



Early Childhood Outdoor Learning

mi DEPARTMENT
OF EDUCATION

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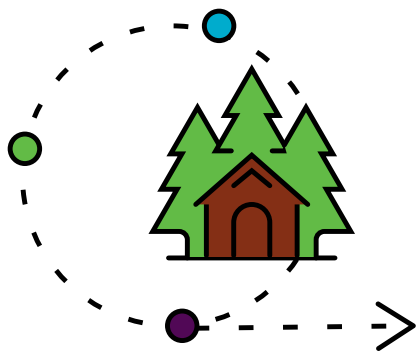
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Eagle Bluff Environmental Learning Center (Lanesboro). Photo courtesy of Josh Levesque.

All children learn through play and exploration. Young children throughout Minnesota have access to rivers, prairies, forests, landscaped cities and wonderful park systems through four distinct seasons. These environments are a resource that can be used by educators to support children's development. Several programs in Minnesota have been successfully taking advantage of these natural resources for years to provide high-quality early childhood education in their communities.

In response to these challenges, educators can help improve wellness and build resilience in children with access to natural and educational resources. This project supports teachers in implementing nature-based learning through shared research, stories from the field and examples from a variety of high-quality Minnesota early childhood programs through an equity lens.



Early childhood educators and programs can incorporate nature-based learning into any established curriculum to support children's wellness and development. Right now children are under significant stress due to the global pandemic, social injustice and the changing climate. Even beyond the stressors of the past year, children are under stress due to different social situations.



Tamarack Nature Center (White Bear Lake). Photo courtesy of Jenny Hanlon.

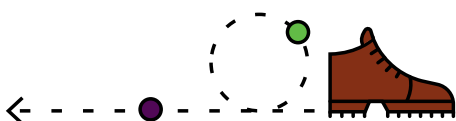
Getting Started

It is critical to consider teacher mindset when embarking on the journey of incorporating nature into your program. We recommended embracing the following mindsets when learning about, exploring and contemplating how nature-based learning fits into your programming.

- “Anything you can teach in an indoor classroom can be taught outdoors.” – Cathy James
- “There’s no such thing as bad weather, only bad clothing choices.” – Author Unknown
- “Nature is everywhere, we just need to learn to see it.” – Emma Marris
- “The more risks you allow children to take, the better they learn to take care of themselves.” – Roald Dahl
- “The real voyage of discovery consists, not in seeking new landscapes, but in having new eyes.” – Marcel Proust
- “And at the end of the day, your feet should be dirty, your hair messy and your eyes sparkling.” — Shanti
- “It’s not just land that is broken, but more importantly, our relationship to land.” — Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*
- “Open-ended play materials like mud allow for a world of creativity. They allow for children to be the thinkers behind them. I call them thinking toys. Toys where they're not going to do a thing unless you use your imagination to make them do something. No batteries, no buttons, just children's creativity and imagination.” — Kisha Reid

Reflection questions to keep in mind:

- Think about the students in your classroom or program...What is it you want them to be able to do? What skills are most important to you?
- How might outdoor learning be a resource to achieve those outcomes? What does the research say?
- What is the mission of our program?
- How might outdoor learning/spending time in na-



ture support our mission/help us achieve our goals?

- What is your personal “why” for being an early childhood educator?
- How do the outcomes of nature-based education align with your personal “why”?
- Consider your local natural community. What are the natural spaces the children can explore? What are the animals and plants in your area? Who are the people in your area who can support this learning?



Amigos del Bosque (Eden Prairie). Photo courtesy of Betsy Hedberg.

Land Acknowledgments

High-quality and developmentally appropriate nature-based education programs focus on teaching about the plants and animals in the local ecological community opposed to those from faraway places. They also typically integrate teaching practices that focus on protecting and caring for the land for the future.

However, to truly connect students to the land, we must also recognize and acknowledge the historical context of the place and the indigenous people whose home is on this land. Here are some examples of how you can get started and ways to integrate this information in a way that is developmentally appropriate and meaningful for your students.

1. Educators should study the history of the land. When and how did the land become acquired by white settlers to allow it to be used the way it is today? Where are the Native Americans living today as a result of these actions?

- [Bdote Memory Map](#) – Learn the history of the Dakota people.
- [Our Home: Native Minnesota](#) – Resources from the Minnesota Historical Museum.
- [Native Nations of Minnesota](#) – Minnesota Humanities Center.
- [Dakota Land Map](#) – Two Dakota land maps which tell the past, present and future of Dakota people and language.

Create a statement acknowledging the history of the land. This can be posted on your website for any visitors, as well as shared with your program’s families. These should be created for your site specifically and not just copied from another program. A critical step in creating a land acknowledgment is doing the work to learn about the history of your place.



Little Barnyard Preschool (Esko). Photo courtesy of April Hepokoski.

- [Minneapolis Nature Preschool’s Land Acknowledgment](#)
- The Native Governance Center’s [A Guide to Land Acknowledgment](#)

Acknowledge and recognize the ongoing contributions of Native Americans in our communities and state today.

- Minnesota is home to eleven federally-recognized American Indian tribes. Seven are Anishinaabe (Ojibwe) and four are Dakota (Sioux).

Find ways to introduce students to the culture and the significance of the natural world to the American Indian tribes that once resided on the land.

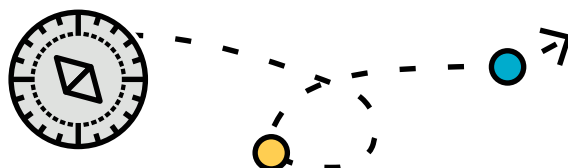
Integrate the language of the American Indian tribes by teaching words for plants and animals in the Native language and using the American Indian term for places in your immediate and nearby community.

- [Dakhóta lápi Okhódakičhiye](#) – Dakota language materials including posters
- [Dakota Dictionary](#) – Online dictionary
- [Ojibwe People’s Dictionary](#) – Online dictionary

Incorporate stories and children’s books from the Native American tribes. Make sure the authors are from the tribe whose story is being told or that it was created in partnership with tribal members. Also make sure to do research on these stories and make sure they are okay to be told by non-tribal members and during any time of the year.

- [Story Strolls: Dakota People in the Winter](#)
- [American Indians in Children’s Literature](#)

We encourage programs to reach out to and form partnerships with Native American tribal members in their immediate communities. This should be done in a respectful way and in the spirit of reciprocity. Compensating individuals for their time as well as by giving back to the individual and community in the form of supporting tribal member-owned small businesses and taking any action steps possible to help address issues facing their community are examples of things you can do.





