

Summary

Young children are curious about the things in their world. Encourage their exploration in the Science and Nature Center, where children become scientists, learning about materials they have seen, or exploring new items that capture their interest. This area allows children to examine things closely, compare and contrast, and draw conclusions about their observations. In this center, nature and young children combine to produce a stimulating environment that provides a positive base for the beginnings of scientific inquiry.

Introducing the Center

Bring in a nature item that will be of interest to the children during circle or group time. For example, in the fall you could share acorns, pinecones, various nuts, bird nests, and so on. In the spring use a flower bulb, such as narcissus or crocus, to stimulate interest, talk about planting, and make predictions about the blooms. Then, place the bulbs and materials needed for planting in the Science and Nature Center where children can plan, observe, and record the changes that take place. Also, set up a chart where children can document the plants' growth and changes.

Learning Objectives for Children in the Science and Nature Center

1. To learn about the natural environment.
2. To encourage experimentation with materials and tools.
3. To gain an appreciation for the use of scientific methods of inquiry.
4. To follow a systematic method for observing and recording information.
5. To nurture an interest in nature and the environment in which they live.

Time Frame for the Science and Nature Center

Use the Science and Nature Center throughout the year—adding items that are part of seasonal changes as those changes occur. Basic science items, such as a magnifying glass, clear plastic containers, and so on, can remain the same while the new natural, seasonal items will help renew interest in the center over time.



Note: The attached CD contains a sample letter to send to families, introducing them to the Science and Nature Center.



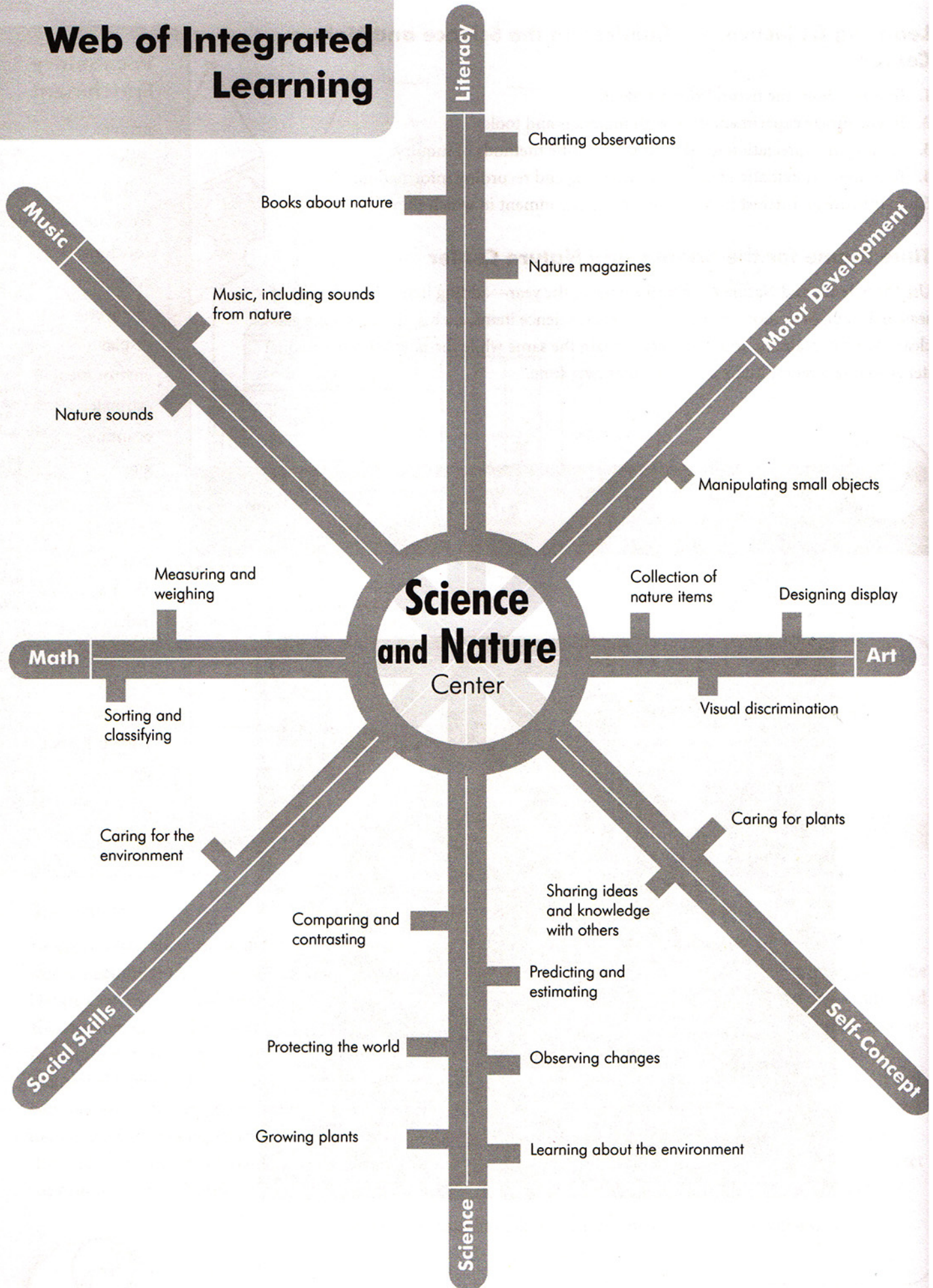
A Science and Nature Center invites children to examine objects.

