

Preschool Science


Remember to do the following when teaching a new science concept:

1. Let the kids experiment with the materials whenever possible before doing an experiment. If they can touch the things they will be working with then they will participate more when doing an experiment.
2. When doing an experiment pause and allow the children time to think about what may happen. If possible allow them to manipulate the experiment.
3. Ask open ended questions.
4. Be on hand to direct the materials in an appropriate manner.
5. Whenever possible add the materials to the science center for the children to manipulate on their own after doing an experiment.

Illinois Early Learning Standards

Illinois State Board of Education

Science Benchmarks

 Uses senses to explore and observe materials and natural phenomena.

- Collect, describe, and record information.
- Uses scientific tools such as thermometers, balance scales and magnifying glass for investigation.
- Become familiar with the use of devices incorporating technology.
- Investigate and categorize living things in the environment.
- Show an awareness of changes that occur in themselves and their environment.
- Describe and compare basic needs of living things.
- Make comparisons among objects that have been observed.
- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
- Use common weather-related vocabulary (e.g. rainy, snowy, sunny, windy)
- Participate in recycling in their environment.
- Identify basic concepts associated with night/day and seasons.
- Begin to understand basic safety principles.
- Express wonder and ask questions about their world.
- Begin to be aware of technology and how it affects their lives.

Rocks

Touch and feel rocks box

Goal: To use the sense of touch to feel what is in the box and use language skills to describe items.

Procedure: Teacher prep: Using a small box (can be shoe box or small mailing box). Put a hole in one end of the box. Fill with rocks of various textures, sizes, and shapes.

Have the children reach in one at a time and feel around. Encourage them to use their words to describe what they are feeling. When all have had a turn take the rocks out one at a time and talk about them.

Learning standard(s):

- Make comparisons among objects that have been observed.
- Uses senses to explore and observe materials and natural phenomena.

Rock sort

Goal: To sort rocks by texture.

Procedure: Teacher prep: Glue a piece of sandpaper onto a piece of construction paper and label with the word rough. Label another piece of construction paper smooth.

Have the children feel both the rough and smooth paper. Talk about the differences. Then have them sort the rough feeling rocks onto the

sandpaper and the smooth rocks onto the plain paper. Talk about their choices and how maybe a rock could fit in both categories.

This can be extended to also count the rocks in each category as well as asking them to add the total.

Learning standards:

- Collect, describe, and record information.
- Make comparisons among objects that have been observed.

Volcano

Goal: To show how some rocks are formed.

Procedure: There are two ways to do this experiment.

- 1) In a clear cup fill bottom $\frac{1}{4}$ with baking soda. Can add red food coloring if desired to make look more like lava. Then I set it on something to contain the mess we are about to make. Add vinegar. It will go everywhere.

This is the safer version and can let the kids pour in the ingredients.

- 2) In a clear up fill bottom $\frac{1}{4}$ with yeast. Can add red food coloring to make look like lava if desired. Then I set it on something to contain the mess (foil pan). Then add peroxide. It will erupt.

With this I also have some volcanic ash and volcanic rocks that were donated to me for the children to look and explore.

Learning Standard(s):

- Make comparisons among objects that have been observed.

- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
- Begin to understand basic safety principles.

This unit can also include making fossils using modeling clay and objects found in the class room.

???Can also include geodes which can be ordered from Oriental Trading.

Can sort rocks by various attributes-size, colors, textures.

Can go outside on a rock hunt.

Can be used in an art activity. Using a coffee can put a piece of tagboard inside. Add small rocks and a dollop of paint. Put the lid on and shake. (perpetual preschool.com)

Can be extended to snack ideas as well.

?? cookbook Sticks and stones

4 cups of Kix cereal

2 cups of pretzel sticks

1/3 cup of margarine or butter, melted

¼ teaspoon of Worcestershire sauce

2 cups of raisins

1. Heat the oven to 300 degrees.
2. Mix cereal and pretzel sticks in an ungreased rectangular pan, 13x 9x2 inches.
3. Stir margarine and Worcestershire sauce in small bowl. Pour over cereal mixture, tossing until evenly coated.
4. Bake uncovered 25 minutes stirring occasionally.