Eagle Bluff Environmental Learning Center (Lanesboro). Photo courtesy of Josh Levesque.

Why

Nature-Based Learning Supports Young Children's Growth and Development

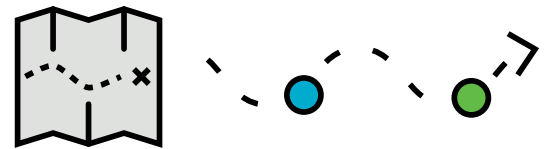
The early childhood years are an important time of rapid growth and learning. Children's brains are developing more quickly at this time than at any other. They are exploring what they can do with their bodies and creating relationships with loved ones. They are investigating how the world works and their place in the world.

Outdoor experiences naturally provide children with opportunities to develop their whole selves while also learning hands-on about the world around them. It also improves learners' attention, levels of stress, self-discipline, interest and enjoyment in learning and physical activity and fitness (Kuo, Barnes & Jordan, 2019).

It's necessary to have a shared set of expectations of what children can know and do in order to build successful early childhood programs. In Minnesota, this set of shared expectations is called the [Early Childhood Indicators of Progress: Minnesota's Early Learning Standards \(ECIPs\)](#). The ECIPs, which are aligned with the K-12 academic standards, ensure equitable access to robust education across programs for all children.

Throughout each of the ECIPs, there are many ways to fulfill learning outcomes through nature-based learning indoors and outdoors. In 2018, PEER Associates along with Powers and Ren prepared a [literature review on na-](#)

[ture-based play and learning](#) outlining the many benefits to children in all the developmental domains.



Approaches to Learning

When children love to learn, learning comes naturally. When interacting with nature there are authentic ways that children will instinctively approach learning and become deeply engaged.

Following a trail of ants, wondering about when and how a seed will sprout, creating castles or drawings in the sand, and asking questions about what they observe on a walk outdoors are impactful experiences that can help support children to become lifelong enthusiastic investigators that approach learning with wonder and awe.

Wojciehowski and Ernst (2018) found that there were significant increases in creative thinking levels among children who attended nature-based preschool programs across the creative thinking dimensions of fluency, originality and imagination compared to children who did not attend a nature preschool.

In addition, Zamzow and Ernst (2020) found that children in nature-based learning programs, defined in their re-

search as “learning in nature” had significant executive function skill growth. Key components of learning approaches include goal setting and follow-through. These important executive function skills are pillars for school readiness and success.



Photo courtesy of Willow & Sprout (Minneapolis).

Social and Emotional Development

Supporting children’s social and emotional development is a pivotal piece of early childhood education. Through interactions with nature, children learn empathy, compassion, resiliency and cooperation in authentic situations such as finding a dead squirrel, helping an injured bird, warming up during below-zero temperatures, seeking shelter in the rain, and building a fort with their friends.

These opportunities for children to study and observe nature allows them to learn about their surrounding world as well as begin to understand themselves. Overall, children tend to be more prosocial when playing and learning outdoors (Dopko, Capaldi, & Zelenski, 2019). As children form a meaningful connection to nature, they can return to it throughout their lives in times of stress

or trauma to seek comfort, calm and peace (Chawla, Keena, Pevec & Stanley, 2014).

Language, Literacy and Communications

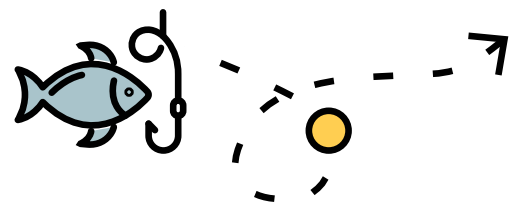
Play in the outdoor environment can lead to many moments of important learning around language, literacy and communications. Through their social interactions, children share directions, observations and dialogue with their peers and teachers. Print can be found throughout the environment such as signs and maps or can be incorporated through field guides and books.

Sharing their learning during play or in teacher-facilitated group times offers children opportunities to communicate with others about their learning experiences with nature. They can share about the experience of feeding the classroom turtle worms, picking flowers on the neighborhood walk, journaling about the changes they notice in a special tree, or making applesauce with their small group.

Even before introducing terminology related to natural materials, it is important that children have direct experiences outdoors. These experiences alone will provide inspiration for children to use language more than when they are indoors. Once children have a love of the natural world, naming natural materials will have more meaning for them. (Wilson, 2007). From these experiences, children will be able to learn the names of familiar trees, plants, and animals.

Programs can add to this learning by offering opportunities for children to understand the names in different languages such as children’s home languages or names given to the places, plants and animals pre-colonization.

[There are many wonderful books about nature](#) and experiences of children outdoors that will spark development in the area of literacy for young children (Kupetz & Twist, 2000).

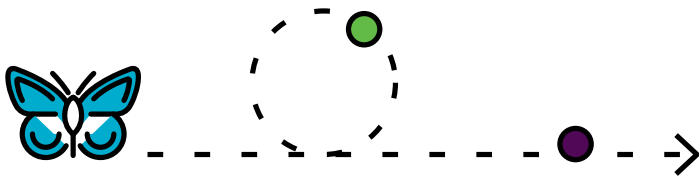


The Arts

Listening and learning the sounds of birds, following the change in seasons through observation of the changing colors of leaves, journaling about nature and making mu-

sic with sticks on logs can be wonderful ways to inspire the arts outdoors.

Many nature-based art activities can also be brought inside by adding inspiration to art areas with cut flowers, photos of landscapes, or a classroom pet. This engagement through art also supports children's observation skills and can lead to deeper understanding of change and perspectives (Galvin, 1994).



Social Systems

As young children explore their place in society, it is natural for them to role-play their experiences. Nature provides open-ended materials for them to support this type of learning. For example, rocks can be utilized for money, and sand can be the sprinkles in a pretend ice cream shop. Children naturally want to explore and be active in the way their grown-ups are able to be. Nature provides hands-on ways for children to be involved in real work such as shoveling snow off of sidewalks so the community can move through the space safely, participating in planting, caretaking and harvesting in a garden and recycling to help build awareness and understanding around conservation and waste.

