Teaching Outside 101

The Bonnyvale Environmental Education Center has been working with teachers and students for over 25 years! We love our work together and regret that we won't be able to work together "like normal" this year. We understand that many schools locally (and around the country) are taking class outside. For many students and educators this is an entirely new way of learning and teaching, and BEEC can help.

We've drawn on our experience working with schools, our experience with children's nature camps, and other people's good work to create a manageable resource for you as you make this shift. Whether you're planning to literally take your inside work outside, or you're hoping to integrate more nature into your curriculum, we hope this document will be helpful. Here's a link to our accompanying Teaching Outside 101 slideshow with images of some of the things referenced below. While making this shift may be daunting initially, we hope your time outside with your students will be rewarding — and even nourishing — in these chaotic times.

Contents

PART 1 - CHOOSING & SETTING UP YOUR SPACE

Outdoor Classrooms come in all shapes and sizes. Obviously your goals and your teaching style will dictate how much space you need and the ideal features of your space. Usually the more space you have and the more dynamic the environment, the more fun and learning can happen there. There's so much to consider when moving as many classes as possible outside as quickly as possible. Here are some basics.

Location

Regardless of where you are and what you have to work with, your outdoor space can offer rich learning opportunities. Ideally your space will have enough room for your whole group to gather and to work. Ideally there is some sun and some shade, some wooded area and some open space, some level ground and some uneven ground, and at least a few different kinds of plants and trees. The more variety the better! Here are some things to consider:

- Does the space/terrain allow you to supervise your entire group?
- Is the outdoor classroom close enough to facilities?
- Is the outdoor classroom far enough from potential noise distractions (other classes, homes, roads)?
- Is there a mix of sun and shade (sun can be hot and shade can be buggy)?
- Do you anticipate needing wifi? Does the school wifi work there?
- Is there good cell reception? If not are there walkie talkies you could use to communicate with the front office?

Safety

Safety in the outdoor classroom is a number one priority. One of the benefits of outdoor learning spaces is the opportunity for healthy risk-taking. It is important to distinguish between healthy risks and hazards. Healthy risks might include balancing on a fallen log or a boulder. Lightning or broken glass are examples of hazards. (Read more about healthy risk in the Academics & Beyond section, below.)

- Is there enough space for students to physically distance?
- Will other classes or people need to walk by? Is there space to do this safely?
- Are there tree branches or trees that could fall on people that need to be taken down or avoided? Remember to reassess after any big weather event.
- Is there poison ivy to be flagged so people can stay away?
- Is there trash (barbed wire, nails, glass, etc.) that needs to be cleaned up?

- Is there shade enough to provide protection from the sun when it is hot out, and offer shelter from the rain?
- Your school might consider putting up tarps, tents, or pavilions for rain and sun protection.
- Your school might consider building a hand-wash station at every outdoor classroom, or a few in the school yard. Here's one example of a hands-free wash station called the Tippy Tap.
- Depending on the age of your students, and their ability to follow rules, you may need to consider a fence.

Boundaries

Without four walls children will need to know from you what their physical boundaries are. Many teachers involve their students in setting and marking the boundaries. Teachers use many things to mark boundaries. Stringing beads for markers can be a good way to involve kids in defining the space. Try to use natural items rather than plastic markers like "flagging tape."

Accessibility

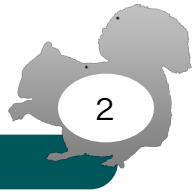
Outdoor classrooms need to be accessible for all of your children. Depending on your group you may need to consider:

- Is the ground flat and even enough for your group to walk safely?
- Is the path from the school to the outdoor classroom flat and even enough for your group to navigate?

