



# Roaring Fork Conservancy Education Program

Visit our website [www.roaringfork.org](http://www.roaringfork.org)

Since 1997, Roaring Fork Conservancy has taught students about the precious resource that unites our valley – water. Watershed education programs are available to school, youth and civic groups year round. All our programs incorporate inquiry learning, hands-on activities, and relevant place-based content for students in the Roaring Fork Valley. Our programs are taught at your school classrooms, field locations throughout the Roaring Fork Valley, and at the River Center located in Basalt, Colorado.

## STANDARDS

All programs are correlated to the Colorado Academic 2020 Standards, Next Generation Science Standards, and North American Association of Environmental Education Standards. We strive to help teachers meet curriculum needs.

## OUR VISION

Our vision is that students in the Roaring Fork Valley and beyond, will gain a connection to our watershed. Through hands-on experiences, students will learn about their rivers creating value and awareness through exploration.

## GENERAL INFORMATION

Since 1996, Roaring Fork Conservancy has inspired people to explore, value, and protect the Roaring Fork Watershed. We bring people together to protect our rivers and work hard to keep water in local streams, monitor water quality, and preserve riparian habitat. As one of the largest watershed organizations in Colorado, Roaring Fork Conservancy serves residents and visitors throughout the Roaring Fork Valley through school and community-based Watershed Education programs and Watershed Science and Policy Projects including regional watershed planning, water resource policy initiatives, stream management, and restoration.

**FOR ADDITIONAL PROGRAMS, DATES AND REGISTRATION,  
PLEASE VISIT [WWW.ROARINGFORK.ORG](http://WWW.ROARINGFORK.ORG)**

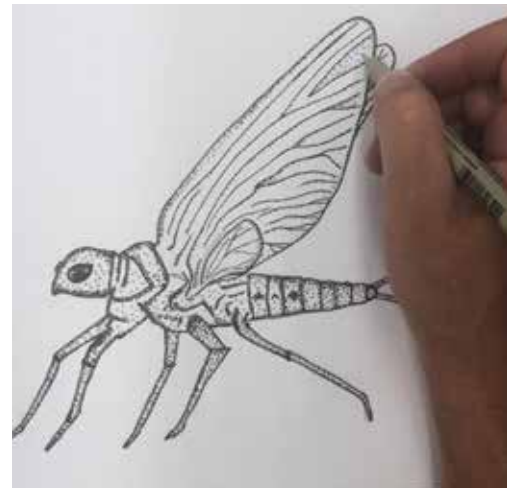
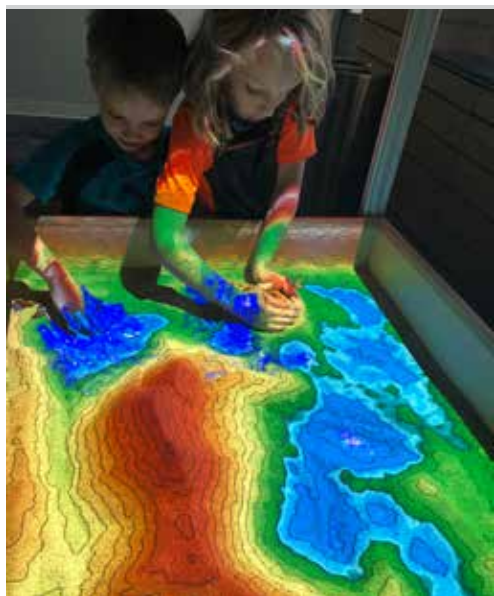
**Fishing in Schools • Teacher Education Workshops  
Watershed Adult and Family Explorations • The Brooksher Watershed Institute**





# Organizing a program with RFC

- Email [info@roaringfork.org](mailto:info@roaringfork.org) to request dates for programming.
- Complete a Program Request form found on our website under School Programs or by email request.
- Select your program (see pages 4-7 for programs listed by standards and grade levels).
- Invoice payment and confirmation call.
- Send home parent letter and liability waivers (for programs located outside of school or River Center).
- Collect medical and liability waivers from parents for field programs.
- 2 days before program, review what students should bring (review how to dress on page 3).
- Prior to your arrival, give students access to RFC Intro video and a fun online activity.
- Print student journals (if needed).
- Enjoy an action packed learning experience with your students!



## PRE-TRIP LOGISTICS

A logistics email will be sent to you prior to the field trip that will include waivers, letter home to parents, online extension activities, daily program schedule, and logistics for the students.