Children's understanding of the natural world develops through direct and engaging experiences in the outdoors (McCain & Vandermaas-Peeler, 2016). Walks around the neighborhood can give children learning opportunities about the plants and animals, as well as the members of their community (Nitecki & Chung, 2016). Children also learn the history of natural and built environments where they live and play through their direct engagement in their surrounding community.

Physical and Movement Development

The outdoors provides many opportunities for children to further develop their large and fine motor skills. Large motor skills can be supported through children balancing, climbing, walking, running and playing group physical games. When comparing movement in children on a traditional playground to their movement in a natural playground, Coe, Flynn, Wolff, Scott and Durham (2014)



Photo courtesy of Wind Ridge Schoolhouse (Duluth).

concluded that it increases children's moderate to vigorous physical activity levels.

Fine motor skills can be supported through finding worms in the soil and digging them out with your hands, building sand castles, walking barefoot and using small nets to catch fish or insects to study. These experiences not only engage the children, but they provide opportunities to help develop coordination, language and other skills.

Beyond large and fine motor benefits, the simple act of being outdoors in a high-quality outdoor play space is healthier for children, such as longer sleep at night and higher health ratings from parents (Soderstrom et al., 2013).

Mathematics

Math is all around us, especially when we are outdoors. When children are actively learning outdoors, they have exposure to many mathematical concepts with rocks, trees, and trails such as lighter or heavier, near and far, big and small, and countless shapes, color gradients, as well as cause and effect reactions.

Children can also have important foundational experiences with natural materials such as sand or water tables indoors, playing with pinecones as food, leaves for money inside or outside, or splashing in puddles on a sidewalk. This important mathematical learning gives

children direct experiences to learn how many, how much, or how deep.

Using maps with young children outdoors and eventually having them create their own maps leads to the development of important math skills such as spatial awareness and identifying shapes (Stea, Kerkman, Pinon, Middlebrook & Rice, 2004).



Photo courtesy of Stillwater Early Childhood Family Education.

Scientific Thinking

When we think about nature play, science is a natural fit. There are many scientific concepts at play every day outside including weather, biology, physics, chemistry and so many more. When children ask questions about how or why, they are beginning to engage in the scientific process. There is great opportunity for the outdoors to enhance children's critical thinking especially when accompanied with a teacher's open-ended question-asking (Mankiw, Strasser & Bresson, 2018).

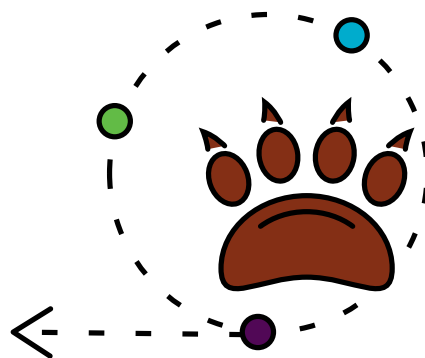
When outside children can watch the impact that weather has on a special tree or in the garden, talk about bird migration, or the life cycle of a butterfly. Children also have the opportunity to try out scientific experiments such as mixing soil and water, planting seeds or building a simple machine out of sticks and string.

Documenting and Assessing Children's Learning and Growth

Documenting and assessing children's learning and acquisition of skills provides a means to track growth and development. Many documentation tools are available for programs to use to assess children's learning and development. Approved assessments through [Parent Aware](#) have been identified as tools that align with the [\(ECIPs\)](#). Since the observations need to be done through authentic observations, all of the observations can be done through outdoor and nature-based learning.

During the 2020-2021 school year, many early childhood programs in Minnesota moved their classes fully outdoors since it proved to be safer during the pandemic. This led to programs having to use their assessment tools when fully outdoors. Many programs were pleasantly surprised how easy it was to still meet all of the standards. In fact, some programs even found that they observed more growth in the students than in years past.

There were times during the year it was harder to fit in certain activities such as building fine motor skills. However, we chose to be even more intentional with our time and activities than ever before. We took advantage of opportunities on our hikes to stop to draw and write in the sand with sticks and brought tweezers and tongs along on specific adventures to gather natural materials. When we entered our checkpoints in our approved assessment tool, TSGold, at the end of the year, we were so pleased to see that we saw greater growth in all areas than we have seen in any previous year. The greatest growth was in social problem solving, large motor, language development in all aspects and cognitive problem-solving. This year's data is leading us to choose an almost fully outdoor program again next school year even if there isn't a need because of the pandemic. – Jenny Hanlon, M.Ed., Tamarack Nature Preschool



As we prepared for our new all outdoor model our team discussed how to handle when children get cold and want to go indoors quickly. We assumed that returning students would remember the indoor classroom and younger 3-year-olds might want to go indoors in cold, rainy or inclement weather. However, when we reflected back on the year, looking through photographs and notes, we learned the children are far more resilient than we had prepared for in the change of model.

Comparing quotes from children during the 2020-2021 winter to ones from the 2019-2020 winter we found the comments about their time outside on rainy or cold days to be more positive in the more recent winter even though we were outside the whole time. We also found we had to be more convincing to bring children indoors when the weather dictated that we needed to move indoors for safety. For example, in late November we heard thunder indicating severe weather and moved indoors for safety. Several older boys were crying at the door because they wanted to be outside playing in the rain. In the previous fall several of these children requested to come in to avoid what looked like possible rain.

In February when the weather was sub-zero for several days we had children that refused to come in for a warm-up break after they had been out for over an hour. They were warm from their play and did not understand why teachers were stopping their play to warm up. Finally this spring on a cold day with pouring rain we had set up snacks indoors to give a break from the rain while eating. As we walked past the fire pit/snack area outside one child said "but why can't we eat outside like we always do?" and the rest of the group agreed with him. The growth in the children's resiliency by simply being outdoors all the time was stunning. – April Greibrok, Dodge Nature Preschool

Teachers' Perspective

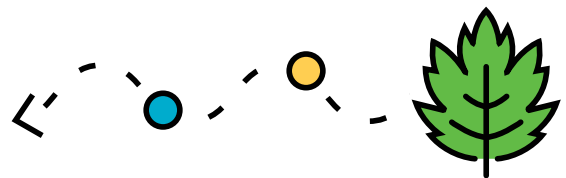
In a literature review by McClintic and Petty (2015), it was determined that when teachers value the outdoor learning space to be as important as the indoor learning space, they are able to provide higher quality care and experiences for children outdoors. The following are words of wisdom shared by early childhood teachers who incorporate nature-based learning into their daily experiences with children.

