



# Forest Classroom Learning Standards: Pre-K

**A resource for teachers developed by Bonnyvale Environmental Education Center in collaboration with Pre-K teachers from Windham Southeast Supervisory District.**

Bonnyvale Environmental Education Center (BEEC), located in southern Vermont, has been working closely with teachers and students for over 25 years. BEEC has helped establish Forest Classrooms in several schools in the region, and continues to provide support for these programs. Here you will find many Forest Classroom teaching and learning activities aligned with Vermont Early Learning Standards (VELS).





# Forest Classroom Learning Standards: Pre-K

## Developing Self: Approaches to Learning

Play and Exploration		Initiative		Problem Solving	
Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard
Engage solidly in solitary, parallel, associative, and cooperative play (e.g. that involves engagement, negotiation, and pre-planning)	Set-Up a mud kitchen and forts/"home" with the children. Provide accessibility to natural areas and objects such as stumps, logs, bushes, tree branches, etc. Create areas in the forest for art (e.g. weaving station), music (e.g. percussion corner), drama (e.g. stage/curtain).	Demonstrates flexibility, imagination, and inventiveness in approaching tasks and activities through play.	Provide loose parts (sticks, pinecones, rocks, branches, etc) for children to build and play with. Loose parts could be used as "money" for a store, "treasure" for a treasure chest, etc... Encourage children to solve problems that occur organically through play (e.g. using various types of tools, body position, and movements to dig up a rock).	Uses imagination and creativity to interact with objects and materials	Provide access to loose parts, natural objects, and household objects (e.g. pots and pans and trowels) for children to use as they create fairy homes, animal homes, fashion tools, and play pretend games (e.g. store or animal family games)  Use verbal prompts such as, "What can you find that you could use as a ... hammer?...pretend food?...money?..."
Engage in sustained play (stays in a dramatic play like "the baby.")	Provide opportunities for dramatic play involving animal families, animals of prey, woodland fairies. Scaffold learning and promote the development of games by offering ideas, asking questions, providing context, etc.	Explore and discuss a range of topics, ideas, and tasks.	The 5 Senses, Life cycles, Fall, Winter & Spring Properties, Sink/Float, Building a rock circle to make a fire pit, raking leaves to make a pile, moving stumps to make a stump circle	Uses a new skill in a variety of contexts	Plan forest-based activities to support classroom learning objectives (e.g. support <i>creating sets of objects with as many as 10 objects</i> ; by having the children complete a scavenger hunt in which they are asked to collect 5 acorns, 8 leaves, 3 rocks, and 10 twigs)
		Attempt to master new skills	Provide appropriate levels of encouragement and support as children experiment with, and develop their ability to climb logs, balance on stumps, carry heavy objects, etc... Forest Classrooms provide natural opportunities for children to master many academic and social skills, some of which include: classification skills, measuring skills, listening comprehension and expressive language skills	Engage in learning through attempting, repeating, experimenting, refining, and elaborating on experiences and activities	Scaffolding of topics, such as "tracking" by first introducing animal prints, then including such things as pattern of tracks left by an animal (hop, bound, walk, waddle), scat, fur/feathers etc. Provide engineering challenges such as how to build a shelter that would keep an animal dry,
		Asks questions to find out about future events	Discuss how the Forest Classroom might look the following day/week/season based on weather patterns and seasonal changes including what animals we might see/hear.	Demonstrate appropriate solutions of simple problems	Support children as they problem solve during solitary and cooperative play. Problems that might arise in the Forest Classroom include:  "How can we move the branch from here to there?" "How stop an object from rolling down a hill?" "How can we make one object balance on another?" "How can we adjust the game so another friend can join?" "How can we get up/down the hill?" "Where can we put a 'treasure' so we can find it tomorrow?"



