

WINTER -- CONTENTS

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WINTER

December, January and February are dedicated to enlivening the children's experience of the four elements.

MAIN LESSON - SUN - December

The Sun and Fire are the source of all life. They are Warmth and Heat, Light and Color. There are many experiences with Heat, Light and Color that the children can do with plants, in the context of the Garden. The Sun's Fire is at also the heart of the Earth. Fire loosens up the imagination. It is among our most ancient Teachers. For many peoples, Fire is both a symbol and process of Learning and Knowledge.

WEEK 1 -- CYCLES AND SEASONS

DAY 1

Verse, Song, and/or Dance -- Every day's class starts with a Verse, Song, and/or Dance. These help to open the children up to the day's activities. There are a great many Verses and Songs to choose from – some are referenced in the Appendix for each season.

*Welcome to the sun
Shine upon this new day
Gives us strength in every way
the class has begun.*

(round with standing hand gestures)

*I am the sun and I bear with my might
The earth by day and the earth by night.
I hold her fast, and my gifts I bestow
That everything on her may live and grow.*

*NEESA, NEESA, NEESA
Neesa, Neesa, Neesa (3x)
Guyweo...(3x)*

*TURN, TURN, TURN
To every season there is a ...and a time for every purpose under heaven...*

Activities

Indoors – Sun/Fire Puppets -- Shadow puppetry is a wonderful way to speak directly to the element of Fire and the Sun. Suns may be made out of cardboard and golden or orange cellophane taped over a cardboard disk with the center cut out in the middle of it. One can illustrate stories like Aesop's fable of the Sun and the Wind. You can call a child up to hold the sun in front of a light, scarves can be the wind and eventually you will be adding more and more puppet symbols to be used to illustrate poems or just playing what has been experienced outside. Have the children notice the shadow and sun-speckled areas under shady trees. There is so much joy in these observations. Now take it inside and figure out how to create sun-dappling with your shadow puppet stage.

WEEK 1 -- DAY 1, continued

Outdoors – Solar Observatory -- Gather the children outside in a spot you have previously picked for the Solar Observatory. Place a stick in the chosen area and tie a long twine, the radius that you wish the circle to be. Have a child tie a scribing stick to the other end of the string and walk around keeping the twine taut and inscribe the circle. The drawn circle is where twelve outer stones will lie. Then shorten up on it and draw another smaller circle for smaller stones.

Have the children gather stones. You may want to bring interesting natural stones to the school, if not enough are already available onsite. The size of the Observatory circle will depend on your available space, the size of the stones the children bring, and how many children are in the class.

Many different peoples have built Solar Observatories or Medicine Wheels (for example, Native Americans, Stonehenge). Some of these have 12 stones for the moons of the year in the outer circle; some have 16 stones in the outer circle including 4 more stones for the Four Directions. You might want to have just four larger stones to denote the four directions and have the whole circles inscribed with stones the children find. Be sure to record the number and tell stories outside with the numbers. Create the patterns you want. Have your own arithmetic games.

For the 12 special outer stones each might represent a different month and the moon of that month can be named by the class. You could ask the children to bring it to their dreams and have a sharing to name each month. This could be a good way to discuss dreams and thoughts about the elements as they are now experiencing them. December could be the month of "Snow Angels" in some places and the month of "Gathering Kukui nuts" or the "Great Heat" in another. Give them examples to think about. Tell them the name must come from something happening in nature. Is it the month of muddy boots? This will help attune them to the natural changes around them. January could be the month of "Falling Snow" or whatever evokes your class and communities concerns.

The Solar Observatory will align to the four cardinal directions, and will help us observe and record the movement of the sun at various times of day in the different seasons. For the four directions, use a compass to orient the stones in the east, South, West and North.

