



FOR YOUTH DEVELOPMENT®
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

WHERE EDUCATION LIVES AND BREATHES



School Programs
FROST VALLEY YMCA

ENVIRONMENTAL EDUCATION AT FROST VALLEY YMCA

Frost Valley pioneered outdoor education and experiential science classes in the late 1960s. Now more than 200 schools and learning institutions come each year and bring 16,000 students, taking advantage of our outdoor learning programs. Some schools have been coming to Frost Valley for 40 years to enhance student academic achievement.

In 1995 Frost Valley published [The Ways of the Watersheds: An Educator's Guide to the Environmental and Cultural Dynamics of New York City's Water Supplies](#) and we have continued to provide cutting-edge curricula for decades.

Schools come to Frost Valley from New York City, Long Island, Westchester, northern New Jersey, and our surrounding counties. We provide subsidies and scholarships to schools, making the trip as reasonable and economical as possible for those institutions unable to pay the full fee.

Outdoor experiences at our 5,500-acre facility immerse students in a pristine, natural environment and have an impact beyond the student's time spent in our outdoor classroom. Whether on an all-day ecology hike, working together to successfully maneuver through one of our Teambuilding courses, or in our gardens learning about the parts of plants, students are engaged in discovery-based, transformational learning. Frost Valley instructors incorporate our eight core values into all programming – caring, community, diversity, honesty, inclusiveness, respect, responsibility, and stewardship. Our classes and activities instill in students an appreciation for the diversity of nature and an awareness that healthy forests sustain all life on earth.

Healthy, robust forests in New York City watersheds mean sustained water quality for nine million people. Frost Valley's outdoor learning center is located in the 'Forever Wild' Catskills Forest Preserve within the West-of-Hudson Watershed. In our outdoor classrooms we instruct students in natural science with hands-on activities such as:

- Acid rain pH testing at our National Atmospheric Deposition Program precipitation collector which shows how the use of electrical energy affects forests
- Water ecology analysis shows the relationships between the health of freshwater environments and organisms found in them, the effects of our choices on freshwater and riparian ecosystems, etc.
- Forest ecology explorations on our 35 miles of nature trails and the two-mile Frost Valley Model Forest Demonstration Project show that choices in forest management affect water quality
- Watershed and Streamside Classroom learning opportunities examine the ways of the watershed and how our behaviors affect forests and water quality
- Composting their food waste from Dining Hall meals, and tours of our Resource Management Center illustrate the effectiveness of our composting operation, the first of its kind in New York State in 1990



Many of the students take part in activities related to the ongoing research projects we have with these partnerships:

Cary Institute of Ecosystem Studies
Cornell University
EPA
National Atmospheric Deposition Program
National Audubon Society
New York State DEC
Rondout-Neversink Stream Management Program

Stroud Water Research Center
SUNY College of Environmental Science & Forestry
SUNY Plattsburgh
Syracuse University
USDA Forest Service
USGS
Watershed Agricultural Council

PROGRAMS OFFERED AT FROST VALLEY YMCA

SCIENCE CLASSES:

ACID RAIN STUDIES

The acid deposition class is an opportunity to explore this environmental crisis through direct experience utilizing basic chemistry and the study of pH. A variety of activities will include games, simulations and sampling techniques. Students may also visit the on-site United States Geologic Survey monitoring station to observe and discuss environmental research methods.

OBJECTIVES:

- Uncover the sources and terminology related to acid deposition
- Develop a working understanding of the issues through experimentation
- Explore individual choice and its influence on acid deposition

FOREST ECOLOGY

While hiking and exploring Frost Valley's forests, students compare various woodland ecosystems and are introduced to such concepts as: tree physiology; forest components; habitats; and human impact.

OBJECTIVES:

- Introduce the components of the forest ecosystem
- Exposure to the life cycles and the interrelationships of a forest community
- Investigate types of forests and their unique features
- Develop an environmental awareness which promotes a sense of stewardship

GEOLOGY OF THE CATSKILLS

In exploring rocks found in Frost Valley's streams and hills and the mechanisms involved in their deposition in this area, students build a model of the Catskill Mountains, observe stream power at work, or hike to interesting geological sites. Discussion of the value of interpretive geological thinking in field studies is included.

OBJECTIVES:

- Explore the geological formation of the Frost Valley area
- Develop an understanding of how the Catskills were formed
- Define geology's role in the environmental structure

ORGANIC GARDENING

Participating in organic gardening at the Frost Valley greenhouse, students "dig in" and explore the world of cultivated plants. Activities include games illustrating issues in agriculture, discussions on plant and garden needs, and developing skills that will lead them toward gardening back at school.