## ROLE OF THE TEACHER DURING RFC PROGRAMMING

We want to give your student the best possible experience. Our educators need to be focused on delivering content, creating playful experiences, and safety. Educators do not have in-depth knowledge of specific student's needs, so teachers need to be responsible for redirecting behavior.

## ONLINE PROGRAMMING OPTIONS

- Subjects include investigations on: macroinvertebrates, trout, riparian plants, ecology survey, erosion and interactive watershed maps.
- Students will learn how to observe, journal, and create scientific illustrations.
- We also offer interactive activities using local watershed data and issues.

*We can offer multi-class series, full day programs, or single classes*

## SAMPLE SCHEDULE FOR FULL-DAY PROGRAM

Morning Session at the River Center

- Group 1
- Group 2
- If there are more sections, teachers can contact Basalt Library or the Art Base for programs or plan independent time.

Lunch (Outside classroom or near Old Pond Park)  
In-classroom option during inclement weather.

Afternoon Session at the River Center

- Group 3 & 4
- Group 1 and 2 (independent time)

## CLASSES INCLUDED IN SERIES (Series programs can be customized)

PROGRAM NAME AND AGE GROUP		CLASSES INCLUDED IN SERIES (Series programs can be customized)
K-2		<ul style="list-style-type: none"> <li>• Dee Dee the Fryingpan River Dipper</li> <li>• Watery World</li> <li>• Busy Beavers</li> <li>• Captain Cutthroat (Trout)</li> <li>• Riparian Bats</li> </ul>
	3-5	<ul style="list-style-type: none"> <li>• Macroinvertebrates, Aquatic Insects</li> <li>• Riparian Birding Olympics and Adaptations</li> <li>• Augmented Reality Sand Table: Creating and Seeing Watersheds</li> <li>• Water History Trunk</li> <li>• Geomorphology: A field study</li> </ul>
6-8		<ul style="list-style-type: none"> <li>• Augmented Reality Sand Table: Mapping how water flows</li> <li>• Enviroscope: Modeling a community's impact on water</li> <li>• Macroinvertebrates: Water Quality Indicators</li> <li>• Storm Drain Hunts: Nonpoint sources of pollution</li> <li>• Riparian Ecology Survey</li> <li>• Water Chemistry and Snow Science</li> </ul>
	High School	<ul style="list-style-type: none"> <li>• Augmented Reality Sand Table: Water use and storage</li> <li>• Interactive virtual watershed map</li> <li>• Snow Science</li> <li>• Water in the West</li> <li>• Plumbing the Colorado: Where does the water go?</li> </ul>

### FALL

- Long sleeve shirt
- Shorts or pants
- Hiking boots or sturdy walking shoes
- Waterproof rain jacket or poncho
- Wool or warm socks
- Warm hat
- Gloves (if needed)
- Sunglasses

### WINTER

- Long sleeve shirt
- Fleece mid-layer
- Insulated winter jacket
- Long underwear
- Insulated snow pants
- Hiking boots or sturdy walking shoes (preferably waterproof)
- Winter hat
- Winter gloves (thick, not thin)
- Wool or warm socks

### SPRING

- Long sleeve shirt
- Shorts or pants
- Hiking boots or sturdy walking shoes (preferably waterproof)
- Waterproof rain jacket or poncho
- Wool or warm socks
- Sunglasses

### SUMMER

- T-shirt
- Hiking shorts or pants
- Hiking shoes or tennis shoes
- Hat
- Sunglasses
- Sunscreen