When we gather we will pick children to raise their hand and say what they notice at the Observatory at that time or day. We will use it to notice outer things as well as inner ideas and pictures. Instead of a fire-pit which is a common thing to have, we might also have a wind flag or directional on our central stick. We will use our Solar Observatory space as the meeting ground for our outdoor gardening classes. We will use the Observatory in our celebrations and festivals. The Observatory will become our magic place from to observe and attune to the changes and cycles of Nature.

Art / Journal

On the first day, the children will start their Garden Journals or Portfolios. Into these books (which the school should provide each child), the children will put their daily drawings and other art work, as well as notes of observations and records of activities. The Garden Book will become a complete record of the entire year in the garden. Today, have the children draw the Sun.

MAIN LESSON - SUN -

December

WEEK 1 -- DAY 2

Verse, Song, and/or Dance -- Repetition and a consistent opening and closing song is welcomed by the children. We may repeat and broaden the poems and songs from Day 1, adding another poem, or a hand-clapping game (see Appendix) to open the children up and create enthusiasm.

Story and Discussion -- Specific myths and fairy tales can be read to understand the Sun and Fire. Fairy tale reading can come at the end of the school day while the children freely draw the images you read. The early morning lesson time can be your stories and characterizations. Thus the imagination is strengthened.

There are many wonderful stories to enrich the children from all the world's cultures. We will bring the children's awareness to different cultures' concepts of the four seasons, the four elements (Fire, Earth, Water and Air), the four winds, the four directions.

Activities

Indoors -- Solar Cycles and the Seasons -- We will use a globe and a flashlight and see why there are different climates around the world. And why light is different in summer and winter. One child will hold the flashlight close to the globe pointing at the equator of the globe which two students are holding. Turn off the lights and observe how the light hits different places on the globe.

Here in the northern hemisphere we are closer to the sun in winter than in summer. Why is it colder in winter when we are closer to the sun? The flashlight still pointing to the Tropic of Capricorn on the globe. On the first day of winter the sun follows a path that is just over the Tropic of Capricorn. When you move the flashlight up without changing the direction of the beam (parallel to where it was) until it falls on the United States. So now it is North of where it was. The flashlight beam now no longer makes a circular light pattern. The light beam is much more spread out.

This is because the light is spread out over a larger surface. The light is diffuse and less intense. In Winter the sunlight gives us less energy to heat the Northern Hemisphere because of the less intense angle of the sun. So in the Northern Hemisphere our temperatures are much lower in Winter.

If you point the flashlight at the Tropic of Cancer (just north of the equator) it will be like the first day of summer on June 21st. Now move the flashlight slowly northward until it comes to the United States. (the beam is parallel to its original spot on the Tropic of Cancer, but further north on the globe. The beam shining on the U.S. makes a circular intense pattern of light. This light is spread over much less area than it was when the flashlight shined at "wintertime" at the Tropic of Capricorn. This narrower more intense beam provides more sunlight and gives warmth and summer temperatures to the northern hemisphere.

It is the opposite in the southern hemisphere. Let's take a look.

Outdoor Activities -- Continue building the Solar Observatory

Art or Journal Work – Have the children make colored drawings or paintings of the cycles of the sun and planets, or of the cycle of the seasons on earth.

WEEK 2 – LIGHT, COLOR and HEAT

DAY 1

Verse, Song, and/or Dance -- We may repeat and broaden the poems and songs from the beginning of this Main Lesson. Also --

*RISE UP O FLAME
Rise up o flame
By thy light glowing
Bring to us beauty, vision and joy*

Activities

Indoors - Light and Color -- Photosynthesis -- Sunlight is the power that makes plants grow. 93 million miles away this source of warmth and light beams down and enters the leaves. The sun enables the water and carbon dioxide in the leaves to join together to form sugar. Then with the sugar the plant can make other foods it needs to be healthy and grow.

Try the simple experiment of growing several plants in a very sunny spot and several other plants of the same kind in a darker part of the room and finally several that you cover. The plants will adjust so that they can gather as much sunlight as possible. The shaded plants will grow toward the source of light. The completely covered plant will not grow at all. The results of this experiment are of course not for the second gardening class but we have now sown our first seeds.