What have you learned through incorporating nature into your programming?

Nature makes the children so happy and their language blossoms outside. – Kay

I no longer have "bored" littles, the time flies by and their interest in nature and just being outside has grown. We have all learned to love insects! The kids don't need a super-structured day if they are enjoying their play (learning) and are engaged in ways they find meaningful. – DeAnna

In nature, children play together with far less conflict. They look forward to seasonal experiences outdoors, and relish the chance to bring something indoors to study further. – Amanda



Children are much more creative with their play. My outdoor classroom is visually calm and inviting. – Kris

Nature has many different effects on children: teaching, attention-capturing, peacefulness, wonder, discovery, healing. – Mona

Nature is my guide and my teacher and when I trust in the natural world around, the curriculum naturally presents itself. Children have less tension outdoors versus indoors. They become naturally curious rather than me needing to pull them into the learning. – Sarah

How have you benefited as a teacher through nature-based learning?

I learn so much about nature right along with the children. I feel healthier being outside more. – Kay

My stress level is so much lower. There isn't that need to fill with take-home activities or teacher-led projects. Allowing them to lead me and letting the environment be the teacher has allowed for so much fun back into the day! I still have to plan like any other teacher but it's much more organic, seasonal and place-based and based on what their interests are. – DeAnna

My mood is much better, I'm less stressed and I enjoy learning alongside the children. – Amanda

I have learned how it captures the child and gives them something new every day to learn about and make discoveries. There is no boredom outside. – Mona

Less stress of conforming to lesson plans, meeting the needs of each child where they are at more naturally, meeting the interests and needs of the group and all learning styles, boost in mood teaching outdoors, feeling grateful to be outdoors, mindfulness. – Sarah

Please share some tips for teachers that are just starting to incorporate nature into their programming.

Simple is best and be ready to be flexible due to weather or kids' ideas. – Mary

We don't always stick to plans because the children often find better ideas. – Jess

Anything you do in your classroom, you can do outside. Trees make great painting easels – just put the paper on the trunk and wrap it on with rope. If you have a path in nature, use ribbon markings so the children know where to stop and wait for everyone, which allows all to go at their own pace. – Kay

Take part in professional development training related to outdoor learning and look for information in books about outdoor learning. There are great resources out there. I took a nature-based certification class and it helped so much. – DeAnna

Try not to make rigid rules about temperature, as there is plenty of variation when it comes to wind, sun, season, etc. – Amanda

When exploring outdoors, make it clear when you'll be staying in an area by setting down a blanket, your backpack, etc. This allows children to relax into a space, knowing they won't be left behind and they have a chance to 'dig deeper,' or to begin dramatic play. Don't rush them. – Amanda

Invest in good rain and/or snow pants. When you're comfortable, everyone will get to play longer. – Amanda

Bring familiar toys such as plastic animals or magna tiles along. This will help those who are initially uncomfortable with the new surroundings and not used to natural loose parts. – Amanda

Start simple! Any setting can incorporate nature. – Kathy

Start small by incorporating some nature items in your sensory table with small forest animals. Use natural materials as loose parts. – Kris

Let children ask questions and then discover their answers to those questions by letting nature be the teacher. You become the guide on the side. – Mona

Nature can be found all around, in tiny pockets, in gardens, along the neighborhood sidewalk. Think about your space and work with it. – Sarah

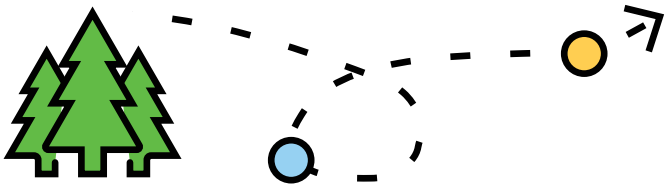


Prior Lake-Savage Public School. Photo courtesy of Andrea Bernhardt.

Parents' Perspective

Due to memorable outdoor experiences from childhood, many parents seek outdoor opportunities for their children (Urbaniak, 2013). Others may choose programs that value outdoor learning, knowing that many children in the United States are only spending 30 minutes or less time outdoors each week and hoping to counteract this for their own children (Hofferth, 2009, Hofferth & Sandberg, 2001).

Throughout this guidebook, there are testimonials from parents who have had their children involved in outdoor and nature-based learning programs during the early childhood years or intentionally provided nature-based activities for their children on their own.



Little Barnyard Preschool (Esko). Photo courtesy of April Hepokoski.

Time in nature has always been important to me, for both my physical and mental health, as well as for a sense of connection to the living world around me. For this reason, upon the birth of my twins, I made sure we spent time outside each day. This included laying in the snow watching snow fall, shaking leaves as rattles in the fall or watching monarchs emerge. One thing I learned was that all of us were calmer when we were outside. As one friend stated, 'I take my toddler outside to hit the reset button,' and as a stay-at-home parent, I needed that reset each day.

Living in Minneapolis, there are many people to connect with outdoors. I helped other parents of twins learn to carry two babies at the same time to allow us to hike together. I was fortunate to connect with Free Forest School and start a site within walking distance of my home. I took a Minnesota-born neighbor mom with me onto Wirth Lake, only to realize it was her first time walking on a frozen lake. For our children, scooting in boots on the ice was filled with joy. This ability to connect with other children and adults in nature allowed all of my children and I to develop a routine of being out in all weather, seeing changes in our surroundings each week, while also having the opportunity to socialize.

One important takeaway from spending my earliest years as a mother in nature was knowing every day may not be easy, but that the overall benefits were so incredibly meaningful. I remember one time we were out in the yard and it started to rain. Instead of running inside, the children tucked down under the shelter of the nearest shrub. This stood out to me as a skill they inherently knew at 15 months old, that we older humans forget. My children taught me a lot in our time together outdoors. I don't think I realized how much my children picked up on in those early years until they were three or four years old. Once they were able to verbalize what they were observing, they were quick to find the first monarch egg of the summer, or eat grape tendrils or avoid touching stinging nettles. My son is now a creative inventor at 6 years old, who dabbles in entomology. My daughter is a better birder than I am, and can sit still watching an animal for over an hour. I know these early experiences will provide us all with fond memories, but more importantly, offer skills children need to be adaptable, inquisitive, caring beings in the future. — Alyson, Minneapolis



All Seasons Intergenerational Preschool (Inver Grove Heights). Photo courtesy of Amanda Janquart.