# Forest Classroom Learning Standards: Pre-K-K

## Developing Self: Social & Emotional Learning and Development

Emotions and Self-Regulation		Self-Awareness		Relationships with Adults and Peers	
Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard
Expresses needs of self and others and stands up for rights of self and others	Teaching and modeling how to ask for help, or for independence, ie "to be left alone!" and getting help from a teacher if someone is hurt or needs help	Express needs of self and others	Teaching, modeling & practicing how to invite someone into play, how to ask to join into play and how to respond to requests to play	Play and cooperate with other children sharing objects, conversations, and ideas	Mud Kitchen, Building w/ Loose Parts (rocks, sticks, pinecones, acorns, leaves, etc.) cooperating to carry large sticks/logs
Makes choices and shows understanding of consequences	Students demonstrate understanding of the rules and natural consequences relevant in a forest classroom (e.g. handling insects and animals, knowing your limits when balancing & climbing, stick play, staying within boundaries, safety around a fire, etc.)	Stand up for rights of self and others	Teaching, modeling & practicing strategies for problem solving (e.g. getting help from a teacher, using your words, taking turns, etc.) and developing language needed for self-advocacy	Respect the rights of others recognizing their feelings and responding with courtesy and kindness	Explicit teaching, modeling, and practicing of inviting a friend to play, accepting AND declining an offer, asking to join a game, and responding to a peer when they ask a question during play.
Independently adapts behavior to fit different expectations and situations	Classroom rules adapted for Forest Play. Students demonstrate what safe movement in the classroom looks like versus what safe movement in the forest looks like (such as body awareness, voice volume, etc.)	Make choices and understand consequences	Clothing choices (and their consequences) Modeling making appropriate clothing choices by incorporating information about the weather and what activities they will be doing, but providing students the autonomy of making choices in the forest (e.g stepping in puddles, kneeling in mud, getting mittens wet) and accepting the consequences.	Accept guidance and direction from familiar adults and seeks their support when needed	Accepts direction around teacher led activities such as trail hikes and expeditions as well as safety issues (e.g. tick check, not eating berries and mushrooms, rules around campfires, etc..) and asks adults to "spot" as they climb or balance and help to safely carry large branches, sticks
Participates in small and large group peer selected and adult led activities	Expeditions, trail hikes, student-initiated dramatic play, storytelling, songs, building activities (fairy houses, animal homes, etc.)	Show confidence in range of abilities and in the capacity to accomplish tasks and take on new tasks	Climbing a steep hill, balancing on logs, rocks, branches	Suggest solutions to social problems	Allows fluid movement of others entering and exiting activities.  With teacher modeling and support generates ideas about how to share high interest objects and spaces in the forest classroom (e.g. how a fort will be used, how to share an interesting stick, etc..)
Uses problem solving skills to compromise and resolve conflicts	Negotiating the sharing of special tools (e.g. compass, magnifying glasses, binoculars) and natural objects and spaces (e.g. stumps, logs, branches, etc.)	Demonstrate an understanding and acceptance of similarities and differences among people e.g., gender, race, special needs, culture, language and family	Integrates peer's ideas and language into imaginative play.  Respects others physical differences and abilities while playing and exploring (e.g. adjusting the game so someone uncomfortable or unable to balance on a log can still play)		
Focuses on self-selected activity or task to completion with adult help	Building animal homes, fairy houses, forts, building w/ loose parts, sorting leaves, stones, scavenger hunts, etc				
Manages transitions with minimal direction from adults	Moves easily between stations or activities (e.g. from stump circle to free choice, from free play to fire circle, etc.)				



# Forest Classroom Learning Standards: Pre-K

## Developing Self: Growing, Moving, and Being Healthy

Motor Development and Coordination		Health and Safety Practices	
Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard
Exhibit motor control and balance when moving the whole body in a range of physical activities.	Balancing on branches, rocks, climbing steep hills, negotiating narrow trails	Assist adults to prepare healthy snacks and meals	Cooking on an open fire (e.g. roasting apples, making cornbread, boiling water for tea, cocoa)
Demonstrate motor control and coordination when using objects for a range of physical activities	Raking, shoveling, building forts with large sticks/branches, digging	Communicate with words or sign language to ask adults or peers specifically for the kind of help needed in a particular situation	Following safety rules (e.g. telling a teacher), problem solving peers w/ peers (e.g. using your words), modeling how to ask for help when physically out of comfort zone (e.g. climbing too high and realizing you need help, feeling unsteady on a tree limb or rock)
Move through space showing awareness of own body in relation to other people and objects	Navigating the forest terrain (roots, branches, rocks, stumps) Predator/Prey games (i.e. Fox & Rabbit, Coyote & Deer)	Communicate how daily activity and healthy behavior promote overall personal health with some support	Discussing the fact that spending time outdoors doing physical activities strengthens muscles and contributes to overall health, model and practice the importance of spending time outdoors in any weather
Demonstrate fine motor skills requiring greater strength and control (e.g., use a paper punch, stapler, spray bottle)	Using clippers, hand drills, rope tying, creating boundaries by stringing beads	Recognize and communicate when experiencing pain or symptoms of illness	Communicating physical injuries, Modeling and instruction about how to describe injuries (developing specific language/vocabulary)
Use eye-hand coordination to accomplish more complex tasks (e.g., button or zip clothes, eat with a fork, cut out simple shapes staying close to lines, use writing tools, fit pegs into pegboard)	Buttoning/zippering outdoor clothing & boots, folding cuffs over boots, skimming water w/ nets to catch water bugs, using items from nature to create mandalas, drawing or writing w/ a pencil or your finger in soil or snow	Participate in structured and unstructured physical activities	Provide a balance between free choice and structured activities in the Forest



