

# Links between Crow's Path and Vermont State Standards (5 – 8)

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Due to the interdisciplinary nature of Crow's Path, we cover a wide range of Vermont State Standards. For some, we touch on these peripherally (e.g. Being a Historian, 6.6) while others we engage with in a more in-depth way (e.g. Organisms, Evolution, and Interdependence, 7.13). Our approach is emergent, with knowledgeable mentors able to draw out curiosity and foster connection through direct engagement with the land (e.g. harvesting wild edibles) and an inquiry-based approach (i.e. the art of questioning). What follows below is an overview of the Standards and descriptions of Crow's Path activities that explore how we meet/teach each of these. The standards are organized according to the numbering system in "Vermont's Framework of Standards and Learning opportunities."

## EXPRESSION (1)

***Reading Strategies: Students use a variety of strategies to help them read (1.1).***

On many of our adventures we anticipate what we might see or identify what to focus on and pack accordingly. On one trip last winter to the Donohue Sea Caves, we packed a college lab manual, an ecology textbook and a field guide to fresh water fish because we knew the pond had frozen over and there had been a major fish die-off due to decreased levels of dissolved oxygen. The kids were excited about finding lots of dead carp and pickerel and wanted to learn more. We identified what types of fish they were (large predatory fish) and dissected them using the lab manual. Using prior knowledge and some specific books we identified the species and the different organs in the fish and figured out why the fish had died in the first place (and why we were mostly finding large predatory fish).

***Reading Accuracy: Students comprehend and respond to a range of media, images, and text (e.g., poetry, narrative, information, technical) for a variety of purposes (e.g., reading for pleasure as well as reading to develop understanding and expertise) (1.2).***

As illustrated in 1.1, we provide a wide range of print resources for kids to use in identifying trees, flowers, tracks, clouds, birds, insects, etc. We also bring a number of primary source stories from naturalists, explorers, and wild harvesters that detail the learning adventures of others. We also encourage students to read our folk tales and traditional mythology books from our library to share the following week.

***Clarification and Restatement: Students listen actively and respond to communications (1.13).***

At story time at the end of the day (see 1.15), students have the opportunity to actively listen to stories from others. At the end of these stories, the storyteller poses questions to the students, asking them to distill meaning from the story, interpret symbolism and themes, and find ways of integrating meaning from the story into their own lives.

***Speaking: Students use verbal and nonverbal skills to express themselves effectively (1.15)***

We close each day with story telling and reflection. Each child is offered the opportunity to share stories of the day with the group. Stories are gateways for diving deeper into their learning. If a child says that they saw a deer in the morning we can then ask if it was male or female and how might they know. Do they know what deer are doing this time of year? How did it walk and did they find tracks or sign? The next time the child sees a deer (or whatever else the subject of their story may have been) their sense of observation will be keener. By asking questions, the

story teller also learns how to draw out the experience to be more visual and connective for their audience.

***Artistic Dimensions: Students use a variety of forms, such as dance, music, theater, and visual arts, to create projects that are appropriate in terms of the following dimensions: skill development, reflection and critique, making connections, and approach to work (1.16)***

We are continually experimenting with a wide variety of natural materials as we create. Examples include clay pots, beads, and ocarinas that we fire-hardened in a fire. We experimented by using different sources of sediment from the land (including some siltier sediments, others with a higher percentage of clay). Each child's creation takes its own life and because we return to these skills again and again children are able to hone their craft and refine their capacity to express themselves as they become increasingly proficient with different media (other media include wood for carving, birch bark drawings, fairy houses, shelters, snow sculptures, etc.).

## **REASONING AND PROBLEM SOLVING STANDARDS (2)**

***Types of Questions: Students ask a variety of questions (2.1)***

Our approach to learning is inquiry based. Children are encouraged to seek their own answers rather than just look for answers from others. We connect a plant's use with the ecology of the area to foster a curiosity about the deeper "how" and "why" questions. For example, last year while sugaring we paid attention to the weather and how this connected with the flow of sap. We postulated on why we got better flow on warmer days and noticed the pattern that cold nights yielded better flows. Rather than focus on giving answers, mentors push the children to ask questions and to think more than at the surface about why things are the way they are.

***Problem Solving Strategies: Students use reasoning strategies, knowledge, and common sense to solve complex problems related to all fields of knowledge (2.2)***

There are very few textbooks that go into detail about many of the things we do at Crow's Path. If a child wants to build a debris shelter to sleep in at our overnight they must design and build this on their own. We can ask them questions to get them to think more critically about their solutions (like, which direction should the entrance face, should you look around for standing dead trees, which trees tend to attract lightning, which shelter you best from the wind). Because we test our solutions in a very real way, the learning is rich and refines and improves the process of solving complex problems in the future.