What

What Does Outdoor and Nature-Based Learning Look Like in Early Childhood?

Introduction

The origins of nature-based education in the United States can be traced back to American Indian tribes and their relationship with — and — connection to the natural world. Today, there are three primary approaches to how early childhood programs integrate nature and the outdoors into their program: outdoor education, nature-based education and sustainability education.

Programs can implement a single approach, but it is often done as a combination of the three at different times throughout the day, season or year. To learn more about these approaches, see the Definitions of Outdoor and Nature-based Learning section. Nature and Forest Preschools are models that can integrate all three of these approaches on an ongoing basis.

Early childhood programming can engage children in and with nature at a variety of levels. Nature-inspired or nature-focused programs use nature to support children's early development and have connections to nature as an important part of their daily curriculum. Nature-based preschools are licensed childcare programs that offer full- or part-day programming for young children and have nature-based pedagogy as the central organizing principle. Forest preschools or kindergartens spend all

or most of their day outdoors and embrace the environment as an active space for learning. (Baillie, 2012; Larimore, 2016; Natural Start Alliance, nd).

Over the past year our child has been enrolled in the Tamarack Nature Preschool program. While he has made great leaps with the standard pre-k curriculum teachings, the focus on environmentalism and nature has led to a noticeable awareness of his vital role in the world. Whether it is his acute and unprompted sensitivity to care for and clean the earth or his knowledge of natural surroundings, the benefits of this passion have been infectious. This leads us to the conclusion that there is a direct correlation to his newly found awareness of a greater world beyond his own immediate surroundings and circumstances. We are enjoying the discussions prompted and reciprocal learning that outdoor education has gifted us with. –

Matt and Amy, White Bear Township

These programs have been growing exponentially in the United States in the past ten years, with an estimate of around 600 programs according to [Natural Start Alliance's most recent surveys in 2020](#). This is an increase from the 250 nature-based programs that were identified in the [2017 survey](#). In Minnesota, there are currently more than forty nature-based programs, ranking Minnesota among the top three in the United States for number of Nature Preschools, and the state with the highest number per capita.

There are more than 350,000 children ages birth to five in Minnesota, and about 65 percent of those children's families rely on a regular child care arrangement from a licensed family or center-based provider or a family, friend or neighbor. Explore examples of how different types of schools in Minnesota are integrating nature-based learning to see how it can fit in with your program style.

Definitions of Outdoor and Nature-Based Learning

Outdoor education: Education that occurs mostly in the outdoors and is focused on engagement with the outdoor environment.

Examples: a teacher brings plastic blocks to an outdoor table for play, brings easels outdoors for children to paint with tempera paint, or follows a predetermined theme of the week outdoors such as a certain shape or color. Ropes or obstacle courses are also an example of outdoor education.

Nature-based education: Nature as the central organizing feature of the curriculum and a focus is made on children forming a connection with the natural world and how the natural world supports children's development. It can be conducted indoors or outdoors

Examples: Children notice bird activity so the teacher brings materials outdoors for further bird study or sets up a bird listening or observation station in the classroom, children paint outdoors with brushes or paint made from natural materials that the children harvested, or themes are based on the seasons or daily environment including particular natural events, weather, or wildlife present.

Environmental education or education for sustainability: The purpose of the educational experience is to build an understanding of the needs of a healthy environment and inspire action to protect it. It can be conducted indoors or outdoors. All programmatic decisions are also viewed through a lens of sustainability such as the purchasing and life cycle of materials, food choices, prevention and handling of program waste, modeling environmental advocacy and action, etc.

Examples: Children notice bird activity and the teacher encourages them to connect with the birds and support their needs such as building a bird feeder, talking about keeping cats indoors or making their school windows



Photo courtesy of Stillwater Early Childhood Family Education.

safe for birds.

Program Types

There are a variety of early childhood program models used to help young children reach developmental milestones throughout Minnesota. Below are a few examples that use nature-focused, nature-inspired, and nature-based pedagogy.

Collaborative Program – two or more of the following types of programs that work together to offer early childhood education.

Early Childhood Family Education (ECFE) – program throughout Minnesota that generally works directly with school districts to offer parent and early childhood education programs.

Early Childhood Special Education (ECSE) – a program that focuses on meeting the needs of children with a diverse range of developmental abilities.

Faith-Based – a program that has a spiritual component as the central organizing structure.

Family Child Care – a childcare program operated by a licensed adult offering care for two or more families.

Family, Friend and Neighbor – unlicensed, regular child care provided by family members, friends or neighbors.

Farm-Based – a program that has a farm component as the central organizing focus.

Head Start – a no-cost child and family development program for eligible families run through individual counties.

Intergenerational – a program that regularly engages elders with the students in the early childhood program.

Lab School – a program associated with a particular higher education facility that teaches young children and simultaneously college students actively in the same classrooms, and research is a regular component of the school-year program.

Language Immersion – a program that teaches in one specific cultural context and language, usually different than the most common language spoken in the outside community.

Montessori – a program that uses the Montessori method as a central organizing principle.

Nature Center – a licensed preschool program that offers full- or part-day programming for young children, has nature-based pedagogy as the central organizing principle and is operated by a nature center.

Project-Based – a program that is guided through asking questions, investigating and solving problems through the creation of a project.

Public Preschool – a program operated by a public school offering preschool or pre-k early childhood education.

When I enrolled my daughter in nature preschool, I knew that it was going to be a perfect fit for my mud-loving, inquisitive child. I hoped she would enjoy being outdoors and develop a deep appreciation for nature. What I failed to realize was to what extent it would foster her social, emotional, physical and intellectual development. Our family has benefited in countless and immeasurable ways from her nature-based education at Tamarack Nature Preschool for the past two years.

My daughter has always been very shy and slow to warm up in new places and social situations. Over the past two years, her shyness has faded considerably

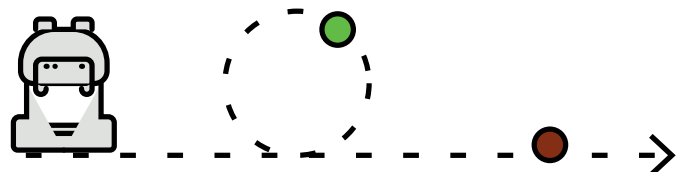
and she is now able to interact more easily with her teachers, peers and family. Perhaps her enjoyment of nature and motivation to learn has helped her feel more confident in her interactions with others and even in her leadership skills. Although she is at an age where her social skills would have normally grown, I believe that the outdoor learning environment was instrumental in the degree of development.

