



Roaring Fork Conservancy *Education Programs*

Visit our website www.roaringfork.org

Roaring Fork Conservancy (RFC) teaches students about water-the precious resource that connects our valley. Watershed education programs are available to school, youth, and civic groups year-round. All programs incorporate inquiry-based learning, hands-on activities, and relevant place-based content for students in the Roaring Fork Valley. RFC's programs are taught in 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 and Next Generation Science 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 local rivers creating value and awareness through exploration.

GENERAL INFORMATION

Since 1996, RFC 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, RFC 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.

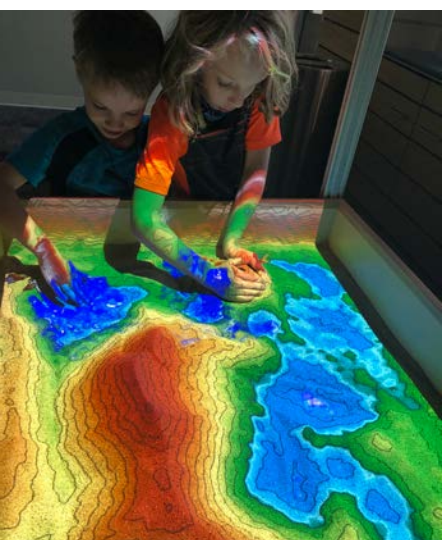
LEARN MORE ABOUT RFC'S PROGRAM OFFERINGS AT WWW.ROARINGFORK.ORG

- Fishing • The Brooksher Watershed Institute
- Family and Adult Watershed Exploration



Arranging a program with RFC

- ❑ Complete a Education Program Application form, at <https://forms.gle/2xknUW7kosMqoZCN9> or scan QR code.
- ❑ Be sure to indicate the program name you are requesting when completing your application (see pages 4-8 of this catalog for programs listed by standards and grade levels). If requesting the Riparian Ecology Assessment, be sure to indicate which field site you prefer: North Star Nature Preserve along the Roaring Fork near Aspen or Elk Park along the Crystal River near Redstone.
- ❑ After receiving your program application, RFC staff will respond with a confirmation email to secure your program dates and times, if we are able to fulfill your request.
- ❑ RFC waivers will also be sent and will need to be signed by a student’s parent or guardian and returned to RFC staff on the day of your program.
- ❑ One to two weeks prior to your program date, you will receive a reminder email with additional logistics and details on preparing for your program.
- ❑ Two days before your program, review what students should bring (review *How to Dress For Your Program* on page 3).
- ❑ Prior to your arrival, give students access to [RFC Intro video](#).
- ❑ Enjoy an engaging and hands-on learning experience with your students!
- ❑ Enjoy an action-packed learning experience with your students!



RFC offers multi-class series, full-day programs, or single classes

		CLASSES INCLUDED IN SERIES (Series programs can be customized)
PROGRAM NAME AND AGE GROUP	K-2	<ul style="list-style-type: none">• Art & Science of Birds or Bats• Busy Beavers• Captain Cutthroat• Dee Dee the Fryingpan River Dipper• Playful Otters
	3-5	<ul style="list-style-type: none">• All About Trout• Augmented Reality Sand Table: Creating & Seeing Watersheds• Human Watershed• Macroinvertebrates, Aquatic Insects• Terrific Trees• Water Cycle Game• Water History Trunk
	6-8	<ul style="list-style-type: none">• Augmented Reality Sand Table: Understanding Watersheds & Distribution• Riparian Ecology Survey• Macroinvertebrates: Water Quality Indicators• Water Chemistry• Stream Trailer: Forces in Motion• Enviroscope: Modeling a Community’s Impact on Water
	High School	<ul style="list-style-type: none">• Augmented Reality Sand Table: Water Use and Storage• Plumbing the Colorado: Where Does the Water Go?• Macroinvertebrates: Water Quality Indicators• Snow Science• Water in the West



ROLE OF THE TEACHER DURING RFC PROGRAMMING

To give your students the best possible experience, RFC educators need to be focused on delivering content, creating playful experiences, and safety. RFC educators do not have in-depth knowledge of specific student’s needs. We rely on teachers to be responsible for redirecting behavior.