5. Stir in raisins. Cool. Store in an airtight container.
Makes 8 cups of snack.

Air and Gravity

Tornado

Goal: To view wind currents in another medium.

Procedure: There are a couple of ways to do this as well. There are available to purchase the special cap that can be put on two liter bottles to create the seal. Then you simply shake the bottles and watch the tornado. If however you don't want to hunt for the special cap you can make one. If you cut out the end of a 35 mm film container those fit on the end of the two liter bottles as well. I usually use tape around it when I do it. I also have taped two water or soda bottles together and put those in the water table. This way the children can do it themselves.

(If you ask at Walmart, Walgreens, or wherever they process film and tell them you would like empty film containers they will give them to you.)

Learning Standards:

- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
- Express wonder and ask questions about their world.

Wind Chimes

Goal: To be able to use the senses to aid understanding of the natural world.

Procedure:

Clay flower pots (with the hole in the bottom for the water to drain), twine, nut (bolt and screw kind of nut) and tempera paint. Have the children use the paint to make a design of their choice on the pots. Put the twine through the hole on the bottom and tie a knot. On the twine so that the nut will bump into the pot tie the nut onto the twine. Tie the other end of the twine to a tree branch. Listen for the wind to move your chime.

Learning Standard:

- Uses scientific tools such as thermometers, balance scales and magnifying glass for investigation.
- Show an awareness of changes that occur in themselves and their environment.
- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
- Use common weather-related vocabulary (e.g. rainy, snowy, sunny, windy)

Pinwheel

Goal: to be able to see the wind move and how the wind does work.

Procedure: You can buy pinwheels and let the children use those to experiment with wind. You can also make a pinwheel. You cut out a square and allow the children to decorate. Then cut from the corners

about 3 inches into the center. Fold each corner to the center and secure with a brad and put the brad through a straw. Then let the children experiment with them.

I have also put some outside in a flower box and let them see what happens when the wind blows.

Learning Standards:

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- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
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Seal with Air

Goal: To demonstrate that air takes up space.

Procedure:

Fill a bowl half way with water. Put an empty plastic bottle upside down in the bowl Squeeze it. It creates bubbles and shows that there is air in the bottle. Let the children try it out.

Learning Standards:

- Uses senses to explore and observe materials and natural phenomena.
- Express wonder and ask questions about their world

Cotton Ball Races

Goal: To show that air does work.

Procedure: Give each participant a straw. Then place several cotton balls on the table. Show the children how to move the cotton balls

down the table (track) by blowing through the straw. Tell them you want to see who can get the cotton ball down the track first. Talk about how their air did the work of moving the cotton balls without their hands touching it. Ask if they have ever seen anything else move like this (wind blowing leaves, snowflakes, paper)

Learning Standards:

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- Investigate and categorize living things in the environment.
- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
- Use common weather-related vocabulary (e.g. rainy, snowy, sunny, windy)

Gravity

Goal: To talk about why the penny fell.

Procedure: Hold the penny out and let go. Have each student get one toy from the room and take turns dropping their selected items.

Ask: what happened? Can you make it stay in the air? Does it ever go up? What makes the object fall to the floor?

Song: “twinkle, twinkle little star”

Hold a penny out from you.

Drop it on the count of two.

Penny in the air no more.

Penny now is on the floor.

What goes up comes down, you see.

All because of gravity. (Carson Dellosa Publishing CD -7300)





Learning Standards:

Kite

Goal: To see how air moves.

Procedure: you can either make a kite or purchase a kite.

Learning Standards:

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-  Use common weather-related vocabulary (e.g. rainy, snowy, sunny, windy)

Simple Machines

Goal: To see how much work the machine can do.

Procedure: use two pieces of paper and three Styrofoam cups and 12 washers or pennies. Use two of the Styrofoam cups and one piece of paper to make a bridge. Put the 3rd cup on top

of the bridge in the center. Then accordion fold a piece of paper and place over two cups. Put a 3rd cup on top. Add pennies or washers one at a time to see which bridge is the strongest.

Can experiment with the folds in the paper to see if more or fewer folds make a difference.

Learning standards:


- Collect, describe, and record information.
- Uses scientific tools such as thermometers, balance scales and magnifying glass for investigation.