After having planted the indoor experiment. The children will write it up in their journals as well as draw the chalkboard drawing with their crayons.

Alfalfa Sprouts – Have each child start a handful of moistened alfalfa seed on a glass jar, with a piece of cheese-cloth over the open end (to allow air circulation).

Puppets -- Photosynthesis can be conveyed in stories about light fairies and plant fairies, which can be presented in puppet form by having silken golden fire fairies come down from the shadow puppet sun and play around a plant. Little green silken fairy puppets can raise their knotted cloth arms up to the sun and say "Thank You". (This gives the child a picture in which to remember not only a scientific process but a vocabulary and jumping off point to use their own imaginations with the puppets).

Color -- Use crystals, prisms, water to show rainbow colors of light – let the children play with the rainbow color puppets and fairies ...

Outdoors – Light and Color – Have the children observe the play of light and shadow and colors, in different outdoor spaces.

Art or Journal Work – Drawing of outdoor light, shadow, colors.

WEEK 2 -- DAY 2

Verse, Song, and/or Dance -- Repeat and broaden the poems and songs of this Main Lesson.

Story and Discussion – Sun or Fire story, appropriate to theme of Light, Color, Heat.

Activities

Indoors -- **Solar Heat** – Use thermometers to compare the heating and cooling of materials. This explains the reason for the uneven heating of the earth's surface within a region.

Within regions temperatures may vary because different things absorb and retain heat to different degrees. We wear white because it heat up slowly and reflects light. Black absorbs the sun's heat. Ask the children: What heats the earth? How do we measure heat? Do all places all around the world heat up the same? (The sun strikes different places at different angles).

Procedures -- Cut the tops off of four paper cups, so that the remaining portion is about 4 cm tall. Fill 3 cups with one of the following, sand, soil, water and label them. Label the 4th cup air. Place the cups on the board in direct sunlight. Place a thermometer in each cup so that the bulb is covered by about 1 cm of material. Rest the top of each thermometer on an inverted cup as shown. Record temperatures. Put results in graph form on chalkboard and have students copy it into their journals. Assign pairs of students to take temperature readings at 5 minute intervals and record. Move the board with cups and thermometers in place to a shady area. Take five temperature readings at 5 minute intervals.

Discussion -- Which material heated the most rapidly? Which heated the most slowly? Why? How can you account for the differences in heating between the sand and soil? What would happen to the temperature readings if all of the materials were left in the sun for several hours or outside all night? Name some locations nearby where you would expect to find different temperatures.

Art / Journal -- When all of the readings have been taken, assist students as they work in small groups transferring the data to the graph in their journals. Help them use the graph to see and draw their conclusions.

Outdoors – **Solar Heat** – Divide the children into groups and help each group to build a simple “Grow Box” or mini-greenhouse. Materials needed: a small box for each group; black and white acrylic or tempera paint; cellophane; newspaper; cardboard; aluminum foil; tape; glue; scissors; thermometers. Each group place their box in the sun. Which group had the hottest box? Students can measure variations in temperature. Did anyone figure out about angling the box to maximize the surface exposed directly to the sun?

You can also – place jars that are filled with water and covered in the boxes. Put a thermometer taped to the side so it can be seen, inside the box. Make control boxes omitting some of the attributes. One box not painted black, one without a window, another without water jars. Compare the rate of growth in the different boxes. Which greenhouse stayed the warmest? Why? What does the water do?

Weather Station – Decide where you will put this, somewhere near your Solar Observatory. Set out a recording thermometer. This should be read, reset, and the results recorded every day the children are outdoors.

Art / Journal – Record grow box temperature measurements.

WINTER

MAIN LESSON - AIR

January

Plants breathe and enable us to breathe. The element of Air is essential to life.

One can respond to a very small child's questions about the clouds -- Oh the Air People create the clouds. Or the Cloud People... the Sylphs. We can tell stories of delicate and ethereal beings who help us communicate, for the element of Air is of the mind and thinking. The Air beings are very changeable in spirit -- now calm, now tumultuous.