# Forest Classroom Learning Standards: Pre-K

## Communication and Expression: Language Development

Receptive Language		Expressive Language		Social Rules of Language	
Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard
Follow multi-step directions especially when these are familiar activities	<p>Teach children how to be safe around a campfire, teach students multi-steps for climbing, sledding</p> <p>Teach and model steps to get ready to play outdoors in all types of weather: sun, snow, rain, etc..</p>	Use sentences with more complex grammatical structures when speaking (e.g., embedded clauses, such as "My teacher, who likes dogs, is nice"	Modeling the use of descriptive language and positional words and phrases within the context of the Forest Classroom (e.g. That tree, that has rough bark, is a maple tree or "Look at the cardinal, sitting in the pine tree, behind the stump circle").	Listen and respond on topic during longer conversations with others and in group discussions	The teacher facilitates group discussions about topics relevant to the Forest Classroom (changes in weather, seasons, animal homes, etc.), Stump Stories, discussions that arise during Forest Expeditions,
Demonstrate an understanding of complex statements having 1 or 2 phrases (e.g. Please put the toothbrush in the box under the sink)	Include use of positional phrases in the forest (e.g. "Put this stick next to the stump circle", "Go behind the oak tree and find an acorn under a leaf")	Engage in storytelling	Have children tell stories about what they did in the Forest, include story time in the Forest related to a seasonal event, Storytelling themes related to the Forest setting, Group storytelling	Initiate conversations with others and maintain topic of conversation 2-4 turns	Teacher supports discussions that arise spontaneously during Forest Expeditions; Teacher encourages and scaffolds peer conversations during play time in the Forest
Demonstrate an understanding of different language forms such as questions and exclamations	Including storytime in the forest and asking questions for comprehension, prediction, etc. Asking questions, giving directives and teaching the difference within the context of a Forest Classroom e.g. "Do you want to go on a scavenger hunt?" versus "We are going on a scavenger hunt."	Use different forms of language for different purposes	Using sign language to sing songs and give directions, using hand motions and physical gestures to indicate location or while giving directions, using appropriate tone of voice and responding to tones appropriately,		
Demonstrate through conversation comprehension of more complex vocabulary (i.e., abstract concepts and words beyond everyday vocabulary)	Introducing complex science vocabulary within the context of actually being in the Forest, e.g. "adaptations", "characteristics", "variation"	Use abstract and increasingly detailed and varied vocabulary when speaking (e.g., use "turquoise" rather than "blue" or "I want to fly into space when I grow up")	Support children as they develop the ability to use accurate vocabulary to identify and describe forest animals and plants (e.g. "Look at the chickadee in the tree" or "That's a tall pine tree"). Model and encourage use of specific descriptive words related to weather such as, drizzling, pouring, chilly, frigid, gusty, breezy, etc...		