Vocabulary Enrichment

arrange
chart
collect
compare
conclusion
curious
discover
display
environment
estimate
examine
guess
label
measure
nature
observe
order
predict
protect
question
same/different
select
sort/classify
time



Web of Integrated Learning



Family- or Teacher-Collected Props for the Science and Nature Center

- aquarium (for fish or for growing plants)
- balance scale
- boxes for display
- chart paper and markers
- class pet (guinea pig, white mouse, hermit crab, or hamster)
- clear plastic jars with lids
- eyedroppers
- funnels
- gloves
- large colander
- large magnifying glass
- measuring tools, cups, spoons
- plastic tubing
- plastic tubs
- sponges
- tweezers
- unbreakable mirror



How does a frog feel?



Collections

MATH

collection of nature items:

acorns	leaves
birdseed	moss
butterflies	pinecones
feathers	plants
flowers	rocks
insects	shells
plastic containers	twigs

- Bring the children on a nature walk and collect various nature items.
- Set out several plastic containers that the children can use to collect, sort, and store their natural items.
- The children can examine, compare, and contrast the items in their collections.

Tunneling Worm Farm

SCIENCE

bag of potting soil
 clear plastic 1-liter bottles (soda bottles work well)
 duct tape
 piece of black construction paper
 scissors
 spray bottle filled with water, or access to a sink
 tape
 vegetable or fruit scraps or honey with cornmeal
 worms dug from flower beds (spring through fall) or purchased from
 bait store/fishing shop or pet shop

- Cut the top portions off of several clear plastic bottles. Cover any sharp edges with duct tape. Make a few small holes in their bottoms to drain excess water (adult-only step).
- Set out the containers for the children to wash and clean.
- The children measure and dip potting soil into the plastic containers, filling them so the soil stands 2"–3" from the top.
- The children use the spray bottle or sink to spray the dirt with water.
- Set out the container of worms. The children place a few on the tops of their containers. The worms will dig their way into the soil.
- Help the children cover the outsides of their bottles with black construction paper. This will encourage the worms to build tunnels next to the bottles' clear walls.
- Later, the children remove the construction paper for a view of the tunnels. Place the paper back on the bottle after viewing, so the worms will continue to have a good environment for living and sleeping.
- Feed worms with vegetable/fruit scraps or honey with cornmeal by placing the food on the top of the soil.

Growing Plants

SCIENCE

pot with soil, cup and toothpicks, or rooting compound markers
seeds, a potato, or plant paper

- With the children, grow plants from seeds, from a potato, or from plants propagated from another plant.
- Observe and record the changes that occur as the plant grows.

Litter Collection

SOCIAL SKILLS

garbage bags latex gloves

- During outdoor time, provide the children with several bags for them to use to collect litter. Be sure to remind the children only to collect litter that is free of contaminants (no food wrappers or obviously germ-ridden items).
Note: Give the children gloves to wear as they collect the litter.
- Place the litter in the Science and Nature Center and engage the children in a comparison of these items to nature items.

Nature Walk

LITERACY

Lost in the Woods by Carl R. Sams chart table paper and markers

- Read *Lost in the Woods* to the children.
- Take the children on a nature walk.
- After the walk, ask the children to draw the things they saw on their trip or help them make a chart of what they saw.
- If the children make drawings, attach the drawings to a large piece of paper in the order in which the children observed them.