WEEK 1 -- WIND

The wind is so important to all living things. It is caused by the unequal heating of the earth by the sun. As warm air expands and becomes lighter and rises up, cooler air flows in and fills the empty space. This creates the ever-changing weather patterns. The wind brings the rains and the snows from the oceans.

DAY 1

Verse, Song, and/or Dance -- There are many songs and poems to the wind.

*The moon is the North Wind's cookie,
He bites it day by day,
Until it is just a rim of scraps
That crumble all away.
The South Wind is a baker
He kneads clouds in his den.
And bakes a crisp new Moon
That greedy North Wind...eats...again.*

Activities

Indoors -- Wind Puppets and Music -- Make wind puppets. Our puppets can be birds or scarves or fairies. Music for stories and puppet shows introducing these characters might be recorders, flutes, panpipes - wind instruments. Have the children move around at different wind forces, from calm to breeze to gale to cyclone (measurements on the Beaufort Scale. Someone can play the pentatonic scale on xylophone and glockenspiel. (The pentatonic scale is never dissonant). Teach them a simple pentatonic wind melody. Bring in shadow puppet of sun and have it interact with wind.

Outdoors -- Observe the Wind -- Take the children to a high open hill to feel the wind. Have them fly around arms outstretched to meet the wind. Let them be tall mullein or corn stalks or cattails in the wind. How does the wind help? How do we need to protect the garden from it? Have them become clouds. Have them lie on their backs and see forms in the clouds. They can become wind eagles and other birds, they can experience the shift and changes that come with the wind. They can experience the wind with beautiful colored scarves.

Art or Journal Work -- Draw the Wind.

WEEK 1 -- DAY 2

Verse, Song -- repeat and broaden the poems and songs from Day 1.

WINDY NIGHTS

by Robert Louis Stevenson

*Whenever the moon and stars are set,
Whenever the wind is high,
All night long in the dark and wet,
A man goes riding by.
Late in the night when the fires are out,
Why does he gallop and gallop about?*

*Whenever the trees are crying aloud,
And ships are tossed at sea,
By, on the highway, low and loud,
By at the gallop goes he.
By at the gallop he goes, and then
By he comes back at the gallop again.*

Story and Discussion -- Gluscap and the Wind Eagle (or other story).

Oxygen-Carbon Dioxide Cycle – Animals including people breathe in Oxygen, breathe out Carbon Dioxide. Plants and micro-organisms breathe in Carbon Dioxide, breathe out Oxygen. The billions of micro-organisms in the soil and in the oceans keep O₂ and CO₂ levels in balance.

Activities

Indoors – Air Cycle Puppets – make puppets to act out the cycling of O₂ and CO₂ through plants and animals, on land and in the oceans.

Outdoors – Wind Games -- We will make a flag or windsock today for the garden. Put it near the Solar Observatory and weather station. Wind direction and relative force should be noted whenever the children do their outdoor observations. At our stone Observatory, now that we know where north, south, east and west are, we can see by our flag which way the wind is blowing. If you are very sensitive you can feel the direction of the wind on your face. Try it. You can also notice things outside. When it is calm, smoke rises vertically. The direction of the wind can be seen from the smoke drift even if it is a very calm wind. We can color paper streamer tapes to play with outside in the wind. Make pinwheels, kites. Play wind games like keeping balloons or silks aloft by blowing on them.

Wind-borne seeds -- Children can chase after airborne seeds. Milkweed, dandelions, lettuces, thistle. The children can blow and chase the seeds. The seeds give cues to the direction of the wind. Take seeds inside and release them above the radiator and watch the air and heat currents take the seeds. Compare how fast various different kinds of seeds blow. There are fluffy seeds and also the spinning kinds such as maples, ashes, lindens. Make-up games to play with the seed.