HOW TO DRESS FOR YOUR PROGRAM

FALL	WINTER
<ul style="list-style-type: none">• Long sleeve shirt• Shorts or pants• Hiking boots or sturdy walking shoes• Rain jacket or poncho• Wool or warm socks• Warm hat• Gloves• Sunglasses	<ul style="list-style-type: none">• Long sleeve shirt• Fleece mid-layer• Insulated winter jacket• Long underwear• Insulated snow pants• Hiking boots (preferably waterproof)• Winter hat• Waterproof winter gloves• Warm socks• Sunglasses
SPRING	SUMMER
<ul style="list-style-type: none">• Long sleeve shirt• Shorts or pants• Hiking boots or sturdy walking shoes (preferably waterproof)• Waterproof rain jacket or poncho• Wool or warm socks• Sunglasses	<ul style="list-style-type: none">• T-shirt• Hiking shorts or pants• Hiking shoes or tennis shoes• Hat• Sunglasses• Sunscreen

Watershed Education

ELEMENTARY SCHOOL & MIDDLE SCHOOL

Program Name	Program Description	Learning Target/Standard
Captain Cutthroat K-3rd Grade Classroom, River Center, or Field Trip	Enjoy a visit from Captain Cutthroat and learn about how trout survive in their environment.	<ul style="list-style-type: none"> Animal adaptations Organisms have different structures that serve different functions Interaction between living and nonliving things
All About Trout! 4th-6th Grade Classroom, River Center, or Field Trip	Dive deep into the world of trout through a series of games on anatomy, life cycles, and habitat.	<ul style="list-style-type: none"> Habitats Life cycles
Dee Dee the Fryingpan River Dipper K-3rd Grade Classroom, River Center, or Field Trip	Learn about RFC's favorite aquatic songbird through storytelling, dress up, and habitat exploration.	<ul style="list-style-type: none"> Organisms depend on their habitat's nonliving parts to satisfy their needs Inheritance of traits
Watery World K-3rd 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"> Solids and liquids have unique properties that distinguish them Water changes states through the seasons and in different weather
Playful Otter K-4th Grade Classroom, River Center, or Field trip	Learn about the North American river otter's relationship with other animals and how they are specialized for living in local rivers.	<ul style="list-style-type: none"> Organisms have structures with different functions & live in different places Interaction between living and nonliving Life cycles and habitat
Beavers are Builders K-5th River Center or Field Trip	Students will learn about beaver adaptations, habitats, and behavior, as well as the important role beavers play in riparian ecosystems, through hands-on activities and outdoor exploration.	<ul style="list-style-type: none"> Organisms have structures with different functions Classification, interaction, and interdependence Interaction between living and nonliving Life cycle and habitat
Art & Science of Birds or Bats K-6th Grade Classroom, River Center or Field Trip	Enjoy playing games and using art to learn about bird/bat anatomy and habitat needs.	<ul style="list-style-type: none"> All living things share similar characteristics Living things also have differences that can be described and classified
Macroinvertebrates K-6th Grade Classroom, River Center, or Field Trip	Explore and identify live aquatic insects using identification guides and microscopes while learning about the important role they play in the aquatic food web and the health of our rivers.	<ul style="list-style-type: none"> Organisms have structures with different functions Classification, interaction, and interdependence Interaction between living and nonliving Life cycles and habitat
Riparian Scavenger Hunt K-6th Grade River Center or Field Trip <i>*Pairs well with other programs as a rotation station.</i>	Explore the land adjacent to the river through guided observations and student-led inquiry, looking for evidence of wildlife and habitat features on this fun nature walk.	<ul style="list-style-type: none"> Organisms depend on their habitat's nonliving parts to satisfy their needs Being part of a group helps animals survive Life cycles and habitat
Terrific Trees 3rd-6th Grade Field or River Center	In addition to providing oxygen, food, and habitat, get up close and personal with trees to discover how they benefit our rivers.	<ul style="list-style-type: none"> Internal and external structures of plants How plants obtain and use energy Interaction between living and nonliving Renewable vs. nonrenewable resources

PLEASE NOTE: Programs spanning multiple grade levels are tailored to individual grade-level standards.