"Furniture"

How you outfit your space will depend on the ages of your students and your goals for your outdoor work. Some outdoor classrooms, just like inside classrooms, have zones for certain activities and a variety of features to inspire and engage students. Consider:

- No furniture - Given the freedom to choose their spot many children are happy to sit (or lay down) to work or play on the leaves, moss, or grass.
- Sit-upons - cushions for the ground that are usually foam or waterproof-fabric-covered cushions. This could be a great activity for your students to do early in the year to help them claim their space and get excited about working outside. There are many tutorials on-line; here's one from Girls Scouts of Utah. Sit-upons are also sold by School Specialty and other education supply companies. You can also cut-up old yoga mats, ensolite pads, or camping mats!
- Trail chairs or stadium seats — simple camp chairs that kids love, i.e this one from REI.



- Standard camp chairs - more expensive but potentially more comfortable, i.e. this kids camp chair.
- Instead of desks or tables consider one — or several — of the following: picnic tables, boulders, log rounds, or stump circles for seats or tables, and clipboards and/or white-boards!
- Storage shed - eventually it will probably be helpful to have a place outside to store items that you need regularly outside. Perhaps this is a long-term goal!
- Will your class work outside no matter the weather? Might your school consider basic tents or tarps for rain/sun protection? A bigger or long term goal may be building a pavilion.

PART 2 - SYSTEMS & ROUTINES

Once you've assessed the space for safety, addressed any concerns, and decided that it meets your needs, we recommend spending some time in your outdoor classroom before students arrive. Once you've met some basic requirements, successful outdoor teaching is more about how you adapt, set routines, and teach - not so much about physical structures and space.

As in an indoor classroom, systems and routines can set everyone up for success. Standard classroom routines will need to be taught and practiced, as well as some routines specific to working outdoors together. Of course your school will have specific COVID systems and you and your class will come up with routines specific to your site and your learning community!

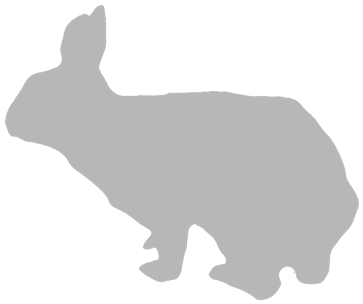
Supplies

Teachers and students will need some "usual" things for working together, and some "extras" to make outside successful. If you will be working outside regularly you'll want a system for student materials and tools. Consider: Where will the children store their things? Will there be any shared materials? How will you keep them clean and store them? Will everyone have their own supplies? Will they keep things like pencils and markers in a backpack that stays at school so they can easily transition between your inside classroom and working outside? Or would personal plastic tubs or shoe boxes work well for each child? Check out Materials for Outdoor Learning from Julie Bisson.

Teacher Supplies

- Basic first aid kit (including baggie, clear tape and tweezers for tick removal)
- Class list
- Phone with important contacts & school number
- Whistle for emergencies

- Tissues
- Hand sanitizer
- Hand warmers
- Extra mittens and socks
- Trash receptacle
- Field Guides to birds, plants, insects...
- Water jug for refilling student water bottles
- Medium whiteboard and markers for group lessons
- Wagon, cart, or even a backpack or bag to contain and transport all of your supplies



Student Supplies

- Small backpack
- Sit-upon/something to sit on
- Clipboard
- Pencil case w/ pencils & colored pencils and a pencil sharpener
- Plastic folder (with 6 - 10 pockets)
- Small individual white board & marker
- Student notebooks or journals or sketchbooks — you can even attach a pen or pencil with duct tape and a string
- Personal reading book(s)
- Bug head-net or bug spray
- Water bottle

Signals

Getting your class to stop, look, and listen quickly every time can be even more important outside. Some tricks that work inside can work outside, too. Teach a sound (consider a bird call or coyote howl) that cues everyone to stop, look, and listen. Your signal needs to be loud enough to be heard outside when children are working and playing. Teach a different sound or song for circling up.