Art or Journal Work – Draw the O₂-CO₂ cycle -- A child with mouth open. Show carbon dioxide clouds going from his mouth to a plant and then show little clouds of oxygen coming from the tip of a plant leaf out back to the boy and entering the other side of his mouth. Show for other animals.

WEEK 2 -- CLIMATE

DAY 1 - Verse, Song, and/or Dance

Weather rhymes

Whether it's cold or whether it's hot, there will be weather whether or not.

Whether the weather be cold or whether the weather be hot

We'll weather the weather whatever the weather

Whether we like it or not.

Activities

Indoors -- **Global Weather Patterns** – Examine a spinning globe with the children. Discuss the winds of the world, caused by the Earth’s spinning. Also, the creation of wind by the sun (Earth’s surface heats up, warmer air rises, pulling cooler air in under it. As the warmer air rises, it begins to cool off and sink again. A cyclical motion is established).

Review Solar Cycles and Seasons – the effects of different intensities of Sun at different times of year.

Make puppets to enact the elements of the global weather patterns.

Outdoors – **Observe Weather Conditions** – Observe and record wind direction, temperature. Look for “micro-climates” – spots where it is warmer or cooler, drier or wetter than the area in general. Why?

Art or Journal Work – Draw aspects of the global weather patterns.

WEEK 2 -- DAY 2 -

Verse, Song – Continue with appropriate opening verse, song – repeat, broaden the poems and songs from Day 1.

Story and Discussion – explore stories that evoke Weather and Climate

Activities

Indoors – **The Mountain Climate Model** -- Discuss children’s observations of local weather and climate. Are winters/summers – warm or hot? Cool or cold? Dry or wet ? Explore the local mountains, from their bases to their summits. How do climate conditions change? How is this expressed in different plant communities at different elevations ? Discuss plant communities as indicators of climate conditions.

Also – in preparation for activities in early spring – put spring-flowering bulbs (daffodils, tulips, hyacinths) in refrigerator, to chill them prior to starting in pots indoors.

Outdoors – **Field Trip: The Mountain** – Explore changes in elevation in local landscape, with accompanying changes in plants.

Art or Journal Work – Draw the Mountain, showing the various climate changes with elevation.

WINTER

MAIN LESSON - WATER

January-February

Water is the creative element of life and many stories tell how life came forth from the spiritual waters. It is a source of life and death. It has rhythm and movement. It can be represented in puppetry with fluid blue silks. Crossing any body of water meant a change and a growth in most literature. You can set up a blue silk scarf on the floor representing the water and have them cross it at auspicious "crossings" in their own development and work in the class.

Children can stare for hours at the bugs and living things in water. If you can, give them that opportunity. If you feed their imaginations with tales of water spirits, those will come out in their school work, and in the depth with which they learn about nature. Together you can take these experiences and create puppet shows and writing projects (for the older children).

Water sprites in your drawings, tales and puppetry should be beautiful, and flowing and emotional, for the feeling realm has been attributed to the element of water.

Music for your stories and puppetry should come from fluid sounding instruments. Metals like a metallophone especially evokes the feeling of water.

Water is a wondrous element for children's play. A whole school curriculum could be written just on working, playing and becoming one with water. It is such a healing element. As a teacher you may have qualms about safety and waterplay and how far you will let them go with it. Yes -- walking outside in the rain and snow lets them experience the power of nature but what about their parents and their health? Well, see how far you can go with it. Prepare parents for it. Dry clothes in the classroom help and not staying out too long. Watching a class of children doing a joyful rain dance is a never to be forgotten experience. The warming up process indoors is very bonding for the group. Watching snow falling from the skies and becoming one with the snowy wind opens the children up to awe.

Trips to brooks and streams -- or to any body of water -- are so important. Lots of parent supervision is also very important. Wading in, splashing and playing in water. Little sticks become boats children make their own dams and bridges and play within the boundaries of their vast imaginations.

At school, if you have a hose and can let the children get wet in the warmer months that is good. Tubs of water with paper boats or wooden sticks with paper sails. Making rivulets in the garden with watering cans.