Watershed Education

ELEMENTARY SCHOOL & MIDDLE SCHOOL

Program Name	Program Description	Learning Target/Standard
Water Cycle Game 3rd-6th Grade Classroom, River Center, or Field Trip	Become a drop of water and roll the dice to find out where in the water cycle you will land.	<ul style="list-style-type: none"> Matter exists in different states such as solids, liquids, and gases Matter can change from one state to another by heating and cooling
Stream Trailer: Forces in Motion 3rd-8th Grade River Center (Available May - October)	Get your hands wet with our interactive stream trailer while learning about the elements of a healthy stream and witnessing erosion and deposition in motion.	<ul style="list-style-type: none"> Earth's surface changes constantly through a variety of processes and forces Students use models to understand major Earth systems and human impacts Natural hazards
Augmented Reality Sand Table (ARST): Creating & Seeing Watersheds 4th-6th Grade River Center only	Discover what a watershed is through play in our ARST. Work with various maps to learn about our local watershed and apply your knowledge by creating your own.	<ul style="list-style-type: none"> Earth's surface changes constantly through a variety of processes and forces Analyze maps to describe patterns of Earth's features.
Enviroscape Model: Pollution Solutions 4th-8th Grade Classroom, River Center, or Field Trip	Engage in this hands-on demonstration, modeling a community's impact on water to learn how we all have a role to play in healthy watersheds.	<ul style="list-style-type: none"> Changes in environmental conditions can affect the survival of individual organisms, populations, and entire species Human impacts on ecosystems
Human Watershed 4th-6th Grade Classroom or River Center	Create a class size watershed and learn about seasonal water flows and resource distribution.	<ul style="list-style-type: none"> Earth's major systems react in multiple ways
Riparian Bird Olympics 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"> All living things share similar characteristics Living things also have differences that can be described and classified
Water History Trunk 4th-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"> Colorado history; Western expansion Natural resources provide the foundation for human society's physical needs Changes in environmental conditions can affect survival of organisms, populations, & species
Roaring Fork Valley Water Use 4th-6th Grade Classroom or River Center	Bring a story to life while learning about different water uses and water conservation.	<ul style="list-style-type: none"> Earth's surface processes interact Human activities and ecosystems Effects of erosion
Effects of Fires on Watersheds 4th-8th Grade Classroom, River Center, or Field trip	What are the benefits and negative effects of forest fires on watersheds? How does climate change impact fires?	<ul style="list-style-type: none"> Earth's surface processes interact Human activities and ecosystems Effects of erosion
Riparian Ecology Assessment 5th-6th Grade 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"> Interactions between living and nonliving Water chemistry Changes in environmental conditions can affect survival

Watershed Education

MIDDLE SCHOOL AND HIGH SCHOOL

Program Name	Main Subject	2020 Standards & Main Focus
Augmented Reality Sand Table (ARST): Understanding Watersheds & Distribution River Center only	Earth Systems Science, Social Studies	<ul style="list-style-type: none"> Earth's surface and systems Mapping the distribution of resources Geological forces, gravity, and distribution of resources
Beavers as Ecosystem Engineers Classroom, River Center, or Field Trip	Life Science, Earth Systems Science	<ul style="list-style-type: none"> Interaction between living & nonliving Ecosystems are dynamic in nature; characteristics can vary over time; disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations Natural hazards Beaver-created wetlands capture carbon & heat
Enviroscape: Modeling a Community's Impact on Water Classroom or River Center	Earth Systems Science	<ul style="list-style-type: none"> Humans' dependency and impact on the environment Use a model to learn that Best Management Practices create positive changes to physical and biological components of an ecosystem, positively affecting populations
Groundwater Interactive Model Classroom or River Center	Earth Systems Science, Geology	<ul style="list-style-type: none"> Understanding how human activities and the Earth's surface processes interact Use a model to describe the cycling of water through Earth's systems Create a CER based on model experiments to explain geoscience groundwater processes
Macroinvertebrates: Indicators of Water Quality (Aquatic Insects) Classroom, River Center, or Field Trip	Life Science	<ul style="list-style-type: none"> Population dynamics Environmental interactions Biological components of stream health Dichotomous keys
Plumbing the Colorado Classroom or River Center	Social Studies, Earth Science	<ul style="list-style-type: none"> Geographic tools Effects of resource availability on organisms Inferences and predictions Western development and expansion

PLEASE NOTE: Programs spanning multiple grade levels are tailored to individual grade-level standards.