OBJECTIVES:

- Participate in basic organic gardening practices including planting, caring for and reaping of the harvests
- Explore issues related to world food resources, pesticide, and water intensive practices

ORIENTEERING

Students spend the first part of the class learning how to use a map and compass. They are then challenged to find stations on a 20-acre orienteering course in the woods. This is a great opportunity to develop math skills, introduce topographic map reading, and use problem-solving skills in the field.

OBJECTIVES:

- Learn, or review, the parts of a compass and basic compass skills
- Read and understand symbols on a topographic map
- Utilization of compass and map skills to arrive at predetermined points

RESOURCE RECOVERY

Resources can be as diverse as drinking water, forests, minerals or clean air. The use of our world's resources affect environmental quality and fuel economies. Students are challenged to consider how resources are distributed while training their eyes to their own consumer and life-style choices that affect the use of the world's shared resources. Students tour Frost Valley's Resource Management Center, learn about the composting program, and see staged recycling.

OBJECTIVES:

- Explore the resources needed to manufacture objects in our everyday lives
- Examine and learn about the Frost Valley composting program
- Discover some potential solutions to our choices and actions

WATERSHED AND WILDERNESS

A raindrop in the Catskill Mountains will eventually make its way to the faucets of New York City. Watersheds and Wilderness is an opportunity for students to "dive in" and explore the origins of their drinking water. Activities include games illustrating issues regarding water use and conservation, experiments in stream gauging, water quality monitoring and purification techniques. Active discussions make this a thought-provoking class for students residing in New York City.

OBJECTIVES:

- Understand the Catskill Mountain watershed and its effect on NYC's water supply
- Develop an understanding of water as a world resource
- Monitor the uses and misuses of water in our everyday lives

WILDLIFE ECOLOGY

Games and activities are used to illustrate concepts and ideas such as predator/prey and food web relationships. Hikes through various habitats conclude with a visit to Frost Valley's Raptor Center to examine different adaptations of birds of prey.

OBJECTIVES:

- Promote an understanding of wildlife, their interrelationships, and ways humans effect their survival
- Explore conservation issues
- Examine unique adaptations used by animals for survival

WINTER ECOLOGY

Amid the wonders of winter at Frost Valley, students discover what makes winter happen while venturing into snow covered woods and fields. They will also observe signs of wildlife and discuss their adaptations.

OBJECTIVES:

- Explore the unique ecology and features of winter
- Examine the adaptations of life to the seasons
- Explore global issues related to seasonal change

HISTORIC/CULTURAL CLASSES:

APPLE CIDERING

Students pick apples, put them through a cider press, and then sample the finished cider. Discussion during the course of activities highlights seed dispersal and species propagation.

OBJECTIVES:

- Develop an understanding of the structure and biology of the apple and apple tree
- Experience the apple cidering process
- Learn the history and uses of apples at Frost Valley, the United States and the world

CASTLE TOUR

A guided tour through Julius Forstmann's Catskill estate provides thorough interpretation of historical artifacts and through the use of deductive reasoning, the students piece together the life-style of this influential family.

OBJECTIVES:

- Expose the students to the cultural history of the area

ICE CUTTING

After an indoor introduction, students use original ice-cutting tools to cut blocks of ice from Lake Cole. Discussions comparing technologies of present and past are an important part of this activity. Exploration of the icehouse may be included.

OBJECTIVES:

- Understand the use of ice in early American history and culture
- Participate in harvesting ice from Lake Cole

MAPLE SUGARING

The students study Sugar Maple trees and the Frost Valley maple sugaring project which taps over 800 trees. They hike to the Frost Valley sugar shack to see the equipment in use, learn to make syrup, and discover its historical significance.

OBJECTIVES:

- Introduce the students to the natural source and process of making maple products
- Acquaint students with the historical background of maple sugaring
- Gain some knowledge and practical understanding of trees and their ecology



GROUP BUILDING/ LEADERSHIP SKILLS CLASSES:

CATAPULT, COMMUNICATION EXPERIENCE

To build a “Catapult” that will propel an object as far as possible, students work together as a team with provided materials. This activity is very popular and an essential part of group processing. Catapult is fun for an evening program as well.

OBJECTIVES:

- To have students work together as a part of a team
- To develop empathy for different ideas and solutions
- Allow for discussion and activity

NEW GAMES

Students play games with varying energy levels; the emphasis is on having fun and enjoying each other rather than on competition. “Play hard, play fair, nobody hurt” is the New Games motto, some discussion highlights these goals.