# Forest Classroom Learning Standards: Pre-K-K

## Communication and Expression: Literacy Development

Foundational Reading Skills		Reading		Writing	
Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard
Demonstrate knowledge of the association between written words and spoken words	Teacher and students collaboratively create signage in the Forest (e.g. trail signs, welcome signs, play area signs, rule reminders, etc...) and engage students in shared dictation and writing projects (e.g. identifying and labeling trees, writing class books related to Forest activities, and drawing and labeling pictures and diagrams related to forest explorations)	Identify characters and setting in a story read aloud	Read stories that take place within different habitats (setting), and involving characters (people and animals) interacting w/ nature	Use writing and drawing for various purposes, such as giving information, narrating stories, or giving an opinion	Provide opportunities for students to draw and write for different purposes, eg. draw and label a map of the Forest, draw a tree, draw to tell a story about an experience they had in the Forest, draw to share their favorite activity in the Forest, etc.)
Display book handling skills	Students use field guide books to identify plants, animals, etc., students use nature books for research related to Forest experiences	Use story title, pictures, content and prior knowledge to predict story content	Teacher provides read alouds which practice making predictions by providing clues. Books such as: Who's Been Here? Red Sled Whose Tracks Are These?	Copy, trace, or independently write letters or words	Support students as they label their drawings related to Forest activities; Include activities such as writing w/ stick in the dirt or writing w/ fingers in the snow; Building letters with items found in nature (acorns, sticks, etc.)
Segment syllables in spoken words with modeling and assistance	Teacher models and students practice "tapping out the beats" (segmenting words into syllables) as a way to introduce and accurately pronounce new vocabulary related to the Forest (predator, camouflage, hibernation, etc...)	Make connections between stories and real-life experiences	Teacher plans Forest Choice opportunities connected to a text (e.g. read "Whose Tracks Are These?" and then go on tracking expedition, "A Nest is Noisy" and then gather materials in the Forest to make nests)	Use "sound spelling" (use initial sound of word and other letters to represent sounds heard in the word)	Support students as they hear beginning and ending sounds while labeling their pictures relating to the Forest.
Determine if two words rhyme	Creating spoken rhymes and songs that rhyme (such as, "The Forest is a Wonderful Place", "Let's Make a Circle", "A Little Seed", etc.) during Forest play and exploration.	Retell or re-enact a familiar story in the correct sequence of a familiar story's major events with prompting and support	Teacher creates puppet show or stage area in the Forest Classroom. Activities include retelling and re-enacting various familiar stories, e.g.: "The Mitten" "The 3 Little Pigs"	Participate in shared writing experiences (e.g., contributing ideas to a story)	Creating class books about nature-based activities, such as "Our Forest in Fall" (Winter, Spring), Sap to Syrup, etc.
Associate some letters of the alphabet with their specific sounds	Teacher and students collaboratively use phonetic spelling to create signs and labels in the Forest. Letter Sticks- Find sticks that resemble letters and/or create letters using sticks and twine, as a means to introduce letter names and sounds. Play "Go and Find." Present students with a letter, such as R, and have the students find an object in the Forest that begin with the /r/ sound, such as a rock.	Ask and answer questions about the characters and major events of a story with prompting and support	Teacher uses books with themes about the Forest (e.g. "Every Autumn Comes the Bear"), and asks questions such as, "What do you think the bear is noticing?", etc.		
Identify words that start with the same letter as their name	Students play "Go and Find" - students identify the first letter of their name and then find something in the Forest that begins with that letter (e.g. Avery - acorn)				
Pretend to read a familiar book using language from the text and reading-like intonation	After reading a story as a group, Teacher makes the book available in the Forest during choice time, students practice reading books that are group writing projects related to Forest activities				