Traveling To & From

Will you line-up to travel inside or to another place? Where and how will you line up? Are there any safety rules to teach about walking to and from? There are lots of ways to engage your students and make curriculum connections while walking to and from:

- Consider an anchor — an activity that you will do together every time you go outside. One teacher we know measures the length of the shadow of the trash can and records it. You could find three signs of the season, or the first three sounds you hear.
- Play the alphabet game together (find something along the way that starts with each letter).
- Encourage them to count trees, ferns, animals, stones etc. You could also all count together.
- Challenge them to skip-count their steps (silently or all together).
- Challenge them to count how many things that start (or contain or end) with ___ (whatever letter or sound you're working on).
- Challenge them to walk like a ___ (dog/cat/deer/mouse etc.).
- Invite them to pair-share a story about ___.
- Invite them to consider a question while they walk and then share at circle.
- See if you all can walk all the way without making a sound at all!

Class Jobs

Will your class jobs include outside jobs too? Ideas: *Eagle Eye* (surveys the scene upon arrival for anything amiss), *Water Weasel* (makes sure everybody brings and drinks their water), *Tick Check Timer* (calls tick checks), *Turkey Vulture* (scavenges around for anything left behind when leaving the space), etc.

Distractions

It can be helpful to preview distractions and expected behaviors. The beauty of some of the outside distractions are the learning opportunities and teachable moments that can follow. Consider teaching students what to do if they:

- See an animal (observe quietly from a distance)
- See a bird (point so others can see it, too and then observe quietly)
- Hear a surprising or unexpected sound, such as an animal close by or thunder (calmly check-in with adult)

- See an unexpected or unknown person is close by (calmly check-in with adult)
- Find something unexpected/unsafe outside, i.e. trash (don't touch it, find an adult)

Food & Eating

Just like inside, you'll want to be clear about eating, such as when is it okay to grab a snack? Also importantly, where will students keep food and where will you all get rid of trash and compost? You might consider a "Leave No Trace" model and have students take home their trash/food waste. Beware of animals (cute and conniving chipmunks) getting into lunches! Don't attract a bear by leaving food waste around!

Taking Care of Business

How do they get to the bathroom? Consider your students' ages and abilities and your site specifics, including how close you are to the building. Then decide: Will they walk alone with permission? With two buddies? With an adult and a buddy? With just an adult? Will you let the school know they're coming? Some outdoor classrooms even build a simple four-walled structure around a five-gallon bucket with a toilet seat; the bucket gets dumped once a day in the school.

Tick Safety

It's important for everyone working and playing outside to take precautions against ticks. Here's the VT Department of Health flyer Be Tick Smart. We send home letters about tick-borne diseases, and precautions of long pants tucked into socks, long sleeves, insect repellent, and full-body tick checks every night at home. While outdoors together we encourage children to check their clothes often for these tiny unwelcome guests. Ideas to encourage participation:

- Make it a class job for a student to call a class tick check at least once every hour or so.
- Everybody can check themselves at the same time while they sing — whatever song you choose!
- Keep a class tally of ticks found on clothes (you could even keep a weekly count and graph it).
- Save the ticks you find on clothes/unattached with clear tape on a piece of paper or in a plastic baggy.
- Safely remove attached ticks and save them in a labeled plastic bag.

Managing Weather

All kinds of weather require all kinds of gear and routines. Of course some kinds of weather lend themselves to work with pencils and paper, while others don't. It's important to keep an eye on the forecast and have a back-up plan. With enough advance notice some families will be able to assemble helpful gear. How will your school help to outfit children who don't have what they need to stay happy and safe in all kinds of weather? Here's a list of basic gear for people who will be outside no matter what, tweak it to fit the needs of your group.

Warm Weather	Cool Weather*
Hat for sun/bugs	Warm hat
Long sleeves and long pants (for cooler days, ticks/bugs and sun)	Warm AND waterproof mittens
Sneakers/closed-toed shoes	Warm mittens or gloves
Rain jacket	Snow pants (or rain pants over fleece pants)
Rain/mud boots	Warm and waterproof jacket (or rain jacket over a warm jacket)
Rain pants	Warm and waterproof (NOT just rain boots)
	*Multiple layers helps children regulate temperature according to their activity level.