# Watershed Education

## ELEMENTARY SCHOOL

RFC Lesson Grade Level Location	Program Description	Learning Target/Standard
<b>Erosion In Action - Stream Trailer</b> 3rd - 6th Grade Classroom or River Center	Get your hands wet creating rivers and watching geomorphology happen in a working stream trailer. Available May through October.	<ul style="list-style-type: none"> <li>Students use models to understand erosion and human impacts</li> <li>Earth's surface changes constantly through a variety of processes and forces</li> </ul>
<b>Macroinvertebrates</b> K - 6th Grade Classroom, River Center or Field Trip	Explore and identify real aquatic river insects using identification guides and microscopes.	<ul style="list-style-type: none"> <li>Organisms have structures with different functions</li> <li>Classification, interaction and interdependence</li> <li>Interaction between living and nonliving</li> <li>Life cycle and habitat</li> </ul>
<b>Busy Beavers</b> K - 3rd Grade Field Trip	Learn all about beavers through story telling, anatomy models and exploration of beaver signs and activity.	<ul style="list-style-type: none"> <li>Organisms have structures with different functions</li> <li>Classification, interaction and interdependence</li> <li>Interaction between living and nonliving</li> <li>Life cycle and habitat</li> </ul>
<b>Riparian Ecology Assessment</b> 3rd - 6th Grade Classroom, River Center or Field Trip	Learn about the food chain and what animals need to survive. Students use scientific tools to assess riparian habitat.	<ul style="list-style-type: none"> <li>Classification</li> <li>Interaction</li> <li>Interdependence</li> </ul>
<b>Trout, Trout, Trout!</b> K - 3rd Grade Classroom, River Center or Field Trip	Enjoy a visit from Captain Cutthroat and learn about trout anatomy and habitat needs.	<ul style="list-style-type: none"> <li>Organisms have structures with different functions</li> <li>Interaction between living and nonliving things</li> </ul>
<b>Dee Dee the Fryingpan River Dipper</b> K - 4th Grade Classroom, River Center or Field Trip	Learn all about our favorite aquatic song bird through storytelling, dress up, and habitat exploration.	<ul style="list-style-type: none"> <li>Organisms depend on their habitat's nonliving parts to satisfy their needs</li> <li>Adaptations</li> </ul>
<b>Riparian Bird Olympics</b> 4th - 6th Grade Classroom, River Center or Field Trip	Compete in games using the adaptations of birds while exploring their habitat.	<ul style="list-style-type: none"> <li>All living things share similar characteristics</li> <li>Living things also have differences that can be described and classified</li> </ul>
<b>Art &amp; Science of Birds or Bats</b> K - 6th Grade Classroom, River Center or Field Trip	Enjoy playing games using art to learn about bird/bat anatomy and habitat needs.	<ul style="list-style-type: none"> <li>All living things share similar characteristics</li> <li>Living things also have differences that can be described and classified</li> </ul>

PLEASE NOTE: All Programs can be adapted to different grade levels and different seasons – just ask!



# Watershed Education

## ELEMENTARY SCHOOL

RFC Lesson Grade Level Location	Program Description	Learning Target/Standard
<b>Weather Stations</b> 4th - 6th Grade Classroom, River Center or Field Trip	Become a weather scientist by creating hypotheses and testing them with weather instruments.	<ul style="list-style-type: none"> <li>Weather changes are measured by differences in temperature, air pressure, wind and water in the atmosphere and type of precipitation</li> </ul>
<b>Water Cycle Game</b> 4th - 6th Grade Classroom, River Center, or Field Trip	Become a drop of water and roll the dice to find out where you will land.	<ul style="list-style-type: none"> <li>Matter exists in different states such as solids, liquids, and gases</li> <li>Matter can change from one state to another by heating and cooling</li> </ul>
<b>Watery World</b> K - 2nd Grade Classroom, River Center, or Field Trip	Explore the properties and states of water through hands on activities and stories.	<ul style="list-style-type: none"> <li>Solids and liquids have unique properties that distinguish them</li> </ul>
<b>Water History</b> 2nd - 6th Grade Classroom or River Center	Explore real artifacts from Colorado History while learning about how water shaped our past.	<ul style="list-style-type: none"> <li>Colorado History</li> </ul>
<b>Augmented Reality Sand Table: Creating and Seeing Watersheds</b> 4th - 6th Grade Classroom or River Center	Use and create maps to understand earth systems and renewable resources. Play with an Augmented Reality Sand Table to learn about water and geology!	<ul style="list-style-type: none"> <li>Earth and sun provide a diversity of renewable and non-renewable resources.</li> <li>Earth's surface changes constantly through a variety of processes and forces</li> </ul>
<b>Life Zones</b> 4th - 6th Grade Classroom or River Center	Use beautiful illustrations and activity guides to learn about the life zones in Colorado.	<ul style="list-style-type: none"> <li>Use geographic tools to research and answer questions</li> <li>Connect across human and physical systems</li> </ul>
<b>Snow Science</b> K - 6th Grade, Location varies	Geology and Nature of Science	<ul style="list-style-type: none"> <li>Earth's surface processes interact</li> <li>Solids liquids and Gas</li> </ul>
<b>Terrific Trees</b> 2nd - 6th Grade Field or River Center	Ecology and Life Science	<ul style="list-style-type: none"> <li>Internal and external structures of plants</li> <li>Obtain and use energy</li> <li>Healthy ecosystems</li> </ul>
<b>Sum of the Parts</b> 4th - 6th Grade Classroom, River Center, or Field Trip	Science, Social Studies and Art	<ul style="list-style-type: none"> <li>Human impact on our environment</li> </ul>