Mechanical Advantage

Goal: To create a simple machine.

Procedure: using a pencil, ruler, and small objects like paper clips and pencil tip erasers place the ruler on top of the pencil. Then use the smaller objects to balance the ruler. Talk about how it can balance items. Then using a penny and a milk jug lid show how the penny can lift the milk jug lid-mechanical advantage.

Learning standards:


-  Uses senses to explore and observe materials and natural phenomena.
- Collect, describe, and record information.
- Uses scientific tools such as thermometers, balance scales and magnifying glass for investigation.
- Become familiar with the use of devices incorporating technology.

Inclined Plane

Goal: To show how a machine can do work.

Procedure: Using a wooden block and a piece of cardboard or posterboard create a ramp. Then allow the children to race cars down it. Allow them to talk about how it would work if it was higher lower longer or shorter. Then let them test out their hypothesis.

Learning Standards:

 Uses senses to explore and observe materials and natural phenomena.

- Collect, describe, and record information.
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- Become familiar with the use of devices incorporating technology.


Cars

Goal: To experiment with how the surface effects the movement of an object.

Procedure: Using a box let the children turn it into a car.

Then ask them what they think will work better if the car will move better on a rough surface like a carpet or a smooth surface like the tile? Then test it out.

Learning Standard:

 Uses senses to explore and observe materials and natural phenomena.

- Collect, describe, and record information.
- Uses scientific tools such as thermometers, balance scales and magnifying glass for investigation.
- Become familiar with the use of devices incorporating technology.

Life Cycles

Can purchase butterflies, ladybugs, or tadpoles to watch and observe. Go on a nature walk and observe what new babies are born when spring comes.

I use Eric Carle to teach about butterflies. His book The Very Hungry Caterpillar is excellent for that.

This is when I also like to use books that have the real photos not illustrations to show what the cycle of the animal looks like so they can see.

Recycling

Goal: To show how to reduce or reuse things in our classroom.

Procedure: I have a muffin tin that I use to have the kids peel the paper off broken crayons. They sort the colors in muffin tins and then I melt them in the oven. Once they cool again they can be used to write again. I also have mixed colors and they have rainbow crayons to use.

Learning goal:

- Participate in recycling in their environment.

Insects

Goal: To see various types of insects in nature.

Procedure: I have the kids make binoculars with paper towel rolls and yarn. Cut the paper towel roll in half and then glue or tape together. The kids can decorate them. Punch holes in the sides of the paper towel roll and add yarn to be able to put them around their neck. Then use them to go outside on a bug hunt. I give them a film canister or a play dough container. I

take my camera as well. We go outside and try to figure out where the best place to find insects would be. Then they try to capture the insects in our container. We take their picture and then let the insects go after all they like to live outdoors. Later we use the photos for a class book or bulletin board display.

Learning standards:

- Collect, describe, and record information.
- Uses scientific tools such as thermometers, balance scales and magnifying glass for investigation.
- Investigate and categorize living things in the environment.
- Describe and compare basic needs of living things.

Birds

Goal: To observe differences with in the species of birds.

Procedure: Give each child a lunch sack. Tell them while you are on your walk you would like them to find things that birds would use to make a nest. Then go outside on a walk. When they come back in with their nest treasures then give them a brown lunch sack rolled down at the top. Allow them to glue on the items they found to make a nest. Can add a bird or eggs if desired.

Learning standards:

- Express wonder and ask questions about their world.
 - ✚ Uses senses to explore and observe materials and natural phenomena.
- Collect, describe, and record information.

- Describe and compare basic needs of living things.
- Make comparisons among objects that have been observed.

Weather

Clouds

Goal: To observe natural world.

Procedure: Read It Looked Like Spilled Milk and then go outside to watch clouds. Then follow it up with an art project in which they use a blue piece of construction paper and water paint. Fold the blue paper in half and then in the middle put a dollop of white paint. Fold the paper and squish the paint around. When open ask what they think their cloud looks like.

Learning standards:

- Make comparisons among objects that have been observed.
- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
- Use common weather-related vocabulary (e.g. rainy, snowy, sunny, windy)

Sun and shade

Goal: To show the effects of the sun.

