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SUMMER

MAIN LESSON - WATER

June

WEEK 1 – DAY 1 -- GARDEN NEEDS

Verse, Song, and/or Dance – Summer water.

Activities

Indoors – Observation: What’s Happening in the Garden? -- Discuss process of detailed observation of what is happening in the garden. Do the plants need water? Dig around their bases to feel how moist the soil is. How are they growing? Examine shoots, leaves, stems, flower and fruit buds. Who is in the garden? Observe insects, reptiles, birds, other creatures. Detailed observations such as these will be made and recorded (with illustrations) in the children’s Garden Books at least once a week during the summer.

Also – discuss water art project – to build a waterfall sculpture out of rocks and stones, on which we will put the garden hose to create water music.

Outdoors – Observation – Tour all garden beds and carefully observe actual conditions of water, plant growth, garden creatures. Choose a place to build the waterfall sculpture. Assemble suitable interesting rocks. Try out various sounds made by water from the hose running over various configurations of rocks piled on one another.

Art or Journal Work – Record and make drawings of observations. Draw out what the waterfall sculpture might look like.

DAY 2

Verse, Song – Summer water.

Story and Discussion – Irrigation story: balancing plant needs with sun, wind and soil effects.

Activities

Indoors – Evaporation – Discuss evaporation by sun and wind. Assemble open pans to measure water evaporation: tupper-ware storage bins, foot-long wooden lathes, rulers in millimeters, fine-tipped waterproof markers, duct tape. Mark millimeter scale on lathes, tape one into each pan.

Outdoors – Irrigation – Set up evaporation pans in several places, including at Weather Station. Be sure they are level. Start watering garden as indicated by needs (feeling soil moisture, looking at surface of soil, plant leaves). Give the children the feel of watering by hand with buckets; with the garden hose. Show them how the drip irrigation system works (installed in April). Show them how to mulch the garden beds with straw or hay.

Set up one garden bed (or more) so that it can be flood irrigated with water from the garden hose. Work with the children to make small ditches to distribute the water evenly. Let them irrigate this way also.

Start building waterfall sculpture: mix mortar and mortar rocks together in pleasing design.

Art or Journal Work -- Record and make drawings of garden observations.

MAIN LESSON - WATER

(June)

WEEK 2 -- DAY 1 -- IRRIGATION AND MULCH (2)

Verse, Song, and/or Dance -- Summer water – the Creek.

Activities

Outdoors -- Field Trip to the Creek – Off to the Creek for water exploration and play. Each child should collect many smooth pebbles for later mosaic tile art-in-the-garden projects. (At school, be sure plants are watered).

Art or Journal Work – Draw observations at the Creek.

DAY 2

Verse, Song – Summer water.

Story and Discussion – The Creek.

Activities

Outdoors – Waterfall Sculpture -- Complete waterfall sculpture.

Garden observations: water, plant growth, creatures.

Continue watering and mulching garden as needed.

Art or Journal Work – Record and make drawings of garden observations.

SUMMER

MAIN LESSON -- INSECTS AND OTHER CREATURES

June - July

Children are entranced by the insect world. When the weather warms, we learn about the plants and insects. Insects and their larvae are feasting on the tender young plants. There are the leaf eaters, the fruit eaters, the stalk borers. Then happily there are the hero insects that feed on the pesky garden-eating insects. The most well-known of the hero/heroines is the ladybug. She (since she is called lady) eats the aphids.

Nature is performing in the garden with a cast of many highly visible and invisible characters. We will take time to observe the different parts and characters in the garden. We will become detectives and report our observations. Our earlier spring plants have been growing. Insects have moved in and made homes. Spiders live here. What do they provide? The cast of garden “pests” are only just coming - aphids may be the first. How do the bugs inter-relate? Ants and aphids have a special bond. What else is going on in the soap opera of the garden?

The children have been watching and playing with the bugs ever since the first appearance. With the story of Herman the Worm, their relationship to worms may have become more intense, but they were always fascinated. Children and crawling things are a wonderful match.

WEEK 1 -- OBSERVATION

DAY 1

Verse, Song, and/or Dance -- Nature stories about bees, ants, other creatures and plants. There are songs about garden life written by Steve Van Zandt, recorded by the Banana Slug String Band and available through LETS GET GROWING.