OBJECTIVES:

- Build group cohesiveness and cooperation
- Introduce students to some fun and noncompetitive games
- Provide an excellent opening or closing activity

OUTDOOR LIVING SKILLS

Outdoor Living Skills is not a survival course, but a chance for students to learn practical skills that make outdoor recreation and camping enjoyable. Students learn natural shelter construction, fire building, knots and lashing, and outdoor cooking. Discussions on first aid, and low-impact camping help students realize that the outdoors can be safe and fun.

OBJECTIVES:

- Expose students to basic outdoor living skills that will enhance their enjoyment of outdoor experiences
- Learn safe practices of camping equipment
- Learn acceptable low-impact camping techniques that keep our environment as natural and unharmed as possible

TEAMBUILDING GAMES & CHALLENGES

Teambuilding Games and Challenges is a series of wood, cable and rope elements that challenge the group’s teamwork, communication, and coordination skills. It is not a thrill seeking experience, but an opportunity to safely overcome unique challenges using ideas and perseverance. Discussion and processing are an essential part of each element.

OBJECTIVES:

- Sharpen interpersonal skills such as communication, trust, and sensitivity
- Develop group dynamic skills, including the role of the individual, positive group interaction, and decision making
- Strengthen motivation and skills to persist in stressful situations
- Understand the importance and implementation of these goals in everyday life

LOW ROPES

Trust building activities develop essential skills, such as spotting and encouragement. Low Ropes elements require agility, coordination, and persistence to accomplish each course. In this activity we discover a supportive team environment can help students succeed who might otherwise doubt their abilities. Discussion and processing involves concepts of communication, confidence, support, and challenge.

OBJECTIVES:

- Encourage positive feelings by trusting and supporting each other physically and mentally
- Improve self-confidence by overcoming challenging rope and cable obstacles
- Foster a willingness to try new activities in a safe and supportive environment

THE BEAST, COMMUNICATION EXPERIENCE

Each team member has a specific job related to creating an exact replica of the Beast, a tinker toy model. Only one person from each team is allowed to actually see the original Beast, and can then speak to only one other person on their team, who tells another what materials the Beast is made of, who then tells another how to build the replica. Through this experience, students realize how messages to others can be improved and how communication is a two-way street.

OBJECTIVES:

- Develop good communication skills
- Encourage team work

TRUST TRIP

Students are challenged to explore their interpersonal skills. They are put through a variety of activities designed to show them how learning to trust and to support others. The emphasis is on helping others and building the trust necessary to accept help from others.

OBJECTIVES:

- To encourage students to trust themselves and each other
- Expand upon the various types of trust, support and security that are an essential part of group dynamics

HIKES:

CATSKILL HIKES

Scenic hikes along 37 miles of trails in and around Frost Valley include High Falls, Devil's Hole, and a cable bridge. Each of these hikes have dramatic vistas and spectacular natural formations. Discovery of natural wonders on large and small scales is an essential part of this experience.

OBJECTIVES:

- Expose students to dramatic natural areas
- Develop awareness and responsibility to environmentally sensitive areas
- Encourage students to use their powers of observation

HALF DAY OR FULL DAY ECOLOGY HIKES

Students hike to remote areas of the property where the balance of nature is less interrupted by human impact while tracking an idea or theme throughout the day. Students compare a variety of ecological communities through hands-on activities and investigation. Science classes are integrated into these longer experiences.

OBJECTIVES:

- To provide a more complete and intimate immersion into the environmental experience
- Explore remote and scenic regions of Frost Valley that are often excluded by time constraints in the usual class period
- Gain first-hand exposure to the inter-connectedness of various natural communities in a continuous flow of comparative activities throughout the day

RECREATION ACTIVITIES:

CATSKILL CRAFTS

Candle making, Nature Crafts, Dream Catcher, Nature Stationery

OBJECTIVES:

- Have Fun
- Learn lifetime leisure pursuits in a new environment

SEASONAL RECREATION

Fall and Spring—Boating, Canoeing, Archery

Winter—Over 25 kilometers of groomed trails for Cross Country Skiing, Snowshoes, Snow Tubing, and Broomball (hockey without skates)

OBJECTIVES:

- Have Fun
- Learn new lifetime leisure pursuits in a new environment



ADVENTURE PROGRAMS:

CLIMBING TOWER

Students are introduced to climbing equipment, techniques, and terminology. While climbing the Tower, students challenge themselves with the encouragement and support of classmates. Emphasis is on personal challenges met rather than distance achieved.