Procedure: using black paper and a object put the object on the black paper in the sun. Then use a similar object and another piece of black paper. Put one in the sun and one in the shade. Wait for a few hours and see what happens.

Learning standards:

- Make comparisons among objects that have been observed.
- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
- Use common weather-related vocabulary (e.g. rainy, snowy, sunny, windy)

Water cycle

Goal: To learn happens to water after a rain.

Procedure: Put a ½ cup of water in a ziplock bag and tape shut. Then place in a sunny place. Watch as they water condenses at the top of the bag. Talk about how that is what happens after a rain.

Learning standards:

- Make comparisons among objects that have been observed.
- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).
- Use common weather-related vocabulary (e.g. rainy, snowy, sunny, windy)

Clean water

Goal: To show how important clean water is to people.

Procedure: Using a 2 liter soda bottle cut off the bottom. Then stuff a wad of cotton inside the top of your bottle and turn it upside down so it resting inside a glass jar. Layer the bottle with pebbles, gravel and sand. Fill a pitcher with water and add two large spoonfuls of soil and mix. Pour some of the dirty water into your filtering system.

Learning standards:

- Make comparisons among objects that have been observed.
- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).

Fall

Apples

Can graph which apple flavor like better and make applesauce. Use the seeds to plant a tree. Cut open the apple to see the star and paint. The life cycle of the apple tree.

Pumpkins

Can eat seeds. Plant to see the life cycle of the pumpkin. Carve for jack-o-lanterns.

Leaves

Can collect and observe. Use collection to sort by size, color, and shapes. Also can create a leaf rubbing. If have children with seasonal allergies can still use leaf rubbing just use artificial leaves.

Water

What shape is water?

Goal: To show that water can take the shape of the container that holds it.

Procedure: Gather several different types of containers and allow the children to put water into half of them. Then ask if the water will remain the same shape when the water is poured into the other containers. Then allow the children to pour the water into another container. Discuss what they think is happening.

Learning standards:

- Show an awareness of changes that occur in themselves and their environment.
- Collect, describe, and record information.
- Make comparisons among objects that have been observed.

Does water flow downhill?

Goal: To see how water moves.

Procedure: Containers of water, plastic rectangular containers wood blocks Set the rectangular containers on the wood blocks so makes a ramp. Then let the children pour the water in the container and watch what happens. Let them journal what they saw by drawing a picture and dictating to you.

Learning standards:

- Show an awareness of changes that occur in themselves and their environment.
- Collect, describe, and record information.
- Make comparisons among objects that have been observed.

Water wheel

Goal: to show how water can do work

Procedure:

Using a small paper plate cut slits in the plate and fold in same direction. Then insert the pencil in the middle of the plate. Under the facet watch the wheel move.

Learning standards:

- Uses scientific tools such as thermometers, balance scales and magnifying glass for investigation.
- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).


Melting ice

Goal: to show how water changes from solid to liquid

Procedure: in a clear cup place one or two ice cubes and in another clear cup place small pieces of ice. Ask the children to predict what will happen as well as which one do they think will melt faster. Wait for predetermined amount of time and then check on the results.

Try it again with ice and a wood block and ask them if the block will melt. Compare results.

Learning standards:

 Uses senses to explore and observe materials and natural phenomena.

- Collect, describe, and record information.
- Make comparisons among objects that have been observed.

Ocean discovery bottle

Goal: To observe what happens in the ocean.

Procedure: Can do this for each child to have and take home or can do for science center. Empty, clean soda or water bottles. Remove the label. Pour in sand. Add small shells and toy fish. Fill 2/3 full with water and add drop of blue food coloring. Can either hot glue the lid on or use electrical tape to seal.

Learning standards:

- Express wonder and ask questions about their world.

Magnets

How strong is the magnet?

Goal: To observe various strengths of magnets.

Procedure:

Using a variety of magnets and paperclips see how many each magnet will hold. Using digital camera make recording sheet in which they can see the types of magnets. For example I use a round, wand, and horse shoe magnet therefore I take photos of those and then make them into a graph for the kids to write the number of paperclips it held.

Learning Standards:

- Collect, describe, and record information.
- Make comparisons among objects that have been observed.

Magnetic car

Goal: To see how a magnet attracts and repels.