Water is an element that evokes intense experimentation and deep stirring of the imagination. Children will vie with one another for the privilege of cleaning up after weekly water color painting sessions. They love to see the bucket water change colors as the jars were cleaned and the painting rags were washed out with an old-fashioned scrubbing board.

MAIN LESSON - WATER

January-February

WEEK 1 -- WATER CYCLE (1)

In the Water Cycle, water is evaporated by the Sun from the land and from rivers, lakes and the oceans, into the air. Then clouds form. The wind pushes the clouds until eventually they get so full that rain or snow falls. Some of the water ("precipitation") is used by plants and animals. Some seeps deeper into the soil and into underlying rocks – perhaps to re-emerge later as springs. Some water runs off and forms rivulets, brooks, streams, rivers and finally ends up back in the ocean. And the cycle begins again.

DAY 1

Verse, Song, and/or Dance -- Water Songs

Activities

Indoors – Rain Music -- Rain sticks and tinkling hanging chimes can be the sound effects for water with the shadow puppet screen. Rattles can be used too. Make up a skit about the rain. Have Peter Spier's Book without words RAIN on hand. Have the children act out being the rain as a glockenspiel or any instrument goes up and down a soft pentatonic scale. The children rise and fall to the music. Some can be clouds and move white and grey and black silks across as others are the rain. Some are doing the instrument work. Have other children recite the rain rhythm Pitter Patter Rain Drop.

Tell the children a guided fantasy of a thunderstorm. This way they can become the storm. "It was a calm and sunny day as the children played outside. Some grey clouds began to roll across. There began to accumulate a mass of very gray clouds high up hiding the sun as lower clouds drifted in. (the lights are turned out). The birds had already realized a storm was coming and flew away to find shelter. Then some gentle drops begin to fall. You can start the gentle pitter pat. As you continue the story they will pat their thighs, then the floor faster and faster as the storm gets more intense. (You can flash the lights and have the sound of thunder by whatever means you want) and then reverse the rhythms as the rains becomes more gentle and the clouds break up and float away. The birds come out of hiding and drink the fresh clean water. The children come out to play again.

Here is a little rain rhythm children can do with words and their hands.

(Using soft two-finger tap on an open palm.)

Pitter patter, raindrops - splutter splatter raindrops

(Now use a swishing of the hands across each other)

Windshield wipers, windshield wipers, swish, swish, swish.

Take this rhythm further at the puppetry corner

The children can also do a body percussion imitation of a rainstorm from the gentle moving of the fingertips on the thighs and getting stronger on the chest until it comes down very hard as they tap on their thighs and then go back to the chest and the hands until the storm abates. Different children may lead the strengthening and abating of the storm.

MAIN LESSON - WATER

January-February

WEEK 1 -- DAY 1, continued

Outdoors -- Field Trip to the Creek -- When you ask a child where does water come from, the natural response is why from the sink and bathtub. If you can, take a trip to the source of your water, the natural reservoir or river. See if you can give them an idea of all the steps it takes to bring the water to the homes. Children as well as most adults have not been given any idea of the preciousness of water.

On trips to the creek or river watch for seeds that float on the water. Bodies of water carry seeds long ways. You can collect seeds and then have a contest to see how far downstream they float. Which shaped seeds float the best? You can set them on branches and makeshift boat and wish them well on their voyage.

Art or Journal Work -- Have students draw the Water Cycle.

DAY 2

Verse, Song -- Continue with appropriate opening verse, song -- repeat and broaden the poems and songs from Day 1.

Story and Discussion – water stories – water cycle.

Activities

Indoors – Water Cycle -- Puppet play and/or act out the water cycle;

Outdoors – Water Play -- Water play inside and out also keep the element of water alive to the children. The children are actually learning about irrigation systems when they make their own channels and dams in the dirt. Shutting off the water flow and letting it out again, thinking about its entrapment and liberation -- this is wonderful for the children's spatial minds.