OBJECTIVES:

- Learn basic climbing and safety techniques involved in technical rock climbing
- Develop self confidence through an activity involving perceived risk

FLYING SQUIRREL/ FLYING FISH

Participants will work as a team to lift teammates, one at a time, into the air using a mechanical advantage system. Participants can reach heights of up to 40 feet. The students are briefed on proper safety procedures, use of harnesses and equipment by a Frost Valley instructor before the activity begins.

OBJECTIVES:

- Provide a moderate level of perceived risk through individual initiative
- Encourage students to work as a team to help their classmates realize their goals
- Introduce students to a high ropes experience

GIANT'S LADDER/ VERTICAL PLAYPEN

Participants work in pairs to climb a giant log and cable ladder. Frost Valley staff use belaying techniques to provide a safe environment for students to explore personal challenge and growth. Discussion and processing are essential to this experience.

OBJECTIVES:

- Provide a high level of perceived risk through a partner experience
- Encourage individuals to explore their abilities and offer opportunities to develop self-confidence and positive self-image
- Encourage group support systems among peers

GIANT SWING/ GLIDER

Group High Element with the entire group working together to hoist one team member up at a time. Once at 50-70 feet in the air, is perceived as risk taking - and at their discretion, the participant pulls a lanyard in order to fall freely into a giant swinging arc.

OBJECTIVES:

- Provide a high level of perceived risk through individual initiative
- Encourage individuals to explore their abilities and offer opportunities to develop self-confidence and positive self-image
- Encourage group support systems among peers

LEAP OF FAITH

The participant climbs a stepped and stapled tree while belayed, to a platform 25-feet high. Once there, the participant jumps off the platform into the air. It requires encouragement and support from team mates the ground. Discussion and processing is an essential part of the experience.

OBJECTIVES:

- Provide a high level of perceived risk through individual initiative
- Encourage individuals to explore their abilities and offer opportunities to develop self-confidence and positive self-image
- Encourage group support systems among peers

HIGH ROPES

Participants will utilize the high ropes elements made of rope and cable at an average of 35 feet above the ground. Frost Valley staff belaying techniques provide a safe environment where students explore personal challenge and growth. Discussion and processing is an essential part of the experience.

OBJECTIVES:

- Provide a high level of perceived risk through individual initiatives
- Encourage individuals to explore their abilities and offer opportunities to develop self-confidence and positive self-image
- Encourage group support systems among peers

DUAL ZIPLINE

Standing with your classmate, affixed with helmet and harness, on a platform at a height at a height of 50 feet atop our climbing tower, dual ziplines allow classmates to zip side-by-side 300 feet down a steel cable. The perceived risk of the zipline challenges students to step outside of their comfort zone and try something new. The outcome is a great sense of accomplishment.

OBJECTIVES:

- Present students with a challenge involving perceived risk
- Build self-esteem by accepting the challenge
- Promote group building by group members encouraging one another



FROST VALLEY STAFF LED EVENING PROGRAMS:

ACTION AUCTION

In Frost Valley's version of a "Dutch Auction" students are split into groups of 5-15 students. "Judges" then ask students to present an object or a talent to the rest of their classmates. Charades, jokes, songs, and skits come into play during this fast-moving competition. This activity sparks creativity and lets your students discover the hidden talents of their classmates.

ASTRONOMY/OBSERVATORY

Frost Valley is a unique environment for learning about astronomy. We have very little light pollution and an observatory with a 12" mounted telescope. Through the use of this facility students will observe different wonders of the sky: the surface of the moon; far away galaxies; nebulas and other exciting events light years away. We ask that teachers hike the students up to the observatory. This activity works best with smaller groups of students

CAMPFIRE

These campfires can be done indoors or outdoors. Songs, stories, cheers, skits and more may be arranged with staff leading this activity. Schools may wish to lead their own campfires. No limit to group's size. Campfire lasts about one hour.

CATAPULT

Students work together as part of a team, with

provided materials, to build a "Catapult" that will propel an object as far as possible. Fun problem solving and group processing.

THE LORAX

An interactive dramatization of the Dr. Seuss book, "The Lorax." Students gain a better understanding of the world around them through role-playing, discussions, and debriefing.

NEW GAMES

New Games promotes group cooperation and introduces students to fun and noncompetitive games.

NIGHT AWARENESS

With emphasis on becoming comfortable with the natural world at night time, listening skills and developing night vision become very important. Flashlights not permitted.

PREDATOR – PREY GAMES

These active games have an educational basis and feature the interactions and relationships of animals native to the Catskill area.

RAFFA RAFFA

In a game simulation, students are split into two imaginary cultures that follow specific rules and taboos. When

each culture has learned the rules of their society, students visit the other culture as "observers", and eventually try to integrate into the foreign culture.