With the right gear, good attitudes, and flexible plans you and your class should be able to stay outside comfortably in all kinds of weather, EXCEPT thunderstorms or other extreme weather events. Every school needs a clear thunderstorm plan that everyone can follow at a moment's notice.

Opening & Closing Circles

Just like working together inside, rituals for beginning and ending your time together are helpful. Circles outside can also include:

- Listening moments (everybody closes their eyes and listens, stopping at your pre-determined sound and then shares what they observed and/or felt).
- Focus objects found in nature.
- Nature observations (share something you noticed with one of your senses).
- Rose Thorn Bud - (share the best, hardest, and newest thing you did).
- Thanks and appreciations that include the flora and fauna.
- Words of apology and compassion that include the flora and fauna.

Possible Daily Routines

The flow of time outdoors can have a different feel from the classroom. Consider including time for exploration, free play, snack, group games and activities, as well as academics. Here are some examples:

Arrive at outdoor classroom Sit spots and journaling Opening circle, sharing, mini-lesson Work time Free play Closing circle Goodbyes/Transition inside	Arrive at outdoor classroom Opening circle Main lesson Group activity Free play Closing circle Goodbyes/Transition inside

A more detailed example from Inside Outside's position paper, *Outdoor Learning Opportunities for Healthy Students — A Solution For Elementary Schools During COVID 19*:

8:00-9:00 Staggered Student Arrival - After a health check in front of the school building, students make their way to their outdoor classroom. During the first hour of staggered arrival, there is breakfast available, a sign-in routine that includes a check-in with the teacher, and then students may play and work on projects around the space.

9:00 Morning Meeting - Spread out on seating in a wide circle, students greet each other and participate in literacy, math and science routines, reading the morning message or sharing a poem, measuring precipitation and recording the temperature.

9:30 Lesson and Directed Skills Practice - In lessons that take advantage of having space and natural materials students practice literacy skills, and connect with fiction and nonfiction texts. They investigate scientific concepts, use tangible math and feel history living around them.

10:15 Snack

10:45 Free Play and Exploration - While students pursue self-directed creative projects of inquiry, engineering, drama, and industry, there is also the opportunity for individualized and small group work with the teacher.

11:45 Lunch

12:15 Library, Art, Music or Physical Education

1:00-2:00 Classroom Work Indoors - Writing, reading, math instruction and practice.

2:00-3:00 Staggered Student Dismissal - Instruction and practice continue as group size decreases. A warm send-off is given to each departing student as they leave.

PART 3 - ACADEMICS & BEYOND

Your class time inside (or on-line) can be a good time for front-loading and direct instruction. Teaching outside can take many forms. Check out this Overview of Outdoor Learning from Julie Bisson. Being outside will present many opportunities to learn and practice academics in new and creative ways. We find teaching outside lends itself to project-based learning and integrated learning. There are so many ways to meet Common Core and/or Next Generation Science Standards as well as social-emotional and community-building needs outside. Some teachers might choose to stick to one subject at a time while others will take a more integrated approach. Here's a starting point with a few examples and resources. Depending on the age of your students and your teaching goals, consider:

Math

Especially for the younger grades there are countless opportunities to teach and practice math standards outside, for example:

- There are lots of loose parts available outside (things like rocks, sticks, seeds) of various shapes, sizes, textures, for practice counting, sorting, patterns, estimating, and measuring, etc.
- Nature's math manipulatives - acorns, stones, pebbles, pinecones, sticks, seeds, etc.
- Word Problems - use objects and situations from the outdoor classroom.
- Operations - model operations with natural materials.
- Place value - use natural materials to model place value.
- Measurement - measure natural objects, like the circumference of a tree; or measure using natural objects. How many pine cone lengths between two trees?
- Fractions - model fractions using natural objects.
- Geometry - find shapes, model and make shapes with natural materials.
- Messy Math is a great resource for teachers of 3-6 year olds.
- Outdoor Math Using Sticks and Stones, by Juliet Robertson.
- Exploring Number Sequence and Order, by Juilet Robertson.
- Symmetry, by Juliet Robertson.
- Rainbow Math Sticks
- Check out Strategies for Teaching Math Outdoors from Julie Bisson.