# Forest Classroom Learning Standards: Pre-K

## Communication and Expression: Creative Arts & Expression

Visual Arts		Music		Theater (Dramatic Play)		Dance	
Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard
<p>Create artistic works through an open-ended process that reflect thoughts, feelings, experiences, or knowledge</p>	<p>Teacher provides a myriad of loose parts found in nature (e.g. sticks, nuts, seeds, rocks, leaves, stems, bark, and bark) for students to make abstract designs such as mandals, as well as representational pictures in the Forest.</p> <p>Students create artistic works back in the classroom based on their observations and experiences in the Forest Classroom.</p> <p>Teacher reads <i>Leaf Man</i> and students then create their own leaf man using items found in the Forest Classroom.</p>	<p>Experiment with musical instruments</p>	<p>Teacher develops an area of the Forest Classroom designed for music making (e.g. percussion instruments made of natural or recycled materials such as wooden xylophone, seed pod/gourd shakers, rainsticks made with pebbles or seeds, pots and pans hanging on a line, etc.). Encourage children to explore the sounds that are made by tapping sticks on broken branches of trees.</p>	<p>Initiate role-playing experiences and playing with props and costumes. Use various facial expressions and voice inflections when playing a character</p>	<p>Teacher establishes an outdoor theater space in the Forest Classroom for reenactments of stories, as well as spontaneous student-inspired stories. Items such as animal puppets, as well as natural objects may be used as props.</p> <p>Teacher and students design and establish other areas that invite role-opportunities such as a mud kitchen, shops, houses, train, etc...</p>	<p>Move to different patterns of beat and rhythm in music</p>	<p>In the Forest teacher integrates nature-themed dance and movement games that offer opportunities for creative movement in a variety of rhythmic patterns, beats and tempi (such as: "Strolling Through the Forest", "Bluebird, Bluebird", "A Little Seed", "Standing Like a Tree", etc.)</p> <p>Teacher leads, and has students lead "Repeat After Me" using items in the forest. (e.g. teacher taps rocks together to create a long-short-short-long rhythm, students repeat)</p>
<p>Discuss own artistic creations and those of others</p>	<p>Teacher asks leading questions to provide students the opportunity to talk about their art, both in the Forest Classroom, and through such projects as class books once back inside.</p> <p>Teacher models and encourage students to respond to one another's artwork created in the Forest Classroom (e.g. "I like the way you used a piece of bark for the door on your fairy house. Where did you find the bark?")</p>	<p>Recall and imitate different musical tones, rhythms, as they make music</p>	<p>Teacher leads echo songs and call &amp; response songs that have themes related to the Forest (e.g. "Many Pretty Trees" (Ella Jenkins), "Bluebird, Bluebird" (trad))</p> <p>Begin each Forest time with familiar "Welcome Song" (e.g. "Good Morning Dear Earth" or "Let's Make a Circle")</p>	<p>Use dialogue, actions, and objects to tell a story or express thoughts and feelings of themselves or of a character</p>	<p>Teacher models activities such as charades, story reenactments, and use of puppets to revisit familiar stories, or as a way to introduce storytelling techniques. They may also use these tools to explore the emotions of a character, or their own - through a character.</p>	<p>Repeat choreographed movements and begin to create own movements</p>	<p>In the Forest teacher integrates nature-themed dance and movement games with choreographed movements and also offer opportunities for children to imbed their own movement ideas (such as "Oat and Beans and Barley Grow", "Rattlin' Bog", "I Had a Bird", etc.)</p>
		<p>Express creativity through music</p>	<p>Teacher leads songs and movement games with themes relating to the Forest (e.g. "This is My Trunk", "My Roots Go Down" (Sarah Pirtle), etc).</p> <p>Teacher encourages and models how to change/adapt songs to fit new and changing experiences in the Forest (e.g. "The Forest is a Wonderful Place")</p> <p>Sing songs that encourage children to act/sound like forest animals (Instead of "The Wheels on the Bus" sing "The _____ in the Forest.")</p>	<p>Use various facial expressions and voice inflections when playing a character</p>	<p>Teacher invites the retelling and role playing of familiar stories, encouraging students to "become" the character, who may be a human, some other animal, or even a plant. Ask questions such as "Ahhh I'm noticing that you're pretending to be mouse... How do you think a mouse would talk?"</p>		