SNOW TUBING

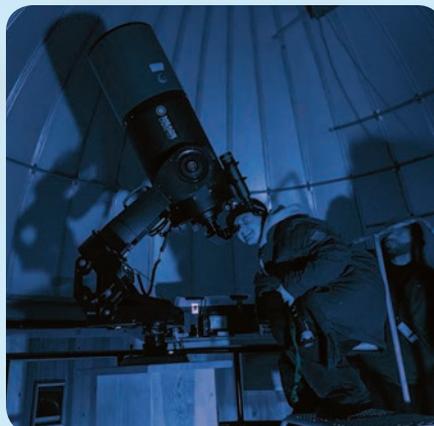
Our snow tubing run can be opened up to small schools for an hour or so. This activity is not recommended for groups larger than 50.

TRACTOR HAYRIDES

Socialization while enjoying several different habitat areas along riverside trails in a wagon.

ZINGERS

Students in small groups, rotate through several small challenges and are challenged to work together as a team while competing for points.





Discussions bring up issues and concerns that arise within small groups.

EVENING GUEST SPEAKERS

HERPETOLOGY – JACK DIMUCCIO

Reptiles and their natural history is the focus. Jack works with live snakes and other reptiles, and often gives students a “hands-on” experience. An emphasis is to develop respect and understanding for the important role these animals play in nature.

NATIVE AMERICAN DANCE – LITTLE HAWK

Students develop an understanding of the cultural contributions of the Native Americans through music, dance and movement as well as crafts as Little Hawk demonstrates many interactive dances, interwoven with the history of the Iroquois Confederacy.

ORNITHOLOGY – BILL ROBINSON, BRIAN ROBINSON

Emphasis is placed on bird adaptations and natural history through a raptor demonstration using hawks, eagles, owls and vultures to highlight their important role in nature.

SQUARE DANCE – JOYCE HARTSFIELD AND SANDY COREY

Students learn several different dances, while caller emphasizes student mixing and fun dancing as they “swing their partners.”

CATSKILL STORYTELLER – LAURIE MACINTOSH AND IRA MACINTOSH

Students share in the rich history and culture of the Catskill region through traditional stories, songs, legends, anecdotes, and Catskill Mountain lore. Covering topics such as natural resource-based industries, The Hudson River, the building of the NYC reservoirs, the Anti-Rent War, the railroad era, and everyday life in the old days and the present.



WHAT'S NEW

We are constantly creating ways to better serve our students and schools. Our newest programs on energy, service learning, and healthy living can be tailored – as all our classes can be – to suit each school and grade-level needs.

ENERGY QUEST

Fitting squarely within a school's conservation emphasis, energy source study, environmental awareness, or physics curricula, Energy Quest is hands-on and thought-provoking. We have demonstrations and activities for students to explore renewable and non-renewable energy sources. Students see how each energy source is conducted and measured and the importance of conservation. Frost Valley has put renewable energy sources into place to use less energy and reduce our greenhouse gas emission by incorporating solar, solar-thermal, and bio-mass as alternatives to fossil-fuel sources. In this class, school students conduct energy audits, generate energy to run a blender for smoothies by peddling on a bike, and other creative way to measure energy usage and create energy flows.



SERVICE LEARNING

Studies have shown that some of the most powerful educational experiences are derived through service learning projects. Many schools are now requiring volunteer or service hours of their students in order to graduate. One of the fastest growing, and meaningful, offerings is learning through service projects. While students are based at Frost Valley they become aware of the benefits and value of giving time and energy for others. In a two- or four-hour block students are productive in real-time for practical use. In the past students have built bridges over streams, built a greenhouse constructed of water bottles, worked to restore trails, and removed invasive species from pristine woodlands. 'Energy Audit' is our newest service learning project and a valuable tool for investigation, measurement, and analysis.



HEALTHY COOKING KITCHEN

Frost Valley's Healthy Living Initiative was created with grants from the National Recreation Foundation. We developed a teaching kitchen, garden and greenhouse classes, and expanded the educational information delivered during participation in our core physical activities. Students return home having gained knowledge about staying active and eating healthy foods to positively affect wellbeing. Our teaching kitchen offers small-group instruction on how to cook simple – yet healthy – snacks and meals. We often combine this program with a trip to our Greenhouse and Garden for a farm-to-table experience. Students acquire cooking skills and nutritional information which they take home. Our instructors also discuss plant life cycles, food systems, urban gardening, and active lifestyles.





Frost Valley YMCA Mission:

Frost Valley YMCA is a values-driven organization that fosters youth development, healthy living, and social responsibility through outdoor educational and recreational programs for all.

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