Literacy

- Simply take your read aloud, silent reading, or group reading outside.
- Provide and encourage fiction & nonfiction texts related to your space, the seasons, and whatever comes up!
- Some favorite authors: Aston, Dianna Hunt; Brett, Jan; Ehlert, Lois; Craighead George, Jean; Barrett, Lyndsay; Holland, Mary; Mazer, Anne; Messner, Kate; Yolen, Jane.
- Students can write about what they experience — or imagine — in your outdoor classroom.
- Perhaps if your class is writing procedures they can write about how to climb a tree, build a fort, or start a fire.
- If you're working on persuasive pieces, perhaps students want to write about an environmental issue.
- There's lots of ways to incorporate spelling and vocabulary, too.
    - Sounds Scavenger Hunt: draw or list or photograph everything they can find that has a certain sound (long E for example: tree, leaves, leaf etc.).
    - Nature Spelling: students practice spelling words by writing them in sand or mud or dirt or making the letters with sticks and stones.
    - Letter Scavenger Hunt: students can practice letters by finding letters in nature, ie: a stick shaped like a "Y".

Science & Natural History

- Set up a weather station to observe and record the weather every day (temperature, cloud cover, humidity, wind, rain gauge/ruler for snow).
- Do a species inventory of your space (One Small Square).
- Do a geologic survey of your space.
- Measure the length of the shadow of a fixed object every day, record and graph.
- Identification: observing characteristics and the similarities/differences of living things.
- Noticing change over time, growth and decay, observing the seasons, phenology. For example: how the trees change color and lose their leaves during autumn.
- Animal observations and studies. There will ALWAYS be animals — look under logs and rocks.

Social Studies

- Make maps! Sounds maps, topographic maps, trail maps, tree/plant maps...
- What's the history of your property, perhaps your class can find out!
- Investigate with your class: Whose ancestral lands are we on? For example in southeastern Vermont we live on the ancestral lands of the Abenaki.
- Depending on the age of your students, consider leaving your outdoor space for other outdoor learning spaces in your community, i.e. cemeteries and parks.
- Weave shelter-building into studies of civilizations and economies.

Social Justice

There are many ways to incorporate social justice into outdoor learning, too. Topics of fairness, equity, and restorative justice come up often in free play. Depending on the age of your students, you might explore environmental justice topics (climate change and pollution) which are inherently related to social justice. A word of caution: cultural appropriation of indigenous customs and objects can pop up in environmental education. Without context or an explanation of where they came from, things like drum circles, dream catchers, and talking sticks should be avoided or handled with intention and sensitivity.

Specials (Art, Music, P·E·)

Like everything else, you can just take "Specials" outside. Think violin practice in the garden, painting "en plein air," and obstacle courses in the woods. Some outdoor options could also include:

- Leaf and bark rubbings and prints
- Tie-dye with plant dyes
- Make paint with natural materials (soil, leaves, flowers)
- Scientific illustrations - observing closely and recording details
- Ephemeral nature art - using stones, sticks, leaves, nuts, etc. to make designs and sculptures. Look up Andy Goldsworthy's land art for inspiration.
- Nature's rhythms - explore percussion tapping different natural objects on others to make different sounds and rhythms
- Hikes
- Capture the Flag in the woods (depending on terrain)
- Nature tag - students have to find and touch (or be near to) what you call out, this could focus on colors, shapes, textures, plant ID...
- Mountain biking (depending on access to bikes)

