

NSTA Connection

Overview of the ISLE Matter unit.

The Matter unit begins with children exploring weather phenomena. After the read-alouds of the books *What Is the Weather Today?* (Fowler 1991) and *When a Storm Comes Up* (Fowler 1995), the class creates a weather word bank and then each child starts a weather chart (with pictures and words) that is kept for about 10 days.

The unit moves to beginning ideas about the water cycle with the read-aloud of the books *What Do You See in a Cloud?* (Fowler 1996) and *It Could Still Be Water* (Fowler 1992). Children work in groups to conduct an evaporation experiment where they observe, measure, and record how the water level changes in graduated cylinders over a period of time at various locations in the classroom.

As the unit continues, children explore properties of solids, liquids, and gases through the read-aloud of the first part of the book *What Is the World Made Of?* (Zoehfeld 1998) and an exploration where they use everyday objects to sort them into different states of matter and discuss reasons. Children then study more the gaseous state of air through the read-aloud of *Air Is All Around You* (Branley 1986), and they engage in the exploration presented in the book where they submerge a cup, with a paper towel stuffed in its the bottom, upside down in a bowl of water and notice that it does not get wet due to the existence of air and the space it takes.

Next students engage in a read-aloud of the second part of *What Is the World Made Of?* and participate in a number of explorations that involve changes of states of matter: children melt an ice cube in a baggie as fast as they can; they observe wet paper towels dry in different formations (flat on a surface, hanging down, and crumpled up in a ball); they observe and explain why a frozen and sealed water bottle “sweat;” and they describe and explain how the teacher makes rain by holding a cold cookie sheet on top of boiling water. Next, students explore the idea that matter is made of molecules that behave differently at different states through a drama activity where they act as molecules within solids, liquids, and gases and the CD-ROM *States of Matter* (1997).

The unit then returns to the water cycle and how rain is made through the read-aloud *Down Comes the Rain* (Branley 1983), which is also the book that is sent home as part of a home project that also includes an exploration of drying up paper towels in different configurations and at different places at their homes. Another exploration, where students observe and draw a drop of food coloring spreading through a cup of water in different temperatures, offers them an opportunity to think about how molecules “wiggle” faster in higher temperatures.

Toward the end of the unit, students participate in literature circles with the books: *Snow Is Falling* (Branley 1986), *What Will the Weather Be?* (DeWitt 1991), *Feel the Wind* (Dorros 1989), *Weather Words and What They Mean* (Gibbons 1990), *Water Cycle* (Hughes 2004), and *Rain* (Miles 2005).

Resources

- Branley, F.M. 1983. *Down comes the rain*. New York: Harper Collins.
- Branley, F.M. 1986. *Air is all around you*. New York: Harper Collins.
- Branley, F.M. 1986. *Snow is falling*. New York: Harper Collins.
- DeWitt, L.1991. *What will the weather be?* New York: Harper Collins.

Dorros, A. 1989. *Feel the wind*. New York: Harper Collins.
Fowler, A. 1991. *What's the weather today?* New York: Children's Press.
Fowler, A. 1992. *It could still be water*. New York: Children's Press.
Fowler, A. 1995. *When a storm comes up?* New York: Children's Press.
Fowler, A. 1996. *What do you see in a cloud?* New York: Children's Press.
Gibbons, G. 1990. *Weather words and what they mean*. New York: Holiday House.
Hughes, M. 2004. *Water cycle*. Chicago: Heinemann Library.
New Media. 1997. States of matter, multimedia CD-Rom for PC and Macintosh. New York: Facts on File.
Miles, E. 1997. *Rain*. Chicago: Heinemann Library.
Zoehfeld, K.W. 1998. *What is the world made of? All about solids, liquids, and gases*. New York: Harper Collins.

Overview of the ISLE Forest unit.

The Forest unit begins with children sharing their images of a forest where they think of what is found under, on, and above the ground, and they participate in read-alouds of the books *In the Forest* (First Discovery Book 2002), and *A Forest Community* (Massie 2000). They then zoom in the underground world with the read-alouds of *Animals Under the Ground* (Fowler 1997), *Earthworms* (Llewellyn 2000), and *An Earthworm's Life* (Himmelman 2000).

Children observe and study worm behavior (in light vs. dark and wet vs. dry environments), and they then move to studying seeds and plants through read-alouds of *Seeds* (Saunders-Smith 1998) and *From Seed to Plant* (Gibbons 1991), and several hands-on explorations. Children plant and observe the growth of a lima bean plant; they study the effects of light and water on plants over a period of time; and they investigate ways in which various seeds travel. The home project starts as children read and discuss the book *From Seed to Plant* with their families and plant, observe, and record the growth of lentils.

The unit continues with the study of trees through the website *Trees Are Terrific* (www.urbanext.uiuc.edu/SchoolsOnline/index.html) and the read-aloud of *A Log's Life* (Pfeffer 1997). Read-alouds of parts of *A Forest Community* on owls, chipmunks, and termites give children opportunities to learn about features, behaviors, needs, and enemies of these animals. Next, a hands-on exploration on camouflage, where children pick up different-color dots spread on differently-patterned fabrics, helps them discuss camouflage relative to prey-predator relationships.

Read-alouds of *Starting Life: Frog* (Llewellyn 2003), *Look Out For Turtles!* (Berger 1992), and *About Fish* (Sill 2002) follow. The class then conducts literature-circle activities with the books: *Tunneling Earthworms* (Dell'Oro 2001), *Inside an Ant Colony* (Fowler 1998), *From Seed to Plant* (Fowler 2001), *Snakes Are Hunters* (Lauber 1988), *Chipmunks* (Whitehouse 2004), and *Quiet Owls* (Riley 2001).

Before the end of the unit, children explore food chains and webs through the read-aloud of *Who Eats What?* (Lauber 1995) and a drama activity where each student is assigned to a particular animal or plant in the forest, and the class acts out interdependency in a forest community.

Resources

Berger, M. 1992. *Look out for turtles!* New York: HarperCollins.

Dell'Oro, S.P. 2001. *Tunneling earthworms*. Minneapolis, MN: Lerner.

First Discovery Book. 2002. *In the forest*. New York: Scholastic.

Fowler, A. 1997. *Animals under the ground*. New York: Children's Press.

Fowler, A. 1998. *Inside an ant colony*. New York: Children's Press.

Fowler, A. 2001. *From seed to plant*. New York: Children's Press.

Gibbons, B. 1991. *From seed to plant*. New York: Holiday House.

Himmelman, J. 2000. *An earthworm's life*. New York: Children's Press.

Lauber, P. 1988. *Snakes are hunters*. New York: HarperCollins.

Lauber, P. 1995. *Who eats what?: Food chains and food webs*. New York: HarperCollins.

Llewellyn, C. 2000. *Earthworms*. New York: Franklin Watts.

Llewellyn, C. 2003. *Starting life: Frog*. Chanhassen, MN: Northword.

Massie, E. 2000. *A forest community*. Austin, TX: Streck-Vaughn.

Pfeffer, W. 1997. *A log's life*. New York: Simon and Schuster.

Riley, J. 2001. *Quiet owls*. Minneapolis, MN: Lerner.

Saunders-Smith, G. 1998. *Seeds*. Mankato, MN: Pebble Books.

Sill, C. 2002. *About fish: A guide for children*. Atlanta: Peachtree.

Whitehouse, P. 2004. *Chipmunks*. Chicago: Heinemann Library.