very fine particles of earth, sand, and clay that may be transported by water and deposited as sediment.

Species a category of taxonomic classification consisting of related organisms capable of interbreeding.

Stream reach a section of river or creek.

Substrate inorganic material that forms the bottom of a stream.

Succession the gradual replacement of one community by another.

Swim bladder organ of a fish that is responsible for a fish s buoyancy.

Taxonomy the scientific naming and classifying of organisms along the Linnaean system (species, genus, etc.) which uses Latin and Latinized names.

Thorax the body region behind the head of an insect, which bears legs and wings.

Topographic map a map that shows roads, towns, water, vegetation, contour lines and other selected features.

Topography detailing on a map the relative position of man made or natural features in a way that shows elevation.

Total Suspended Solids (TSS) total amount of undissolved material carried by water.

Transect a sample area of vegetation usually in the form of a narrow continuous strip used for the tabulation of data.

Turbidity degree to which light penetration is blocked because water is muddy or cloudy.

Velocity speed; quickness of motion.

Watershed a watershed is the land that water flows across or under on its way to a stream, river, lake, or ocean; all of the land area with a common drainage.