# Forest Classroom Learning Standards: Pre-K

## Learning About the World: Math

Number Sense, Quantity, and Counting		Number Relationships and Operations		Measurement, Classification, and Data		Geometry and Spatial Reasoning	
Standard	Teaching and Learning Activities to Support Standard	Standard	Teaching and Learning Activities to Support Standard	Standard	Teaching and Learning Activities to Support Standard	Standard	Teaching and Learning Activities to Support Standard
Counting a group of up to 10 Objects	Teacher provides opportunities for children to make and use Counting Collections (acorns, leaves, rocks, etc.) Teacher establishes a place in the forest for children to play "store" where they can use leaves or acorns as money	Use simple strategies to solve math problems	Teacher provides opportunities to model and practice solving math problems using objects within or used in the Forest, e.g. "If there are x number of us, how many _____ do we need? (e.g., stumps, sit up ons, mugs, magnifiers, etc); "If we only have x number of something, how do we share it with the number of kids we have?"	Sort objects using two or more attributes (e.g., sets of large blue bears, small blue bears, large red bears, small red bears) and compare number of objects in each set	Teacher provides opportunities for children to use natural items, such as large green leaves, small green leaves, large red leaves, small red leaves, small black rocks, big black rocks, small white rocks, big white rocks to sort.	Use terms such as on top of, beside, in front, etc. to communicate ideas about the relative position of objects	Teacher models the use of positional words (e.g. beside the brook, under the log, in front of the tree) Teacher leads and facilitates "Hide and Seek" with objects (e.g. Students take turns hiding a rock somewhere in the forest and need to direct a classmate to find the rock by describing where it is located- behind the tree that is next to the mud kitchen).
Recite numbers to 20 with few errors	Teacher leads and facilitates games such as "Mr. Wolf" (Hide and Seek) which involve counting  Teacher leads choral countings activities such as counting how many steps it takes to get from the stump circle to big maple tree.	Combine and separate groups of objects to make new groupings and ID the number in the resulting group	Teacher provides opportunities for students to combine and separate groups of objects to make new groupings and ID the number in the resulting group using rocks, acorns, sticks, leaves, dandelions and other objects from the Forest; Teacher models the part/whole relationship in conversation, such as, "2 children are outside and 8 children are inside, so we have 10 in all", or "3 kids are playing on the hill and 2 are playing in the mud kitchen, so that makes 5 kids in all."	Classify familiar objects into categories (e.g., fruits or vegetables)	Using objects in the Forest Classroom, teacher guides children in creating categories such as Living vs Non-Living, or acorns w/tops vs. acorns w/o tops, or rough bark vs. smooth bark	Follow simple directions related to relative position (beside, between, next to, etc.)	Teacher plans activity based scavenger hunts which require the student to follow direction such as: "Go to the top of hill and find 1 rock. Go into the stump circle and find an acorn."  Teacher leads and facilitates "Hide and Seek" with objects (e.g. Students take turns hiding a rock somewhere in the forest and need to direct a classmate to find the rock by describing where it is located- behind the tree that is next to the mud kitchen).
Comparing set of objects (up to 10) to determine which groups has more or less	Teachers designs and offers activities such as creating and comparing Counting Collections using items found in the Forest Classroom such as rocks, acorns, sticks, leaves, dandelions, etc.	Match two equal sets using one-to-one correspondence and understand they are the same	Teacher uses objects in the Forest Classroom to model and practice matching two equal sets (w/ one-to-one correspondence)	Order objects by size or length (i.e., seriation)	Teacher challenges children to order a variety of natural objects (such as sticks, rocks, leaves, seeds) by size, length, weight etc.		
		Use a range of strategies such as counting, matching to compare quantity in two sets of objects and describe the relationship with comparative terms (e.g., more, less, fewer, equal)	Teacher supports children and models how to compare quantities as they compares amounts of various items found in nature (e.g. model how to match 1-1 to determine if student found more acorns with tops or without tops)  Teacher embeds the teaching of comparison strategies in conversation as students problem solve and share materials in the Forest Classroom (e.g. children pass out one tool per child- are there and equal number of tools as children? More tools than children? Fewer tools than children?).	Use Standard and non-Standard ways and tools to measure and compare (e.g., 3 hands long)	Teacher guides children in a variety of measurement activities, such as measuring how many footsteps is takes to get from one point to another, or measuring how many pebbles or acorns can fit in different types of containers, or measuring the length of sticks using various smaller objects (leaves, pebbles, acorns)		
				Use terms such as before, after, now, later, tomorrow, and yesterday accurately	Teacher models recording of events by taking pictures during Forest Classroom play and bringing the photos to morning meeting on the following day to have children tell a story about what they did the previous day. To discuss the future, teacher makes a plan and marks on the calendar in the classroom with the students about future activities (e.g. "On Wednesday we will tap trees, after we tap the trees we will check the sap buckets!")		