***Types of Problems: Students solve problems of increasing complexity (2.3)***

Because our projects continually build on one another and are interrelated we always approach problems with an increased complexity of understanding. While carving a spoon we talk about creating edges in our chunk of wood to facilitate taking off wood. We talk about the same process while using a draw knife to flatten a log for building a bridge or using an axe to cut a log in half for a bench. Because we connect each of our activities we are increasingly aware of the shared complexity of problems. Not only does this improve our awareness of similarities between distant things, but also improves our awareness of patterns in complexity.

***Improving Effectiveness: Students devise and test ways of improving the effectiveness of a system (2.4)***

We depend on the things we create to make us more comfortable (whether it's a spoon for eating, a long house for shelter from the wind, a fire structure to burn wood to keep us warm, or a wild edible salad to keep us sated). If we are unhappy with the results we improve on the system for next time (like learning to use a square knot rather than a granny knot to secure a lashing). We use things that we make the entire year (e.g. shelters, bridges, etc.) so our observations of their effectiveness span multiple seasons and we can see how past decisions could be improved upon in the

future to plan for things not present in the season we make them in.

***Application: Students apply prior knowledge, curiosity, imagination, and creativity to solve problems (2.6).***

While much of our learning is emergent, we start setting ground work a few months in advance of bigger projects. For example, before building our long house, last year we started building small shelters and our mentors shared stories around different shelters we had built and what worked well and what didn't. We began this year by building smaller shelters with some of the students. After a couple of weeks we offered the option to build a much larger long house. Our students were able to apply what they had learned about insulation, waterproofing, windproofing, etc. to make a solid, functional Iroquois-style longhouse.

***Information: Students respond to new information by reflecting on experience and reconsidering their opinions and sources of information (2.7).***

Our learning is exploratory and often centered around projects. With each project, we begin by sharing what we know about that subject (e.g. building safe fires). With fires, students frequently suggest using green plant matter as fuel. We try burning leaves and needles and watch the black smoke drift upwards and listen to the frantic hissing of water bursting cells open. We return to initial assumptions and ponder what caused the reactions we saw and how this might affect the materials we gather for the next fire we build. We create a safe space where we celebrate mistakes by transforming them into learning; this makes it comfortable (and more probable) that students will reconsider prior assumptions. When we return to these projects again (whether it's fire building, tracking, or making candles) we are able to incorporate our new knowledge and learnings.

***Taking Risks: Students demonstrate a willingness to take risks in order to learn (2.8)***

Many of the activities at Crow's Path are new and unfamiliar to children (whether it's eating a wild edible, getting muddy with camouflage, observing a slug breathing, or being outside in the dark without a light). We strive to make our environment nurturing and safe so that children feel comfortable enough to take healthy risks. Our mentors work carefully to identify children's edges and work at the borders of these to push them just to that point of discomfort where learning takes place. On our overnight trips we have "Samurai Challenges" where the children have to accept the challenge before they know what it is. This establishes trust in the process and mentors and also encourages their sense of adventure and willingness to take a risk.

***Persevering: Students persevere in the face of challenges and obstacle (2.9)***

Mentors purposefully put the students in positions where they have to overcome challenges (like pretending to be lost or without a fire so that the students must take initiative to overcome the challenge). We also work with students to confront difficulty with humility and enthusiasm rather than pessimism and arrogance.

***Flexibility: Students modify or change their original ideas and/or the ideas of others to generate innovative solutions (2.12)***

By allowing children to take the lead on designing and creating, they are encouraged to engage in a wider range of creative solutions. We have several high school interns and UVM students helping out. By engaging the children in a diverse set of perspectives and skill levels, they are exposed to a wider array of possibility. On some projects we don't provide background information and just dive-in. Without preconceived notions, students are free to fully engage in their creativity. Afterwards we share experiences, stories, and resources that can complement their previous creative solutions to a problem.

***Planning/Organization: Students design a product, project, or service to meet an identified need (2.14)***

Rock Point generously allows us to use their land for Crow's Path activities. We engage in a number of projects to give back to the land and people that help us (we made apple sauce for the caretaker, build and maintain trails, repair bridges, plant

trees, pick up trash, and educate others about the land to support Rock Point's mission).

### PERSONAL DEVELOPMENT STANDARDS (3)

***Respect: Students demonstrate respect for themselves and others (3.3).***

At the start of each semester we co-create a set of agreements for how we conduct ourselves and treat others. Our agreements this year are to care for ourselves, others, and the land. Each person is responsible for upholding these agreements and helping others uphold them as well.