Her emotional development, especially this year, has truly flourished. This year, during a global pandemic, she really didn't show signs of stress or tension. She was always eager and excited to go to school, even though that meant wearing a mask, putting on many layers of clothing or being in the snow, rain or sun for 2.5 hours. This tells me that the benefits of being outdoors were more than worth it to her. She seemed to have very little stress during probably the most stressful year in her life.

My daughter's inquisitive nature was fully supported in nature preschool. Now, when she interacts with nature, I can practically see her gears turning as she questions, hypothesizes and experiments. She now has limitless questions about animals, loves to guess cloud shapes and endlessly wants to experience the sights, sounds, textures and scents of nature. Her nature journal offers a glimpse into the richness and creativity that nature preschool has added to her life.

Finally, as I had hoped, outdoor education has cultivated her love and appreciation for our planet in a way that is invaluable. Because children are future stewards of the Earth, it is extremely important that they develop a love for our planet while they are young. Her passion for protecting our environment is apparent when she picks up garbage from yards without prompting, properly recycles items and reuses almost any container. There is no doubt in my mind that her time spent in the outdoors has helped shape her into a self-assured, peaceful, strong and curious environmental steward.

– Briana, St. Paul



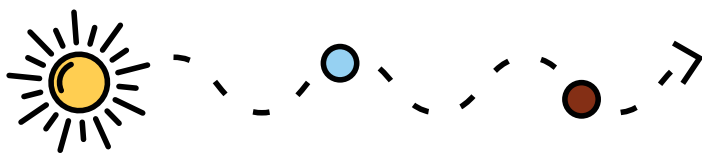


Prior Lake-Savage Public Schools. Photo courtesy of Anna Dutke.

How

Incorporating Nature-Based Learning Into Early Childhood Programs

Nature can be a catalyst for children’s growth and development. Observing a seed growing, encountering by chance a small animal or simply walking about the neighborhood can all spark children’s interest and further their love of learning. Often teachers are unsure of how to begin offering experiences with nature into their curriculum. Discovering how to best begin to implement nature-based learning is a journey that is ideally ventured down with partners. Partnerships with colleagues, families and others in the community help programs offer culturally relevant and meaningful experiences.



To begin to bring nature into a program, there are a variety of foundational resources—many free and easily accessible. These resources will provide guidance in how to utilize the resources you have available, seek support when needed and continue to provide opportunities for inspiration and growth. To get started, programs must assess their current environment. A resource has been compiled to help educators see the possibilities

for nature-based learning in common spaces for young children.

[What you can do in different spaces.](#)

Equity

Equitable access to resources for young children to engage with nature is a priority to make the benefits of learning outdoors and with nature available to all. A focus on equity helps programs provide these opportunities for children throughout Minnesota.

Enrollment

Families do not have equal access to information about early childhood education opportunities. Reaching out beyond word-of-mouth can support new families and the development of a broader school community that closely reflects your surrounding community demographics. You can also work with local schools to help with outreach and build partnerships to bring more nature into your program or share nature-based initiatives with other programs.

Tuition

Keeping tuition affordable while paying staff livable wages can be difficult, and affordability is important for supporting families in finding quality early childhood education. Nature-based programs tend to have lower ratios so affordability can be a bigger challenge. Offer support to families through internal scholarships, early

learning scholarship programs, the Minnesota Child Care Assistance Program (CCAP), etc. Parent Aware can also be a wonderful resource for families and provide access to scholarships.

Welcoming Environment

From the moment families see an advertisement, call to get more information or see a social media post about your program, you are beginning your relationship with the community. Every choice—the photos, language and location—set a tone for how others feel welcomed into the school.

Tips

- Recruiting staff from your local community can help build authentic connections and raise the cultural competency of your program, as well as support the local economy and families in your area.
- It is important to consider the photos you choose to represent your school. It is important that families can picture themselves as part of the community and be welcomed authentically.
- In the classroom, and throughout the indoor and outdoor environments, be sure to have connections to cultures represented throughout your community. Consider all of your materials such as books, play materials (dolls, puzzles, etc.), posters, food served and grown, etc.

Our girls have thrived in their nature-based preschool program these past two years. They are outside every day for hours, exploring and learning through play and nature. The benefits in their emotional control, social connections, reading, math, problem solving, sleep, physical health and independence have far exceeded our expectations. Perhaps one of the cutest stories I can recall is of my daughter (age 4) telling me all about Neptune, the other planets and educating me on dwarf planets. They correct me on bird species, hunt for worms and have had dozens of insect “pets.” Believe it or not, neither girl would even touch dirt before this program, and believe me, I tried! Both girls are doing very well academically. Their teachers met them where they were at, nurtured through play and exploration, and both grew so much. Our experience 100% supports the movement to get kids outside and off of screens! – Kaisa, Prior Lake



Tamarack Nature Center (White Bear Lake). Photo courtesy of Jenny Hanlon.

Gear

Start with a needs assessment of your program to determine what outdoor gear items will be needed for your program. Consider the number of families that are on scholarship, qualify for free and reduced lunches, or any other means you have to gauge potential needs.

Programs can provide outdoor clothing for all of the students, lend out gear for the year to those that request it or simply have extras on hand when needed. Whichever method is chosen, it's useful to have an outdoor gear library system to keep track of what items there are, what sizes are in inventory, and what has been loaned and to whom.

The cost of outdoor gear can be a barrier for families and programs. However, with some planning and preparation, it can be overcome.

The following are some ideas on how programs can acquire the gear needed to support their outdoor learning:

- Seek out garage sales and secondhand stores
- Apply for grants
- Access unclaimed lost and found items at area schools
- Seek out discounts at stores

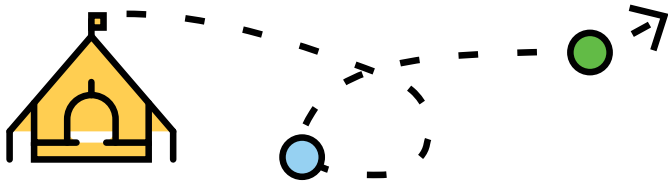
- Ask for donations from families whose children have outgrown gear
- Host silent auctions or other fundraisers
- Provide a gear swap for families

Stores that have a history of providing significant discounts for nature- and outdoor-based learning programs include:

- Obermeyer
- Bogs
- Oakiwear
- Polarn o 'Pyret
- Blackstack

Other stores that sell high-quality outdoor gear include:

- Costco (base layers)
- Sierra Trading Post
- REI outlet (wool socks)
- Amazon.com (wool socks)



Other factors to consider:

If the program will be sending gear home with children to keep throughout the school year, consider how the families will care for the gear. It's useful to share some tips with families on proper gear care, especially if it is new gear that is loaned.