- Nature photography
- Drama — storytelling and acting out oral or written stories

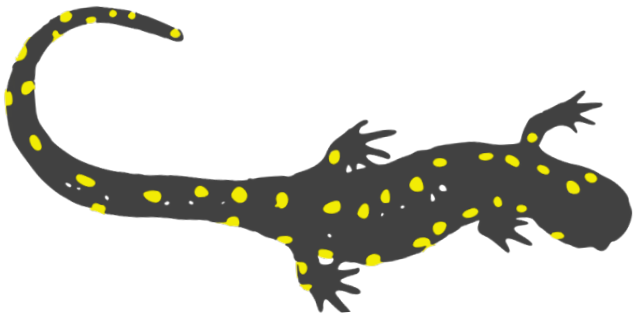
Free Play

A common concern among teachers is that class outside will be chaotic and unfocused. In our experience, the best way to help children focus during instructional time outdoors is to give them time to explore and play. Most children are eager to "just play" and will be most focused outside on academics if they know they will get regular free time. If you're wanting to encourage exploration and creativity during free time, follow their lead with well-timed guiding questions, tools, and supplies, i.e. measuring tapes, hand lenses, string, thermometers, etc. A "just right" physical or engineering challenge can spark hours of creative and collaborative play, too! Just like inside choice time you'll want to preview expected behaviors. In the beginning some children might need ideas of what to do. You might suggest/inspire/facilitate nature art, fort building, fairy/mouse/chipmunk/gnome houses, etc.

Note: Risky Play is important! Here's an article from Psychology Today, Risky Play: Why Children Love It and Need It. You can help students practice the skills to navigate risky play. Work together to ask the following questions about risks they might encounter (sticks, tree climbing, fire, fort building, etc) What is wonderful about____? How can we be mindful when____? How can we stay safe while_____? It is also important that you are comfortable with the guidelines that you and your students establish. Not every outdoor classroom has the same set of rules regarding stick play or tree climbing. As you and your students adjust to this new way of learning together, your guidelines may well change over time to adjust to new comfort levels.

Community Building

There are so many ways to build community in your outdoor classroom. Lots of what we've mentioned elsewhere in this document will help: opening & closing circles, fires, free play, and class jobs. Games can also build community! Here's a favorite to start with, it's called Eagle Eye. Someone is Eagle, picks a perch, closes eyes and counts to X. Everyone else hides where they can see the eagle but hopefully eagle can't see them. Eagle opens eyes and without leaving perch tries to spot as many people as possible. People who have been spotted come sit quietly — they are now scat — waiting for the rest of the people to be found.



More Outdoor Classroom Classics

- **Nature Journals** - Make books together and teach students to use them over the course of the year to record nature observations and questions, sketch, and write. Journaling can be teacher-guided or self-directed.
- **Sit Spots** - Basically, a Sit Spot is just what it sounds like. Students choose their very own special place, away from others (within eyesight of the teacher) where they rest, observe, reflect, write, or draw. It can be nice to build Sit Spots into your routine, so that children can get to know this one little patch of Earth closely, and observe change over time.
- **Forts & Fairy Houses** - Most children, from little to big, are captivated by building in nature. You can inspire them with a story or group challenge. Children can work alone or together using whatever they find in nature. This activity can be structured with rules and engineering challenges.
- **Adopt a Tree** - Perhaps early in the school year when you're all getting to know your new space children could choose a special tree. They could draw it, name it, make a rubbing of its bark, identify it, measure it, write poems about it, take photographs, introduce it to friends, and revisit over time to notice changes.
- **Fires** - Fires can be an exciting and meaningful addition to an outdoor classroom experience. They can offer opportunities for teamwork, perseverance, mindfulness, and community building. Fires can also be dangerous to us and the ecosystem (forest fires do occur in the northeast), and deserve extreme care and respect. If your school does support fires, here are a few reminders:
    - Be aware of current fire hazard indexes and if the risk is high do not make fires.
    - Be aware of current conditions, like wind.
    - Teach safety routines and expectations before you begin.
    - Be sure you have water or snow on hand in case you need it, and for when it's time to put the fire out.
- **Stick Play** - Most children are drawn to sticks. With clear guidelines sticks can be wonderful tools, building materials, and/or props for exploration and learning. Depending on the age of your students, they could write the rules with you.
- **Tree Climbing** - With adult supervision, tree climbing can be an excellent healthy risk. Many organizations allow children to climb as high as they are tall. Adults and children together check to see if the branches are stable and if the ground is safe for falling (no rocks, no poison ivy etc.).