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# Watershed Education

## MIDDLE AND HIGH SCHOOL

Program Name	Main Subject	2020 Standards & Main Focus
<b>Macroinvertebrates:</b> Indicators of Water Quality (Aquatic Insects) Classroom, River Center, or Field Trip	Biology	<ul style="list-style-type: none"> <li>Population Dynamics</li> <li>Environmental interactions</li> <li>Biological components of stream health</li> <li>Dichotomous keys</li> </ul>
<b>Cutthroat Trout</b> Native Species & Local Adaptations Classroom, River Center, or Field Trip	Biology	<ul style="list-style-type: none"> <li>Anatomy</li> <li>Genetics</li> <li>Ecosystems are dynamic in nature; characteristics can vary over time</li> <li>Disruptions to any physical or biological component of an ecosystem can lead to shifts in all of its populations</li> </ul>
<b>Wetlands and Riparian Ecology</b> River Center, Field Trip	Ecology	<ul style="list-style-type: none"> <li>Biotic and abiotic factors</li> <li>Living and nonliving interactions</li> <li>Food chain and energy transfer</li> </ul>
<b>River Ecology</b> Rafting Field Trip	Ecology	<ul style="list-style-type: none"> <li>Abiotic and biotic factors</li> <li>Understanding how human activities and the Earth's surface processes interact</li> </ul>
<b>Water Quality</b> Field Trip, River Center	Chemistry	<ul style="list-style-type: none"> <li>Molecules and reactions</li> <li>Understanding how human activities and the earth's surface processes interact</li> <li>Chemical and physical indicators of stream health</li> </ul>
<b>Science Through Art</b> Classroom, River Center, or Field Trip	Art, Biology	<ul style="list-style-type: none"> <li>Drawing from life</li> <li>Rendering scientific macroinvertebrate illustrations</li> <li>Observation of living systems</li> </ul>
<b>Plumbing the Colorado</b> Classroom or River Center	Social Studies	<ul style="list-style-type: none"> <li>Geographic tools</li> <li>Role of consumers</li> <li>Inferences and predictions</li> <li>Consumption of resources</li> <li>Western development and expansion</li> </ul>

# Watershed Education

## MIDDLE AND HIGH SCHOOL

Program Name	Main Subject	2020 Standards & Main Focus
<b>Water Manager</b> Classroom, River Center, or Field Trip	Social Studies	<ul style="list-style-type: none"> <li>Role of consumers</li> <li>Resource use and consumption</li> </ul>
<b>Water in the West</b> Classroom or River Center	Social Studies	<ul style="list-style-type: none"> <li>Economic Systems</li> <li>Water law and history</li> <li>Reservoirs &amp; Dams</li> </ul>
<b>Snow Science</b> Field Trip (Classroom if deep snow nearby)	Geology, Chemistry, Nature of Science	<ul style="list-style-type: none"> <li>Digital information as wave pulses</li> <li>Volume</li> <li>Density</li> </ul>
<b>Stream Trailer &amp; Groundwater Interactive Model</b> Classroom or River Center	Geology	<ul style="list-style-type: none"> <li>Earth systems</li> <li>Mapping</li> <li>History</li> <li>Natural hazards</li> <li>Geological forces</li> </ul>
<b>Weather, Climate &amp; Surface Water</b> Classroom, River Center, or Field Trip	Earth Science	<ul style="list-style-type: none"> <li>Water Cycles</li> <li>Water Movement</li> </ul>
<b>Enviroscape:</b> Non-Point Source Pollution Classroom or River Center	Earth Science	<ul style="list-style-type: none"> <li>Humans' dependency and impact on the environment</li> </ul>
<b>Augmented Reality Sand Table: Understanding Watersheds and Maps</b>	Geology and Social Studies	<ul style="list-style-type: none"> <li>Earth systems</li> <li>Mapping</li> <li>Geological forces</li> <li>Role of consumers</li> </ul>
<b>Geomorphology and Land Use</b>	Geology and Social Studies	<ul style="list-style-type: none"> <li>Characteristics of places and regions and human interactions</li> <li>Best management practices</li> <li>Earth systems and processes, erosion and weathering</li> </ul>