Activities

Indoors -- **Insect Puppets and Music** -- The indoor worm garden can be placed in the Nature corner, as also some blooms from bulbs and other garden and wild flowers.

Bug puppets are wonderful fun to make. A favorite is to get a slinky and cover it with a tube of material, a wad of paper mache at either end with needle eye places for strings. You can hang pipe cleaners or rope through it with wooden beads on each one for the legs or just have the cloth covered slinky move. The children love to move it. It's an easy puppet to handle and it has a very real and innocent gesture.

A play about the metamorphosis of the Butterfly. Spider puppets can be made from two oval or round styrofoam balls taped together with twine or pipe cleaner legs stuck into the styrofoam before it is covered with paper mache. A screw eye is inserted on top to tie a thin elastic to so that the spider can jump. It also has a strong gesture which the children love. Beetles of all sorts, invented and real. Centipedes, earwigs, ants. The garden soap opera can be easily enacted in puppetry. All sorts of bouncy music can be used for the instruments you have gathered.

MAIN LESSON -- INSECTS AND OTHER CREATURES

June - July

WEEK 1 -- DAY 1, continued

Outdoors -- Observations – Expand on the map of the garden which the children started during the Spring. Have them draw or write the plants, insects, worms, reptiles, birds and other creatures they see. The teacher will do a chalkboard drawing of Life in the Garden. Slugs, beetles any larvae all must be noted.

We must look for any signs of “pests” eating a plant and talk about what we can do about it. Has there been rain? Is the soil moist? Are there weeds? Have dogs or raccoons come to visit? Many maps and sketches can be made before a finished one will be entered in the drawings.

The students can choose one location in the garden to observe for a few weeks. They must note the habits of the insects there and the changes that are happening. They can have magnifying glasses (to be shared amongst the class), but it is an observation exercise only -- not a bug collecting one. You must help them by telling them what they need to do to be good detectives.

I have always tried to train my kids in “relaxed quiet”. Being relaxed and quiet has become a rare quality for children and adults as well. That’s one of the reasons I think sign language is an important tool in a classroom. There is so much one can observe, if only we can be quiet and watchful enough. So for this exercise, for the first five minutes, we will have silence and sign language only and thereafter there is whispering. Often the kids will be enjoying their silence so much that it continues.

A lot of questions might come up. What are the insects doing in the flowers? What about the sticky ones under leaves? Each student should discover several different kinds of insects in the soil, on the leaves or stems, inside of a flower. These should be reported.

Continue watering and mulching garden as needed.

Art or Journal Work -- Pictures of insects and other creatures observed, and inspired from the teacher’s chalkboard drawings. These will be sketches for the pebble mosaics the children will make.

Also, work on expanded garden maps.

MAIN LESSON -- INSECTS AND OTHER CREATURES

June - July

WEEK 1 -- DAY 2

Verse, Song – Summer – life in the garden.

Story and Discussion – Nature stories about bees, ants, other creatures and plants.

Activities

Indoors – Garden Creature Mosaic Tile – Each child will make a pebble mosaic of a garden creature observed. Tiles are made of ready-mix concrete poured into wooden form. Children use “Thin-Set” or other adhesive cement to stick pebbles to the tile surface, working from drawings already made.

Outdoors – Insect Observation -- The children will want to collect bugs and bring them indoors so I have always used baby food jars with holes punched into the lids. More comfortable cages can be made. However, I only allow the children to bring the bugs in for a little while and then they are either returned to the garden if they are helpful there or taken further away and let loose.

The children love sow bugs or “roly polys”. They are not really insects at all. They’re crustaceans. Use a wider container 12 inches wide and cover it with cardboard with holes poked into it. The pill bugs curl up in a ball when they are frightened. Count their legs. Remember it is not an insect. There are seven pairs of legs on it. there are also two antennae in the front. At the end of the antennae are eyes which see only light and dark. Fill the container with loose earth and put in some newspaper to be kept very moist. Pill bugs will dry up without enough moisture. You can place something that will make a cave-like place for the bug and cover it with dirt. You can find roly polys under rocks or anywhere it is damp and dark. Feed them vegetable peelings, lettuce leaves or decaying stuff from the garden. Experiment to see what the pill bugs like best to eat. Cover the container with cardboard and put it on the nature table. Don’t forget to take care to keep the bugs moist and fed with compost scraps. You can let them go after awhile.