Procedure: Supplies- 2 bar magnets, empty match box, modeling clay, drinking straw, scissors, tape, card, compass

Tape one of the magnet to the inside of the tray of the matchbox. Cut the straw into two pieces the same size as the matchbox. Tape the straw on the outside of the matchbox and slide in the tray. Using compass draw 4 circles on card for wheels. Push toothpicks through the straws

and attach circles to them. Put your car on the table and use the other magnet to move it around.

Learning Standards:

- Collect, describe, and record information.
- Make comparisons among objects that have been observed.

Magnetic Field

Goal: to understand that magnets have a field of pull called magnetic field.

Procedure: on top of a piece of paper put iron filing which can get at some craft stores and school supply shops. Then have the children move the magnet around under the paper and see how it moves. Can take photos to make a display or book from their findings.

Learning Standards:

- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).

Attracts and repels

Goal: To show how a magnet will attract some things and repel others

Procedure: Using a digital camera make a recording sheet with photos of various things they will be testing. Allow a space for a prediction and a space for the results. Then allow them to test the things out.

Learning Standards:

- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).

Magnet song by Amy g (tune of I'm a Little Teapot;
perpetualpreschool.com)

I'm a little magnet can't you see

Anything metal comes right to me

If it is not metal you will see

It just will not stick to me.

Discovery bottles

Goal: to give opportunity to explore magnets

Procedure: Can make with the children or for the children. In empty soda pop bottles put in washers, screws, paperclips, or small metal objects. Then fill with rice. Hot glue or duct tape the top on the bottle. Give them wand magnets and let them see if they can find the things hidden in the bottle.

Learning standards:

- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).

Magnet Paint

Goal: To create art using magnets

Procedure: Using ball magnets dip them in paint. Then tape a piece of paper on to a cookie sheet. Using wand magnets let the children wave them under the cookie sheet. The magnets move creating a beautiful work of art.

Learning standards:

- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).

Magnet Finders

Goal: To show how a magnet works.

Procedure: Using craft sticks paint a water color design on. Once dry put a strip of magnetic tape on the back. Then they can walk around and find something the magnet will stick to.

Learning Standard:

- Describe the effects of forces in nature. (e.g. wind, gravity and magnetism).


Sound

Sound bowls

Goal: To see sounds.

Procedure: cut a piece of plastic slightly bigger than the bowl and stretch the plastic over the bowl and secure it with rubber band. Tape the edges of the plastic to the bowl. Sprinkle few grains of rice on the plastic then hold sauce pan near plastic and hit with spoon. The rice will jump around with the vibrations.

Learning Standards:

-  Uses senses to explore and observe materials and natural phenomena.

Can make a drum from baby wipes. Cymbals can be made from plastic plates. Guitars from empty boxes. Old empty soda pop bottles are great

for shakers. Shakers can also be made of easter eggs filled with rice and then taped.

Go on a listening walk and see if can identify sounds. Record different sounds and see if can tell what it is.

Five Senses

Smell bottles put spices in to film canisters. If using liquid extracts put on cotton balls and place into canisters. Let the children guess what is in the container.

Taste tests can do in a variety of ways. Can be 2 flavors of cool aid or sweet and sour, 2 types of crackers or cereal. Then after they taste both items they can graph which one they like the best.

Using an old shoebox fill with various textures and let them reach in a feel the different things. Let them use language to describe what they feel.

Plants

Can be anything from garden to flower pots in your classroom. Just be sure to research what you wish to grow so that it doesn't have any toxins for either your children or any classroom pets.

Be sure to include worm gardens and composting if doing an outside garden so they understand the value of recycling.