PART 4 - FINAL THOUGHTS & RESOURCES

Community Involvement Ideas

Making the transition to outdoor teaching will be easier with community support! There are lots of ways parents, caregivers, and concerned community members could help depending on your set-up and your needs. Options might include:

- Make log rounds for seats (hardwoods are best to avoid sap!)
- Donate backpacks for student "Nature Kits"
- Build pavilions
- Set-up tarps
- Trail maintenance
- Donate kitchen items for a mud kitchen
- Weed-whacking/pruning/raking to maintain "classroom"
- Deliver & spread wood chips
- Donate (or coordinate donations of) outdoor gear for students

Where will you go from here?

Remember, we're here to help! We appreciate the work you are all doing to change plans quickly to keep our children and our community safe! We look forward to working with many of you throughout the year, as usual. When that can happen, outdoors and in person, we will be thrilled! When that is not possible, we will be providing you with videos as well as resources, including kits containing artifacts and supplies that we otherwise would have shared with you in person. Some teachers are choosing to focus their professional development on outdoor teaching this year. We can help with that, including offering continuing education or graduate credits; be in touch with joan@beec.org for more information about this exciting opportunity!

Thank You!

Thank you Emma Hallowell for help with revisions. Thank you WSESU for partnering with us to make this document possible. Most of all, thank you teachers and school staff for all that you do!

Books, Websites, & PDFs

Outdoor Learning Opportunities for Healthy Students - A Solution for Elementary Schools During Covid-19 from Inside-Outside

A Forest Days Handbook by Eliza Minnucci and Meghan Teachout

Eight Essential Elements of Nature Play Spaces by Nancy Striniste

Tips and Tricks for Outdoor Classroom Management from Boston Schoolyard

Tips and Tricks for Outdoor Learning from Monadnock Place-Based Educators

Outdoor Infrastructure Planning Strategies for Taking Learning Outside as Schools Reopen from Green Schoolyards America

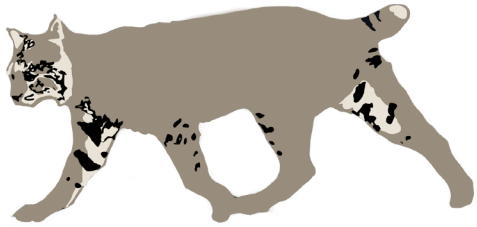
Living Schoolyard Activity Guide by Green Schoolyards America

A Quick Pivot to Outdoor Learning by Eliza Minnucci

Coyote's Guide to Connecting with Nature by Jon Young, Ellen Haas, Evan McGown

Naturally Curious blog by Mary Holland

Naturally Curious Day by Day by Mary Holland



Local Organizations

Inside Outside Nature-Based Educators Network - many excellent resources including articles, notes from network meetings, films, and webinars.

Vermont Wilderness School - can advise on COVID prevention strategies in outdoor settings, drawing on their experience this summer running ten weeks of day camps for ages 7-12. Their outdoor educators are also available for pro bono consulting on how you and your students can spend more time outside this school year.

Monadnock Place-Based Educators - hub for place-based learning ideas and contacts.

Here's how to reach us:

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