Among the flowers of the garden you can find the nectar-eating insects such as caterpillars, moths and butterflies and bees. In the vegetable garden there will be many different kinds of larvae eating the plants. Some very helpful insects like the lady bugs , praying mantises and some ants are keeping the aphids in check. Beetles, snails, slugs grasshoppers, spiders, earwigs all have their story in the garden. Meanwhile under the soil a basement story is going on The earthworm is helping by tunneling through the soil and aerating it, breaking it up and allowing water to reach the roots of the plants.

We can specifically hunt for the homes of the insects and crawling things. Look for them under rocks and wood, in the bark of trees and in water. Spider webs can be between the plants or in corners of the gardens. ants build anthills or holes in the ground. Paper wasps make interesting paper like homes

Continue watering and mulching garden as needed.

Art or Journal Work -- Record and make drawings of observations.

MAIN LESSON -- INSECTS AND OTHER CREATURES

June - July

WEEK 2 -- POLLINATION

DAY 1

Verse, Song, and/or Dance – Summer - life in the garden.

Activities

Indoors – Complete garden creature mosaic tiles.

Outdoors – Pollination Through an Insect’s Eyes -- We can take turns using a dental mirror from the drugstore or do this exercise without one. With it, the child can explore the underside of the plant leaf and get up very close.

Try pretending you are Lady Bumblebee sipping nectar from a flower. Which colors of flowers do you like best? Which shapes? How do you feel when the sun is shining? When it is raining?

Where do you get the nectar? Can you see the pollen? What other tiny bugs live there? What does it smell like and feel when you go into the petals of the flower?

Now try being a grasshopper hiding in the grass.

Also -- Continue garden observations: water, plant growth, creatures.
Continue watering and mulching garden as needed.

Art or Journal Work -- Record and make drawings of observations.

Have the children draw how they think world might look for an insect which is pollinating a flower...

MAIN LESSON -- INSECTS AND OTHER CREATURES

June - July

WEEK 2 -- DAY 2

Verse, Song – Summer - life in the garden.

Story and Discussion -- We will want to learn how to encourage the helpful bugs. First we must learn more about the bugs themselves. There are many more species of insects than there are of all the other animals combined. There are at least a million different species. Insects have 6 legs whereas spiders have 8 and are not considered insects. They do live in the garden however and we will observe and draw them and their homes. We call some insects and spiders pests whereas others are beneficial. The truth is all have their place in the web of life – whether or not we know it. Nevertheless, we do want to protect the garden plants from the so-called garden pests.

Some Helpful Things Insects Do –

- Many bees and butterflies are pollinators
- Bees produce honey
- Many are food for birds, reptiles and other animals
- Some insects eat other insects that are harmful to the garden
- Silkworms make silk
- And what else ... ?

Insects that are Pests --

- Some caterpillars and beetles eat the crops
- Termites eat wood
- Mosquitoes and fleas transmit diseases
- Some insects bite
- Moths eat clothing
- And what else ... ?

However what would happen without insects? Consider again the web of life.

Without bees, needed to pollinate many fruits and vegetables, we wouldn't have fruits and vegetables. Certain animals depend upon insects for their diet – without these insects, birds, anteaters, frogs and fish would die out. There would be neither honey or silk. No fireflies in the night; no crickets chirping.

Activities

Indoors – Garden Creature Play -- The children can take turns being bees and flowers to experience pollination first hand. They can do a caterpillar walk, laying down with palms on the floor, they move up into a v with bottoms high in the air, then they walk their back feet towards their palms, walk their palms forward until they can lie down again, etc. or they can act out what it might be like for other creatures in the garden.

Outdoors -- Set out completed mosaic tiles of garden creatures.

Also -- Garden observations: water, plant growth, creatures.
Continue watering and mulching garden as needed.

Art or Journal Work – Draw the garden web of life; also, record and make drawings of observations.

SUMMER

MAIN LESSON - FLOWERS

July

WEEK 1 -- OBSERVATION

DAY 1

Verse, Song, and/or Dance – Summer flowers.

Activities

Indoors – **Flower Puppets and Music** – Make flower puppets. Enact garden life scenes and activities.

Outdoors – **Flower Survey** – Tour the garden, observe various different shapes and forms of flowers.

Also – choose several spots where it would be good to have a small garden bench. (Adults) place a straw bale at each spot – these will be plastered and provide surfaces for more garden pebble mosaics.