- Have families sign off on borrowing items.
- Prioritize loaning gear to families who have a financial need.

When purchasing gear for extras or whole classes, consider the following:

- Purchase gender-neutral colors and styles.
- Purchase the same color for all items.

Try to make borrowing gear a norm for children and

families to avoid anyone feeling shamed for not having something.

Communication with families is imperative when it comes to the type of gear needed for outdoor learning, the level of dirtiness the gear may get and how available items to borrow will be.

For more information on removing barriers to outdoor gear refer to this [webinar put on by Natural Start Alliance](#).



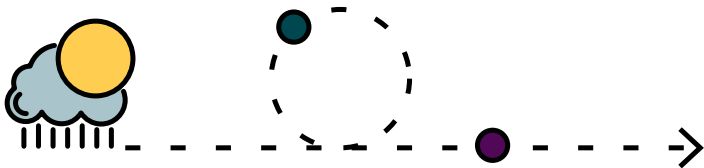
Little Barnyard Preschool (Esko). Photo courtesy of April Hepokoski.

Featured Equity Practices from Minnesota Schools

The following are examples of equity practices from Minnesota programs that incorporate outdoor learning.

Curriculum

- Incorporate anti-bias and anti-racist principles into the curriculum.
- Teach from a race-conscious and justice-conscious framework.
- Continuously develop a culturally responsive teaching program.



Enrollment

- Advertise within the neighborhood to reach underserved communities.
- Prioritize the enrollment of neighborhood residents, Black and Indigenous children and families of color, as well as LGBTQ2+ identified families as an action step to ensuring accessible early childhood educational opportunities for communities that have been historically and systemically erased, excluded and forcibly removed from nature spaces.
- Prioritize applications from families that increase the diversity of your student base including ethnicity, race, sexual orientation, socioeconomic status, differing abilities and more.
- Collaborate with local public schools to encourage children with special needs to attend and offer support.

Financial Accessibility

- Use Pathways Grant through Think Small to offset the cost of the program.
- Provide private scholarships to families who qualify for medical assistance and/or free or reduced lunch.
- Provide tiered pricing to neighborhood residents, using the same scale that the local school district uses for the free and reduced lunch program.
- Seek access to Child Care Assistance Program (CCAP) money from the local counties.
- Provide internal percentage-based scholarships to families based on their annual income and family size (funding comes from individual donors, foundation grants, and parent fundraising).
- Seek a four-star Parent Aware rating. Children, who are eligible to receive Early Learning Scholarships, have access to the highest award amount to ensure scholarships will cover the children's' full-school year tuition and possibly provide additional funds to cover summer camp and extended-day opportunities.

Professional Development

- Partner with families, school districts, center for inclusive child care and mental health consultation to better care for children.
- Offer teaching internships and support professional development opportunities for teachers working with underserved communities.
- Provide staff and families with education and professional development to build a program that feels welcoming and creates a sense of safety and belonging for all families.
- Provide training on culturally responsive teaching.

The first thing to note about Evan being supported and prepared for his transition to kindergarten was that he was highly engaged in nature preschool. In order for a student to grow academically, socially or emotionally, they need to be engaged in school and the learning process. Nature preschool provided Evan with such high interest and engagement, which meant he was always happy to be at school. He developed an eagerness and a curiosity that is necessary for learning. Additionally, Evan had a strong opportunity through nature preschool to develop his executive functioning skills, specifically things like self-control, problem solving and flexible thinking. Nature and outdoor play provided a great backdrop for practicing these skills, which helped Evan to be successful this past year as a kindergartener. Evan came into kindergarten with a solid academic foundation and was ready to learn. When students can show up to kindergarten ready to learn and thrive in a school setting, they are set up for success. Nature preschool was absolutely the right choice for Evan and I wish all kids had the opportunity to learn and grow in such a developmentally appropriate, engaging and fun environment. – Lisa, Savage

Risk Taking and Nature-Based Learning

When children engage with natural materials and in natural spaces, there is a level of risk that feels different than allowing children to play on playground equipment. As a result, many educators and programs do not feel it is safe to allow for children to have these experiences. However, “learning to negotiate risk is an important part of early childhood development, but risk is only healthy

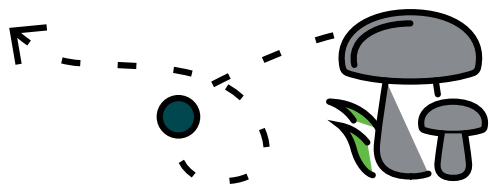
and developmentally appropriate insofar as it is managed, to the appropriate degree, by a knowledgeable and attentive adult.” (Natural Start Alliance, 2019)

By conducting a risk assessment for each activity and identifying the benefits for the child to participate, as well as the likelihood of a severe injury occurring, educators can make any adjustments needed to make the activity as safe as necessary. It is important to note that the goal is not to make the activity as safe as possible, but instead to make adjustments to the activity so the benefits can be maximized while reducing the probability of injury.

An important step in the risk assessment process is identifying and removing (or making adjustments around) any hazards, which are things the children cannot likely plan for but can cause unnecessary harm, when they are engaging in the activity. Hazards can include poisonous plants such as poison ivy and wild parsnip, a boulder or sharp stick located directly under a climbing tree, or bodies of water.

In addition to identifying the benefits for the activity and making any adjustments to lower the probability of severe injury occurring, programs should also identify common expectations to teach the children about the activity, and also communicate to families about the activity, safety parameters that will be put into place, and the expectations children will be taught. This gives families the opportunity to ask questions and—in an unlikely but possible event—not give consent for their child to participate in a specific activity.