# Forest Classroom Learning Standards: Pre-K

## Learning About The World: Science

Physical Science		Life Sciences		Earth and Space Science		Engineering Design	
Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard
Use evidence to discuss what makes something move the way it does and how some movements can be controlled	Provide opportunities for children to experience and notice the forces of wind and water through such activities and games as playing "Pooh Sticks" at a stream, and floating objects in streams or rivulets of water. Model making observations and support children as they make observations about the direction and strength of wind as it moves leaves, drives rain, blows snow, or makes ripples on the surface of water. Encourage children to construct barriers such as dams to divert water and barricades to reduce wind.	Describe how plants and animals, including people, grow and change over time.	Introduce the opportunity for phenological studies, for example create curriculum for a Yearlong Tree Study (selecting one tree to observe closely throughout the year and recording seasonal changes through drawing dictation, dramatic movement, etc.). Provide additional support through literature such as "A Busy Year" by Leo Lionni, or "Arnold's Apple Tree" by Gail Gibbons.	Record daily weather (e.g., sunny, rainy, snowy)	Model for students how to dress for the weather before going to the Forest Classroom; record daily weather in the Forest Classroom; this could be a whole group activity, or the "Helper's" job. Talk with students about how the daily weather looks and feels.	Draw pictures that represent physical structures	Notice the parts of trees, ie: trunk, bark, branches, twigs, leaves etc. Model making drawings of trees on paper or directly in the dirt on the forest floor. Draw/create a map of the Forest Classroom (or a specific area of the Forest Classroom)
Describe objects by their physical properties and states of matter	Introduce and model vocabulary to describe objects of nature in the forest including trees, plants, flowers, waterways, feathers, stones, rock, bark, pinecones, pine needles, moss, ice, rain, snow, etc. Thinking about things such as the shape, size, texture or color can help children hone their observation skills. Play "I Spy".	Explain how animals including people use their senses to gather information (e.g., noses are for smelling)	Explore the Forest using senses by going on a "Listening Walk," or playing games such as "I Spy," "Eagle Eyes," or "Feely Bags" using available natural items. Extend their learning by reading books such as "Every Autumn Comes the Bear." Make observations of animal behavior in the woods (What do the squirrels do when they see you? How do the squirrels find their acorns in ground?) "Nature Noticings"- At the stump circle or meeting area, ask children to share something they notice (I hear...I feel...I smell...I see...etc...)	Describe patterns of weather over time (e.g., in the winter it is cold and snowy)	Make and record observations about how the Forest Classroom looks and feels different each month. Compile words and drawings into a class book. Model and encourage students to make predictions about what the weather will be the next day (e.g. If we have had 3 freezing, snowy days in a row, is it reasonable to think that the next day will be hot and sunny?)	Follow a simple visual plan to construct a structure.	Before building animal homes or fairy houses, refer to actual models, pictures or artifacts.
Investigate the differences between liquids and solids and explore how liquids can become solids, and solids become liquids	Guide children in observing changes in a brook or pond through the seasons. Model the process of wondering by asking questions and making connections to weather & temperature that can be tested or observed over time.  Make nature suncatchers by having the children collect items from nature (e.g. acorns, leaves, berries, etc...) and put into a small plastic container. Place a string or twine in the container. Pour water into the container. Let freeze overnight. Once frozen, hang up the suncatchers and watch them melt in the sun.	Describe how baby animals are similar yet different from their parents	Observe organisms, such as insects, amphibians, birds and a variety of larva found in the forest, making note of physical characteristics. Read books about the same animal in different life stages for students to see how some baby animals, like birds, are a bit like their parents while others, such as beetles, are very different.	Recycle materials appropriately (e.g., compost food scraps)	If students eat in the Forest Classroom, provide trash receptacle and compost bucket. Model/practice which items go where.	Ask why and how questions to figure out how objects work	Make available "loose parts," ie: sticks, rocks etc for students to use in exploring functions such as lifting/ moving a heavy object ("How did you use this stick to move that rock?"), or comparing the weight or size of an object.
Demonstrate the relationship between shadows, the objects that make them, and the light source	Notice location and radiant heat of the sun by drawing attention to shadows cast by objects such as trees, sheds and clouds, and the resulting changes in temperatures. Play games such as "Shadow Tag" or make shadow drawings in the dirt to reinforce the relationship between the sun, shadows and objects.	Discuss how animals meet their needs for shelter (e.g., birds build nests)	Challenge students to build shelters, ie: something to keep an animal warm/dry and safe from predators. Explore the differences between a bird's shelter and a mouse's shelter. Encourage students to learn from each other's designs and make revisions on their own. Use books that support this standard such as "The Busy Tree", "Over and Under the Snow", etc.	Investigate and ask questions about the properties of earth materials including water, soil, rocks, and sand.	Model and introduce language to describe the properties of earth materials. For example, describe a rock as hard, cold, heavy, and bumpy. Explore, with children, thing that earth materials can do (e.g. soil can hold roots and rocks can be stacked to build a wall or a dam).	Use simple tools to construct solutions to problems	Make available conventional tools such as binoculars, magnifying lenses, etc.; have protocols and provide assistance for the use of tools such as saws, clippers, shovels and rakes.
						Use classroom objects in novel ways to enhance child-directed play	Teachers encourage and support students in discovering the multiple and creative uses of "loose parts" such as sticks, rocks, etc.