***Healthy Choices: Students make informed, healthy choices that positively affect the health, safety, and well-being of themselves and others (3.5).***

Our agreements are a safety net to reinforce positive interactions with others. Our games are non-competitive and reinforce respect and care for others. We talk a lot about the hazards of spending a full day outside in the elements engaged in physical activity and help the children take responsibility for their health (e.g. staying hydrated, bringing warm clothes and extra dry clothes, learning how to deal with cold weather while camping, what to do in survival situations with an emphasis on prevention). We teach plant identification while teaching what and how to harvest a number of medicinal wild plants that grow abundantly throughout our region (e.g. yarrow for treating cuts, mullein for asthma, hemlock needles for colds). We complement this with lessons on hazardous plants and animals (poison ivy, ticks, etc.).

***Physically Active Lifestyle Choices: Students demonstrate competency in many and proficiency in a few of the skills and concepts needed for a lifetime of physical activity (3.6).***

We play a wide variety of games that involve running, hiding, jumping, throwing, etc. Many of our other activities (like shelter building) engage various muscle groups and encourage different physical skills. Play is an integral part of our learning process. Games forge associations between learning, fun, and physical activity. By fostering connection with the outdoors we encourage lifestyle choices that promote physical activity.

***Sustainability: Students make decisions that demonstrate understanding of natural and human communities, the ecological, economic, political, or social systems within them, and awareness of how their personal and collective actions affect the sustainability of these interrelated systems (3.9).***

We ask a lot of the land that we use at Crow's Path. We take a conscious approach to how we engage with the land. While harvesting sugar maples and white ash for building a long house we selectively harvested plants to promote the health of the population of each species (we harvested trees that were unhealthy, physical damaged, or competing with a healthier tree of the same species). We spread the seeds of the plants we harvest and have protected other rare plants in our area by building tiny barriers to impede people from walking on them. Because we depend on many of the species that are our neighbors we learn to care for them.

***Teamwork: Students perform effectively on teams that set and achieve goals, conduct investigations, solve problems, and create solutions (e.g., by using consensus-building and cooperation to work toward group decisions) (3.10).***

We have a horizontal learning structure. Because each person offers a unique suite of skills, perspectives, and experiences, a cooperative, consensus based approach ultimately leads to a richer more creative solution. In building our long house, children naturally gravitated to different tasks (e.g. tying rope, harvesting trees, limbing saplings, digging holes, laying out the floor plan, etc.). We engage in a wide variety of activities and games allowing each child to experience different roles and responsibilities. Each different task ultimately asks the group to cooperate, while offering a different set of circumstances to test out how to cooperate. We play a wide

variety of nature-based non-competitive games that require cooperation to successfully complete (e.g. low ropes course style activities).

*Interactions: Students interact respectfully with others, including those with whom they have differences (3.11)*

Again, because we have cooperatively created a set of agreements to uphold, we can easily turn to these to navigate any group difficulties that emerge (see 3.3).

*Dependability and Productivity: Students demonstrate dependability, productivity, and initiative (3.14).*

Our program is weekly and each student attends roughly 90% of the days. Students work on both short-term projects (e.g. clay beads) and long-term projects (e.g. carving a 15-ft totem pole). Mentors provide ideas and materials for many of these but others are of the children's own design (e.g. clay ocarinas). As students get older they are asked to develop a project idea and bring in the materials necessary to complete this project (previous examples include making candles, soap, and ocarinas).

#### **CIVIC/SOCIAL RESPONSIBILITIES STANDARDS (4)**

*Service: Students take an active role in their community (4.1).*

Stewardship is fundamental to our time at Crow's Path. Our third agreement (see 3.3), to care for the land, manifests as bridge building, trail maintenance, planting mastig trees for wildlife habitat, creating art, teaching others, and making gifts for other people. Homework takes the form of challenges, like to create something for someone else out of natural materials or do something nice for someone else without them knowing.

*Democratic Processes: Students participate in democratic processes (4.2)*

Decisions that affect the group are most often decided democratically. We use a spin-off of instant run-off voting for siting new structures, tapping trees for sap, or harvesting trees for bow staves.

*Continuity and Change: Students understand continuity and change (4.5)*

Our learning is seasonal and so our energy shifts from one week to the next as new occurrences are popping up on the land. We strive to ground our experiences in seeing time as a spiral, both linear and cyclical. Each season is continuous with the one before and yet different from the same season in the year before. Last year we found ourselves particularly focused on basswood. We harvested it for carving wood in fall, ate the buds in the winter, tapped it for syrup in late winter, ate the young leaves as they emerged in early spring, and harvested the bark for rope in late spring. Each time we approached the tree we would see it in the light of a new season and use this as an entry point for exploring the themes of both continuity and change.