[Example risk analysis.](#)



Nature-Based Learning Resources

Online Resources

[Teach Outdoors! Minnesota](#) – Website with many resources for Minnesota schools and teachers on how to teach outside year-round. In addition to tips and tricks for getting started, and seasonal and topic-based lessons, it includes over twenty recorded professional development workshops.



Eagle Bluff Environmental Learning Center (Lanesboro). Photo courtesy of Addie Mott.

[MnECO](#) – A free professional development and networking group for primarily Minnesota educators who are interested in connecting with others around the topic of nature-based education in early childhood.

[MnECO Map](#) – Map of nature-based early childhood programs in Minnesota.

[MnECO Toolkits](#) – Initially created to help programs move outdoors in response to the COVID-19 pandemic, these toolkits continue to be a comprehensive resource of things for programs to consider when planning to integrate nature-based and outdoor education opportunities for children.

Books and Publications

Nature-Based Learning for Young Children: Anytime, Anywhere, on Any Budget by Julie Powers and Sheila Williams Ridge

Preschool Beyond Walls: Blending Early Childhood Education and Nature-Based Learning by Rachel A. Larimore

Balanced and Barefoot: How Unrestricted Outdoor Play Makes for Strong, Confident, and Capable Children by Angela J. Hanscom

Before my three children each took part in ECFE [Early Childhood Family Education] and preschool classes at Tamarack Nature Preschool [TNC], I would not have described us as an adventurous outdoor family! When my son first started ECFE, I'm embarrassed to say I didn't even own proper winter boots. The unofficial credo of TNC, "There is no such thing as bad weather, only bad clothes," was a life-changing revelation for our family! During our time at Tamarack, we learned to love spending time outdoors in all seasons, and that quite literally changed the course of our family culture. Time in nature has a calming effect on us all and, especially during this past year with COVID restrictions, it has been a saving grace. We caught frogs, looked for alphabet shapes in nature, got our feet dirty, went on hikes and spent quality time together. As a sign at Tamarack says, 'uneven ground is a symphony for the brain,' we have certainly found that to be true! I am so thankful for the teachers we learned from at Tamarack, the time spent in nature, and all the lessons we learned that we can carry forward with us for the rest of our lives! – **Kristen, Roseville**

Nature-Based Preschool Professional Practice Guidebook
by Natural Start Alliance

[Guidelines for Excellence Early Childhood Environmental Education Programs](#)

Nature and Young Children: Encouraging Creative Play and Learning in Natural Environments by Ruth A. Wilson

Learning Is in Bloom: Cultivating Outdoor Explorations
by Ruth A. Wilson

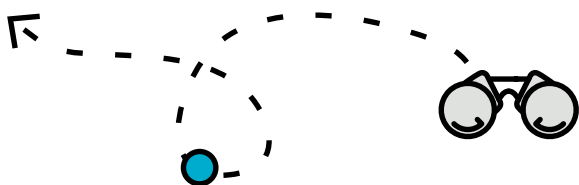
Nature Preschools and Forest Kindergartens: The Handbook for Outdoor Learning by David Sobel

[International Journal of Early Childhood Environmental Education](#)

Foundational Resources

Mind in the Making by Ellen Galinsky

[Minnesota Early Childhood Indicators of Progress \(ECIPS\)](#)



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About the Authors



Anna Dutke is an early childhood educator for Prior Lake-Savage Area Schools, primarily teaching in the Nature Preschool program she developed in 2014. She also teaches as an adjunct instructor for Hamline University. Anna is

actively involved in several organizations to help support educators with nature-based learning, including Natural Start Alliance, Jeffers Foundation, Minnesota Early Childhood Outdoors (MnECO) and the Teach Outdoors! Minnesota project. Anna has a Bachelor's degree in biology and a Master's in early childhood and early childhood special education. She is passionate about making sure nature-based learning is part of every child's education experience.



Jenny Hanlon is a Parent and Family Educator through Stillwater Early Childhood Family Education and teaches preschool at Tamarack Nature Center through White Bear Lake Early Childhood. She is currently the chair of the Nat-

ural Schools and Family Engagement subcommittee for Minnesota Children and Nature Connection and is on the steering committee for Minnesota Early Childhood Outdoors working to connect early childhood educators with resources for nature-based learning. Jenny is the author of *Your Family Compass: A Parenting Guide for the Journey* and is licensed in both early childhood and parent education.



Sheila Williams Ridge is the Co-Director of the Child Development Lab School at the University of Minnesota. She has a bachelor's degree in biology and master's degree in education, as well as experience as a business manager and pre-

school teacher/naturalist. She teaches *Nature-Based Learning in Early Childhood* and *Student Teaching in Early Childhood* at the University of Minnesota and *A Sense of Wonder: Nature Education in Early Childhood* at Hamline University. Sheila is a facilitator for the NAEYC Young Children and Nature Interest Forum, on the Voices and

Choices coalition, a board member for the Minneapolis Nature Preschool and Dodge Nature Center, and a member of the Natural Start Alliance Council. She is co-author of the book, *Nature-Based Learning for Young Children: Anytime, Anywhere, on Any Budget*, published by Redleaf Pres. She is passionate about encouraging nature-based play and the lasting developmental benefits of a relationship between children and nature.

We are so grateful that our child was able to spend her last year of preschool playing, learning, experiencing things in a safe way, outdoors. This past year was nothing like any of us could have ever imagined. Kids proved their resilience. Teachers and staff proved their dedication, flexibility, compassion and their own resilience as well.

Our daughter loved time spent at school, even on the coldest Minnesota days. In fact, one day when I picked her up I asked if she was warm enough and she said, "I took my jacket off for a little bit because I got hot!"

Masks and hand sanitizer became part of her routine.

For those of us who love hugs, the past year was tough but our child still continued to show her affection to teachers and classmates from washed hands and a masked face.

We loved the full-time outdoor learning option and felt safe every single day. It would be nice to continue outdoor education as an option for all students, beyond preschool because so much learning can happen outside of a traditional classroom. Nature can teach us all so much. – Sarina, Roseville

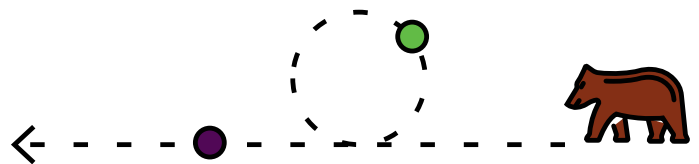




Photo Courtesy of Wind Ridge Schoolhouse

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