Also – Continue garden observations: water, plant growth, creatures.
Continue watering and mulching garden as needed.

Art or Journal Work – Draw flowers observed in the garden; these will be sketches for the mosaics.

DAY 2

Verse, Song– Expand summer flowers.

Story and Discussion – Flower families, and representatives – sunflowers (composites); pinks (regular flowers); alfalfa or pea (irregular).

Activities

Outdoors – **Straw Bale Benches** – With adult help, tie chicken wire over surfaces of each straw bale. Mix up some fine-grained cement mortar and plaster over all surfaces of each straw bale.

Also – **Collect Flower Types** -- Form groups of four to five children and one adult each; each group visit different part of garden, carefully pick one per child of each flower type:

Composite - sunflowers; Regular - pinks; Irregular - alfalfa

Also – Continue garden observations: water, plant growth, creatures.
Continue watering and mulching garden as needed.

Indoors -- Have children press their flowers.

Art or Journal Work -- Draw flowers in the garden Web of Life; these will be sketches for the mosaics.

MAIN LESSON - FLOWERS

July

WEEK 2 – FLOWER MOSAICS

DAY 1

Verse, Song, and/or Dance – Summer flowers.

Activities

Indoors – Flower Mosaic Tiles – Prepare cement tiles and have children start pebble mosaics from their flower drawings (as we did for garden creatures mosaics).

Outdoors – Flower Mosaics on Straw Bale Benches – Draw flowers in garden Web of Life on surfaces of plastered straw bale benches. Start pebble mosaics.

Also – Continue garden observations: water, plant growth, creatures.
Continue watering and mulching garden as needed.

Art or Journal Work -- Record and make drawings of garden observations.

DAY 2

Verse, Song – Summer flowers.

Story and Discussion – Flowers in the Web of Life.

Activities

Indoors – Complete flower mosaics on tiles.

Outdoors – Continue work on Flowers in Web of Life mosaics on straw bale benches.

Also – Continue garden observations: water, plant growth, creatures.
Continue watering and mulching garden as needed.

Art or Journal Work -- Record and make drawings of garden observations.

SUMMER

MAIN LESSON - FRUITS

July-August

WEEK 1 -- THEME - OBSERVATION

DAY 1

Verse, Song, and/or Dance – Summer fruits.

Activities

Indoors – Flowers and Fruits Puppets and Music – Make and create stories with Flower and Fruit puppets and music.

Outdoors – Garden Fruit Survey -- Tour the garden, observe and note various different shapes and forms of fruits on flowers as well as on food crops.

Complete work on flowers in Web of Life mosaics on straw bale benches.

Also – Continue garden observations: water, plant growth, creatures.
Continue watering and mulching garden as needed.

Art or Journal Work Record and make drawings of observations. Make drawings of fruits observed, as sketches for fruit pebble mosaic tiles.

DAY 2

Verse, Song – Continue, expand Summer fruits.

Story and Discussion – Fruits – who loves them? Story and discussion about what creatures especially like to eat fruits of various kinds.

Activities

Indoors -- Fruit Mosaic Tiles – Prepare cement tiles and have children start pebble mosaics from their fruit drawings (as we did for mosaics of garden creatures and flowers).

Outdoors -- Continue garden observations: water, plant growth, creatures.
Continue watering and mulching garden as needed.

Art or Journal Work -- Record and make drawings of garden observations. Draw ‘who loves fruits’.

MAIN LESSON - FRUITS

July-August

WEEK 2 -- THEME - OBSERVATION

DAY 1

Verse, Song, and/or Dance – Continue, expand Summer fruits.

Activities

Outdoors – Field Trip to Area Gardens – Take a field trip to one or more gardens in the area to observe what is happening in those gardens.

(Also be sure that our garden has enough water).

Art or Journal Work -- Make drawings of observations in gardens visited.

DAY 2

Verse, Song – Continue, expand Summer fruits.

Story and Discussion – Fruits - how do they get around? Stories and discussion of how fruits help plants get their seeds to new places.

Activities

Outdoors – Set fruit mosaic tiles out in garden.

Continue garden observations: water, plant growth, creatures. Continue watering and mulching garden as needed.

Art or Journal Work -- Record and make drawings of observations. Draw garden in full flush of summer .