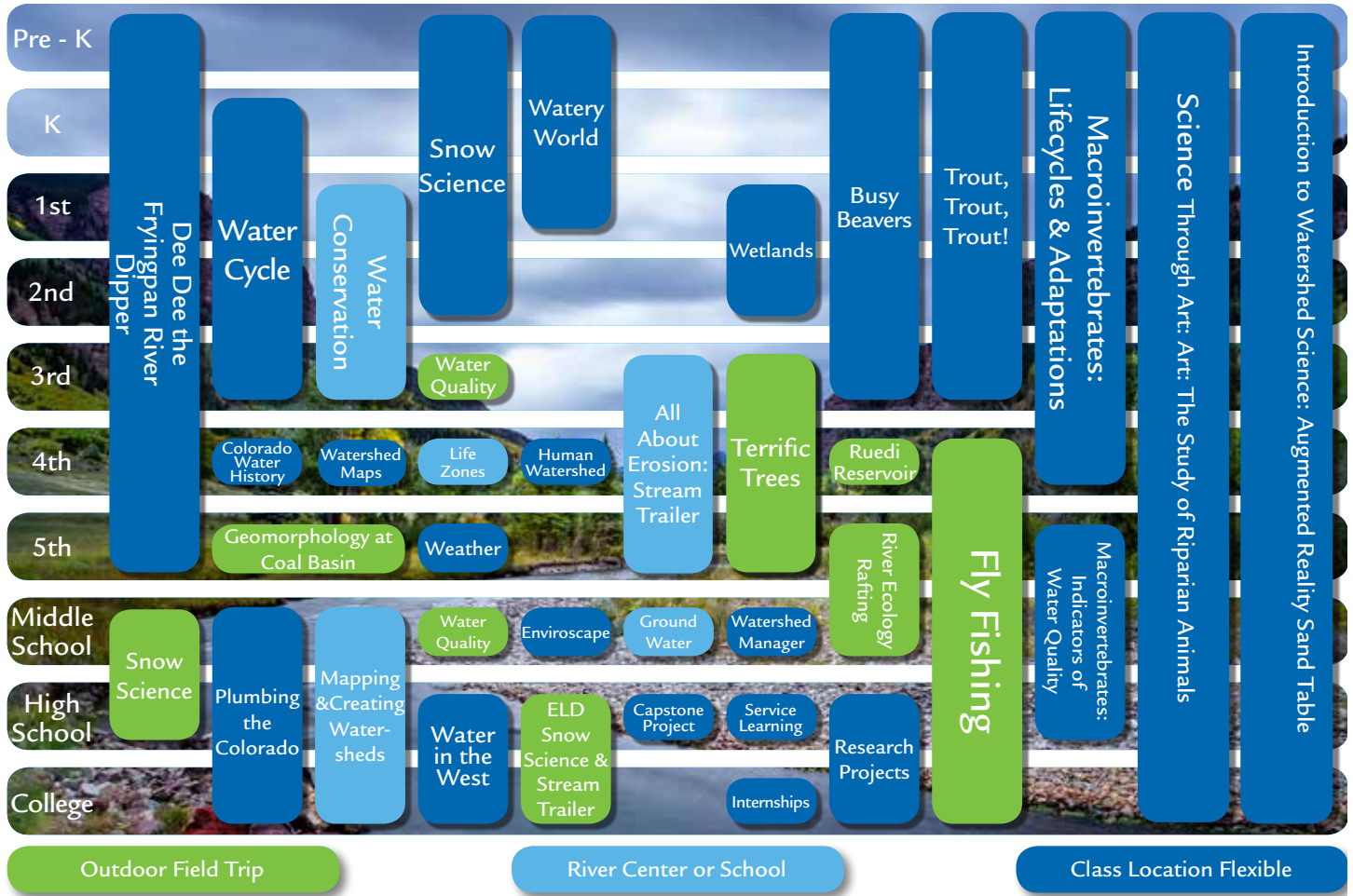
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# Roaring Fork Conservancy Water Education Programs by Grade



Many RFC programs can be adapted for different grade levels or core subjects. Please contact RFC's education staff if you are interested in custom water education programs.



## Education

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[www.roaringfork.org](http://www.roaringfork.org)