# Forest Classroom Learning Standards: Pre-K

## Learning About the World: Social Studies

Inquiry		Family & Community: Civics, Government & Society		Physical and Cultural Geography		History		Economics	
Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard	Standard	Teaching & Learning Activities to Support Standard
Ask questions and participate in simple investigations to form hypotheses, gather observations, draw conclusions, and form generalizations	While on Forest Expeditions, teacher asks guiding questions that invite children to form hypotheses, generalizations and draw conclusions, such as noticing details and physical characteristics of natural objects (feathers, leaves, seeds, etc.) and traces of animals found in the Forest and how they came to be there.	Act as citizens by demonstrating positive interactions with group members	Children work with a Nature Buddy or in small groups for activities and projects in the Forest; Children model and practice rules of Classroom Circle (e.g. whole body listening, turn taking, etc.) while participating in whole group activities in the Forest.	Identify features of the physical environment around them (e.g., roads, buildings, bodies of water)	Students name both the natural, (ie: Climbing Rock, Grandmother Maple, etc.) and human constructed, (ie: roads, parking lot, Stump Circle, Mud Kitchen etc.) landmarks in and near their Forest Classroom. This information may be used to further develop a class map of the area, or support development of vocabulary and positional phrases.	Describe sequence of routines practiced in the past with good accuracy (e.e. getting ready to go outside)	Students explain the steps taken in order to get ready to go outside using visual supports as needed.  Students explain to a visitor the rules and routines for time spent in the Forest Classroom.	Describe how people interact economically (e.g., use money to purchase things or services)	Thematic study of sugaring in our communities- tap trees in Forest Classroom if possible  Establish a "store" (bakery, ice cream shop, restaurant, farm stand, etc.) in the Forest Classroom that includes an exchange of money for goods.
Collect, describe and record information through discussions, simple drawings, maps and charts	Teacher asks guiding questions to support children as they create a class or small group map or diagram of the Forest Classroom which includes locations of significant landmarks, e.g the Mud Kitchen in relation to the Stump Circle, etc.); Using clipboards or Nature Journals children record information observed in the Forest.  At the beginning of a session in the Forest Classroom present something that the students could do, find, notice, or explore and that at the closing circle they will determine how many people did the activity, made the observation, found the object. For example: "Today, when you are playing in the Forest, I wonder if you can find dry dirt AND wet dirt." At the end of playtime have students report back if/where they found wet dirt and dry dirt.	Explain the need for rules in a variety of settings (e.g., home, classroom, playground), and for laws in the community	Teacher leads and generates discussion - "Why do we need rules in the Forest Classroom?" that include rules that support safety, respect, environmental considerations); Having discussions about why rules may change from time to time) due to changing circumstances.	Explain that people share the environment with other people, animals, and plants	Teacher provides opportunities for students to make inventories of plants and animals in the Forest Classroom area by noticing identifying characteristics of certain plants, (such as bark on trees, shapes of leaves, colors of flowers etc.) and looking for signs of animal activity, (such as animal fur, scat, feathers, homes etc).				
Describe and discuss predictions, explanations and generalizations based on past experience	Before going outside, children make predictions about what they might see in the Forest based on weather, season, prior experience, etc.			Describe ways people can help take care of the environment (e.g., recycle)	Teacher reads books or tells stories that demonstrate how children can care for their environment (such as "Where Once a Wood", "The Night Tree", "Stopping By Woods on a Snowy Evening"). Teacher provides structures for students to separate trash and recyclables if appropriate, or read books that describe how natural materials break down (such as "A Log's Life"). Teacher also provides rationales for why trash is not left in woods because of the harm that plastics and other materials can cause to living things.				