Resources

Children's Books

- *The Very Hungry Caterpillar* by Eric Carle 1987 Philomel books NY NY
- *Chick Life Cycle* by Elizabeth Bennett 2007 Scholastic NY NY
- *Ladybug Life Cycle* by Justin McCory Martin 2007 Scholastic Books NY NY
- *Snakes* by Melissa Stewart 2009 Scholastic NY NY
- *Rain* by Marion Dane Bauer Il by John Wallace 2005 Scholastic NY NY
- *Clouds* by Marion Dane Bauer Il by John Wallace 2005 Scholastic NY NY
- *What Makes a Shadow?* by Clyde Robert Bulla Il by June Otani 1994 Scholastic NY NY
- *Sunflower Life Cycle* by Jeff Bauer 2007 Scholastic NY NY
- *A Sunflower Grows Up* by Melvin and Gilda Berger 2008 Scholastic NY NY
- *Earth Day- Hooray!* by Stuart J. Murphy Il. By Renee Andriani 2005 Scholastic NY NY
- *The Earth and I* by Frank Asch 1997 Scholastic NY NY
- *A Tree Is A Plant* by Clyde Robert Bulla Il by Stacey Schuett 1960 Scholastic NY NY
- *Butterfly Life Cycle* by Jeff Bauer 2007 Scholastic NY NY
- *A Caterpillar Grows Up* by Melvin and Gilda Berger 2008 Scholastic NY NY
- *What's the Weather?* Il by Jo Moon 2008 Scholastic
- *Snow* by Marion Dane Bauer Il by John Wallace 2003 Scholastic NY NY

- *Apples Apples Apples* written and illustrated by Nancy Elizabeth Wallace 2000 Scholastic NY NY
- *Just a Thunderstorm* by Gina and Mercer Mayer 1993 Golden Book NY
- *What's the Weather?* 2010 Scholastic NY NY
- *It Looked Like Spilt Milk* by Charles G. Shaw 1947 Scholastic NY NY
- *Tornadoes* by Brian Cassie 2002 Scholastic NY NY
- *Horse Life Cycle* by Eric Charles Worth 2007 Scholastic NY NY
- *Counting Cows Magnetic Counting Book* by Rogers Burrows Sandvik Innovations
- *Wind* by Honor Head 2006 QEB Publishing Inc CA
- *Rain* by Honor Head 2006 QEB Publishing Inc CA
- *Sun* by Honor Head 2006 QEB Publishing Inc CA
- *Colorful Leaves* by Maria Fleming 2006 Scholastic NY NY
- *What Makes A Magnet?* by Franklin M. Branley II by True Kelley 1998 Scholastic NY NY
- *What Is the World Made Of? All About Solids Liquids and Gases* by Kathleen Weidner Zoehfeld II by Paul Meisel 2001 Scholastic NY NY
- *Super Spiders* by Jason Blake 2006 Scholastic NY NY
- *Fantastic Bats* by Justin McCory Martin 2006 Scholastic NY NY
- *Perfect Pumpkins* by Jeff Bauer 2006 Scholastic NY NY
- *Dinofours It's Apple-Picking Day* by Steve Metzger II by Hans Wilhelm 1998 Scholastic NY NY
- *Frogs!* By Elizabeth Carney 2009 Scholastic NY NY
- *Sharks!* by Anne Schreiber 2008 Scholastic NY NY
- *Frog Life Cycle* by Justin McCary Martin 2007 Scholastic NY NY

- *A Tadpole Grows Up* by Melvin and Gilda Berger 2008 Scholastic NY NY
- *Recycle Every Day!* written and illustrated by Nancy Elizabeth Wallace 2003 Scholastic NY NY
- *It's Earth Day!* by Mercer Mayer 2008 Scholastic NY NY
- *Incredible Owls* by Justin McCory Martin 2006 Scholastic NY NY
- *Lift the Flap Bugs* by Judy Tatchell II by Justine Torode 2004 Scholastic NY NY

Teacher Resource Books

- *Science Adventures Nature Activities for Young Children* by Elizabeth A. Sherwood, Robert A. Williams, Robert E. Rockwell 2008 Gryphon House Maryland
- *5 to 10 Minute Science Activities for Young Learners* by Deborah Diffily 2003 Scholastic Professional Books.
- *Super Simple Science Projects* by John Clark 2001 Haldane Mason Book
- *365 Simple Science Experiments with Everyday Materials* by E. Richard Churchill, Louis v. Loeschnig and Muriel Mandell II by Frances Zweifel 1997 Scholastic NY NY
- *101 Great Science Experiments A Step By Step Guide* by Neil Ardley 1993 DK Publishing Inc
- *Science and Math* by Dr. Jean Feldman 2005 Scholastic NY NY