*Understanding Place: Students demonstrate understanding of the relationship between their local environment and community heritage and how each shapes their lives (4.6).*

Because virtually all of the materials we use come from the land, our students have a personal and real connection between their local environment and how this shapes our lives. Our phenological approach cues us in to what is most alive on the land at different times of year and how this shapes the way we act (at least on Thursdays).

#### **HISTORY AND SOCIAL SCIENCE STANDARDS (6)**

*Historical Connections: Students identify major historical eras and analyze periods of transition in various times in their local community, in Vermont, in the United States, and in various locations worldwide to understand the past, the present, and the relationship between the two (6.4).*

We honor the lineages and history of the skills and knowledge we are appropriating

at Crow's Path. We share what lineages skills come from while also sharing information on the people of that lineage. By exploring, doing, and practicing the skills of the aboriginals of New England from the Abenaki to the French and English settlers of the Champlain Valley we can better understand their history.

***Traditional and Social histories: Students investigate both the traditional and the social histories of the people, places, and cultures under study, including those of indigenous peoples (6.5).***

The Abenaki were unique in their understanding of this land. They understood the ecology of this area in a unique way that combined natural history with traditional skills. They knew where cattails grew, how they were used for fire, food, and shelter, and all about its life cycle. We look to the mythology, stories, and skills of the Abenaki and other indigenous cultures as we learn how to better inhabit our land. Each skill we explore is introduced in the context of where it comes from and how it was passed to us. We honor the lineage of great ideas and the cultures that hold them (see 6.4 for more details)

***Being a Historian: Students use historical methodology to make interpretations concerning history, change, and continuity (6.6)***

Our camp is right next to an old farm dump. We have slowly been collecting and amassing treasures from the farm dump to build a story of its past inhabitants. There are lots of human sign on the landscape (e.g. insulators, barbed wire, stone wall foundations, etc.) that we have collected from around the site to recount the story of past human occupancy on the land.

#### **SCIENCE, MATHEMATICS, AND TECHNOLOGY STANDARD (7)**

***Organisms, Evolution and Interdependence: Students understand the characteristics of organisms, see patterns of similarity and differences among living organisms, understand the role of evolution, and recognize the interdependence of all systems that support life (7.13).***

Because Crow's Path is home to so many beautiful animals (bald eagles, red foxes, white-tailed deer, short-tailed shrews, coyotes, red-tailed hawks, pileated woodpeckers and many more) we are constantly attuning our senses in to what they can teach us. We teach bird language, animal tracking, and play various games to reinforce an understanding of and respect for the life history of many animals. We rely heavily on field guides for identification so students become familiar with how experts categorize and utilize taxonomic systems.

***Theories, Systems, and Forces: Students demonstrate understanding of the earth and its environment, the solar system, and the universe in terms of the systems that characterize them, the forces that affect and shape them over time, and the theories that currently explain their evolution (7.15).***

We focus on understanding plants, animals, rocks, and other pieces of the dynamic system at Crow's Path from a systems perspective. That is, when we track the pair of foxes that lives , our questions inevitably lead the students to think about the ecological pattern questions, like where on the land is this animal, what plants is it associated with. We asked why we found porcupine signs over by the rock ledges, but not on the sandy glacial deposits where our camp is. Our study of the organisms inhabiting Crow's Path always pulls on threads of geology and interdependence.

***Natural Resources: Students understand how natural resources are extracted, distributed, processed, and disposed of (7.16).***

We harvest a variety of wild plants and other materials for different projects. While harvesting we discuss what animals will be impacted, how the population of plants will be affected positively and negatively by harvesting from that patch, and how the act of harvesting relates to the future supply of resources in that area.

***Designing Solutions: Students use technological/engineering processes to design solutions to***

***problems (7.19)***

**Building shelter is a core practice at Crow's Path. We have built a number of different structures that have to deal with a variety of natural forces and be built from materials that can be found on the land. While constructing the long house we had to site it to shield from harsh winter winds, build the slope of the roof to handle heavy February snow loads, and dig the postholes deep enough to prevent frost heaving during spring thaw/freeze cycles. We prepare for construction by building models, sharing visions and talking about design features we all want.**

**Any comments, questions, concerns, or suggestions on the points made herein should be addressed to the Director of Crow's Path, Teage O'Connor by phone (802.860.7284) or email ([info@crowspath.org](mailto:info@crowspath.org)).**