Predicting and Estimating

SCIENCE

chart
markers
materials from nature

- Pose questions to the children, such as: “How many acorns are in this jar?” or “Which is heavier, a container of leaves or a container of pine needles?”
- Encourage the children to find answers by experimenting with materials in the center.
- Record the results on a chart in the Science and Nature Center.



nature items playdough

- Show the children how to create impressions of natural items by pressing them into playdough.
- Examine the impressions with the children, looking for and identifying details.
- The children can let the playdough harden so it keeps its impression, or they can return it to its container to use it again later.

Rocks

MATH

collection of rocks measuring tape or ruler
scale

- Add a collection of rocks to the Science and Nature Center.
- Invite the children to pick up and compare and contrast the rocks.
- The children can weigh, measure, and classify the rocks in their collection.

Rubbings

ART

crayons with paper removed paper

- Show the children how to make rubbings of nature items by placing paper over the items and rubbing the paper with a dark, peeled crayon.
- Once the children finish their rubbings, ask them to bring all the rubbings to the Science and Nature Center.
- Engage the children in a discussion of the differences and similarities between the various rubbings.

Adding Spark to the Science and Nature Center

Place straws next to a plastic bowl containing a mixture of dishwashing liquid and warm water about 2"–3" deep. Encourage children in the center to investigate the mixture to see how they can use straws to manipulate and change the liquid. Let children record their experiences by drawing pictures of their observations.

The Essential Literacy Connection**Reading/Writing Opportunities**

- Make pamphlets and reference books about nature, science, and experiments available to the children.
- Create charts the children can use for observation and study, and help them record information on charts.
- Label items so the children can experience the spelling of the items' names.
- Graph, chart, and record information the children collect in the center.
- Keep a journal of what the children see and experience on a nature walk or field trip.

Other Printed Materials

- Bring in a book about the care of the class pet.
- Provide science magazines, such as *Your Big Backyard* and *Ranger Rick*.

Books for the Science and Nature Center

- Carle, E. 2004. *A House for Hermit Crab*. New York: Little Simon. *Hermit Crab moves out of his small home on the sea floor in search of a new residence. He meets many friends along the way in his quest for finding the perfect home.*
- Fleming, D. 1995. *In the Tall, Tall Grass*. New York: Henry Holt. *Bold, bright, stylized collage illustrations capture the eye and imagination while the simple, rhyming text tells this outstanding nature tale.*
- Hawes, J. 1991. *Fireflies in the Night*. Illustrated by Ellen Alexander. New York: HarperCollins. *A favorite grandfather shares the magic of nature with a little girl.*
- Hoban, T. 1990. *Shadows and Reflections*. New York: Greenwillow. *Photographs without text illustrate shadows and reflections of various objects, animals, and people.*
- Sams, Carl R., & Stoick, Jean. 2004. *Lost in the Woods: A Photographic Fantasy*. Milford, MI: Carl R. Sams Photography. *The forest is abuzz over a newborn fawn. Various creatures have spotted him and all are worried that he may be lost. Despite his assurance that he is just waiting for his mother, the animals chime in with comments and offers of help. She returns, time passes, and the fawn grows stronger. He sees other young animals maturing, and by the end of the story, he is big enough to go exploring with his mother.*
- Wick, W. 2004. *Can You See What I See? Cool collections: picture puzzles to search and solve*. New York: Scholastic, Inc. *Readers search for hidden objects in photographs of buttons, dinosaurs, robots, shells, cars, animals, leaves, beads, game pieces, and the contents of a junk drawer.*

Evaluation of the Science and Nature Center

(This form is on the CD that comes with this book.)

Ask yourself the following questions to evaluate the Science and Nature Center in your classroom:

- Are children interested in the items included in the Science and Nature Center?
- Are children talking to each other about the nature items?
- Are children examining and exploring materials with the tools available in a systematic way?
- Are the children using charting and/or other methods to record information?
- Are the children finding new ways to learn about nature?

Observation of the Individual Child

(This form is on the CD that comes with this book. Always date observations of each child.)

- What interests the child the most in the Science and Nature Center?
- Is the child using new vocabulary in communication or play? What is an example?
- Is this child studying items in a systematic way? How?
- Have you seen the child enter records on a chart or in a book? Explain.
- Is the child using books, brochures, and charts in the center? Which is she using, and how?