Watershed Education

MIDDLE SCHOOL AND HIGH SCHOOL

Program Name	Main Subject	2020 Standards & Main Focus
Riparian Ecology Assessment River Center, Field Trip	Ecology, Social Studies	<ul style="list-style-type: none"> Living (biotic) and nonliving (abiotic) interactions Ecosystems are dynamic in nature Learn how communities and governments work together to create public lands Weather & climate change
River Ecology We can accompany school raft trips	Ecology	<ul style="list-style-type: none"> Abiotic and biotic factors, basic water chemistry Understanding how human activities and the Earth's surface processes interact
Snow Science Field Trip (Classroom if deep snow nearby)	Geology, Chemistry, Nature of Science	<ul style="list-style-type: none"> Digital information as wave pulses Volume and density Snow water equivalent Climate change effects on watersheds, food production, and resources
Stream Gages Measure the volume flow rate of rivers Classroom and Field Site (For small groups <=12 only)	Earth Science, Physical Science	<ul style="list-style-type: none"> Velocity Newton's Laws of Motion Human impact on the environment and resources
Stream Ecosystem Dynamics – Stream Trailer River Center	Earth Systems Science, Physical Science, Ecology, Fluvial Geomorphology	<ul style="list-style-type: none"> Erosion & deposition processes; Natural hazards Understanding how human activities impact different living things Use a model and the scientific method to describe the cycling of water through Earth's systems
Water in the West and Colorado Water History Classroom or River Center	Social Studies	<ul style="list-style-type: none"> Economic systems Water law and history Reservoirs and dams
Water Quality Field Trip, River Center	Chemistry	<ul style="list-style-type: none"> Molecules and reactions Understanding how human activities and the Earth's surface processes interact Chemical and physical indicators of stream health

Watershed Education

SNOW SCIENCE



Program Name	Program Description	2020 Standards & Main Focus
Snow Water Equivalent 6th-12th Grade, locations vary	Today's snow is tomorrow's water! Measure snow density and calculate how much water is in the snowpack.	<ul style="list-style-type: none"> • Volume and density • Solids, liquids, and gases • Waves and information technologies • Changes in environmental conditions can affect the survival of individual organisms, populations, and entire species • Weather and climate change
Animal Tracking & Winter Dens 3rd - 8th Grade, locations vary	Explore the secret wintery world below our feet. Learn how animals use snow to survive in cold environments. Build a snow den and measure the effectiveness of insulation using a field thermometer. How do animals use snow to help them survive the winter?	<ul style="list-style-type: none"> • Animal adaptations • Living things also have differences that can be described and classified • Ecosystems are dynamic in nature; characteristics can vary over time • Changes in environmental conditions can affect the survival of individual organisms, populations, and entire species
Snow Crystals 3rd - 8th Grade, locations vary	Study snow crystals and learn about how snow forms, identify states of matter, dig a snow pit, and create a class-size snow crystal.	<ul style="list-style-type: none"> • Water cycles • Earth's surface processes interact • Molecules, solids, liquids, and gas
Avalanche! 3rd - 12th Grade, locations vary	Learn about the positive and negative effects of natural disasters through the study of avalanches.	<ul style="list-style-type: none"> • Earth systems and processes, erosion, and weathering • Understanding how human activities and the Earth's surface processes interact • Natural disasters • Geological forces • Earth's surface changes constantly through a variety of processes and forces

All Snow Science programs can be combined to create a full day of winter programming.

THANK YOU TO OUR
EDUCATION PROGRAM
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ROARING FORK



CONSERVANCY

*Bringing People Together
to Protect Our Rivers®*

www.roaringfork.org