Sandbox play with pails of water are just as good to learn about channels and dams. Heaps of gravel and rocks can make gutter channels as children pour water into them and make the conduits along which it will flow; At the curve of the flowing rivulet if you look for a steep bank on the outside of that curve that is where the fastest water is taking away soil. A shallow curve on the inside is where the flow is slower and depositing material. The children can build bridges over the conduits and bank to bank.

Water wheels are easy to construct and feed the imagination of future engineers. Sail driven and paddle driven little boats can be made in class. Finally little flat pieces of wood with candles on them can be sent out on a pond with wishes on them for an end of school festival.

Make and set up tin-can rainfall collectors (with millimeter ruler drawn on side). Put these at the Weather Station. The children should note any water collected in these cans each time they make their outdoor observations.

Art or Journal Work – Draw aspects of water play.

MAIN LESSON - WATER

January-February

WEEK 2 -- WATER CYCLE (2)

DAY 1

Verse, Song, and/or Dance -- Continue with appropriate opening verse, song.

Activities

Indoors – Water Cycling by Plants -- Here is an experiment in water being recycled. This plant waters itself. Put a plant in a plastic bag and seal the bag shut. Leave the plant where it usually sits and watch what happens. The plant absorbs water from the soil. The water travels up into the leaves, where it is "breathed out" by the plant. The water vapor can't escape. It sticks to the plastic bag which becomes "cloudy" and eventually falls back onto the plant or the soil. It has been recycled. Behold the water cycle!

Outdoors – Erosion -- When water from the melting snows in the Spring rushes over the land and through streams and rivers, it carries soil with it. Luckily, the grasses and trees keep most of the soil in place before it is all washed away. Nevertheless, when we cut away the forests and plow open the farmland, we leave the land exposed to wind and water erosion. Here is an experiment to see how it works and what we can do about it:

Have the children pile up a little mountain of sand or earth. With a hose or a bucket of water, wash away (erode) the mountain. After rebuilding the mountain, ask the children how we could protect it from erosion or at least slow it down. (Use twigs and sticks, rocks and pebbles). Now try using the hose or bucket again. What happened?

Art or Journal Work – Draw water running off the mountain.

WEEK 2 -- DAY 2

Verse, Song -- Continue with appropriate opening verse, song.

Story and Discussion – Continue with water stories.

Activities

Indoors – Model Watershed – Make a model watershed out of clay. Paint the model, to show mountains, uplands and lowlands, streams and rivers, lakes and ocean. Discuss inter-relationships of different parts of the watershed.

Outdoors – Model Watershed -- Make a model watershed. You will need dirt or sand, a hose or watering can and a water resistant surface that can be made into a slope. We will see that water doesn't move straight down a slope. It will swing in one direction and then in another. The water sculpts the land. Collect rocks and sticks to put on the land what happens to the water when these are added? Keep changing the slope of the board. What happens? How does the river change when it meets a rock? What happens when you put in plants and roots?

Observe water run-off ("drainage") patterns on school grounds – where does the water start? Where does it leave the grounds?

Art or Journal Work – Draw a watershed.

WINTER

MAIN LESSON - EARTH

February

When you are introducing this element be around things of the earth, rocks, trees, grass and the mud. Sharpen their senses to the feel and smell of the earth as well as the sounds and visible things. Look to the shadows. What do you see? Is it Melchior, the little gnome you just told them about. Can you see faces in the trees? Evoke gnome homes from the stumps of trees in the woods. Where else might they be living? What sort of character will you give to these gnomes? Think of human temperaments and characterize your gnomes differently from each other. Are the flower fairies helpers in the garden?

How can the child in particular experience the element of earth? Trips to caves, playing in sand and dirt and digging in the garden. Also, building things and experiencing the feel and weight of matter, using wood and clay and things of the earth. Using practical skills like raking and sweeping and shoveling snow. Hitching a dog to cardboard boxes and getting it to try to cooperate with hauling sticks and twigs or leaves around. Going out and gathering mulch from the forest floor or under trees that might not need quite as much as is there. Building the cold-frames, building things for the garden and building moving things that travel on the earth on wheels and skis are good ways. The old roller-skate scooters that kids used to make. Keeping our hands dirty and involved with the outdoors.

We will attune to the needs and changes of the earth in our immediate vicinity at our stone observatory. With the moving around and use of rocks to make borders and walls, we will describe and sort and write and draw about the stones. To go looking for stones of particular shapes and colors, to build up our soil and be involved in the composting and keeping of worms, will keep us closely tuned in.

WEEK 1

DAY 1 – THE PHYSICAL EARTH

Verse, Song – Verse, songs about the Earth, the Fire in the earth.

Story and Discussion – Discuss the physical Earth – the Fire at the Heart of the earth, and how it comes forth through volcanoes; the earth's crust, and the movements of pieces of crust.

Activities

Indoors – Earth Puppets – Make and create stories with puppets of the earth's Fire and rock layers.

Outdoors – Field Trip: Geology – take the children to a nearby place where rock formations are exposed (road cut, canyon) so that they can see and feel the different formations.

Art or Journal Work – Draw volcanoes and crust.

MAIN LESSON - EARTH

February

WEEK 1 -- DAY 2 – PLANTS AND LIFE

Verse, Song, and/or Dance – Earth verses and songs.

Activities

Indoors – **What Plants Need** – Encourage the children to talk about what plants need – what all living beings need in common – Sun, Air, Water, earth. And what else ?

Make and play with puppets of the plants and the elements of life.

Outdoors – **What Plants Need** – Observe plants on the school grounds. How are they getting their Sun’s light and heat (are they in shady or exposed places?); their Air, shelter (or not) from the wind; their Water; observe the kind of soil they grow in.

Build things to experience the feel and weight of matter, using wood and clay and things of the earth. Use practical skills like raking and sweeping and shoveling snow.

Art or Journal Work – Have the children draw a Corn plant in relation to all the cycles -- the Sun-season; Air-wind-climate; Water; Earth-rocks-soil-soil life.

WEEK 2

DAY 1 -- PLANTS AND HUMAN BEINGS

Verse, Song, and/or Dance – Verse and songs about culturally important plants – Corn.

Activities

Indoors – **Plant Uses** -- Children think of, share, list, act out all plant uses they know of -- foods, medicines, air, shelter, clothing, energy, cleaning up water and air....

Outdoors -- **Plant Uses** – Have children observe, inventory all visible plants, how they are of use to human beings.

Art or Journal Work -- Draw human being in a web of various plants for various uses

MAIN LESSON - EARTH

February

WEEK 2 -- DAY 2 -- THE WEB OF LIFE

Verse, Song – Verses and songs about the Web of Life.

Story and Discussion

Specific myths and fairy tales can be read to understand the earth fairy realm. Fairy tale reading can come at the end of the school day while the children freely draw the images you read. The early morning lesson time can be your stories and characterizations. Thus the imagination is strengthened.

Your elf or gnome or dwarf or flower fairy stories may be through mists in glens and hidden places of the earth. So the children will look for these fellows from their imaginations in nature and so become better observers of the seen from the unseen characters.

Make a story in which the earth spirits help the humans to restore land that has been misused. This instills the notion that with the cooperation of the land we can better care for and heal the earth where it is needed. In fact, it is easy to work with these imaginary characters to instill both the academics and the social qualities needed.

Activities

Indoors – Web of Life – Have the children choose a creature (animal or plant) or element (sun, air, water, earth), and make a web of life by connecting one another with ball of yarn, to indicate the relationships among the beings and between the beings and the elements. Make puppets and create stories about the web of life.

Outdoors – Web of Life – Observe expressions of web of life on the school grounds.

Continue building things, using practical skills.

Art or Journal Work – Record observations. Draw web of life.