

ACPS Pacing Guide/Science

First Grade

School Year 2006-2007

ACPS: Quarter Begins September 5	Quarter Begins November 6	Quarter Begins January 25	Quarter Begins March 26
Mt. Vernon: Quarter Begins August 1	Quarter Begins October 16	Quarter Begins January 9	Quarter Begins April 9
Tucker: Quarter Begins July 24	Quarter Begins October 16	Quarter Begins January 16	Quarter Begins April 9
1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
<p>1.5 Animals</p> <ul style="list-style-type: none"> ▪ Life needs ▪ Physical characteristics ▪ Other characteristics <p>1.1 Scientific Investigation, Reasoning and Logic <i>(*Infused throughout entire year)</i></p>	<p>1.7 Weather and Seasons</p> <ul style="list-style-type: none"> ▪ Plants ▪ Animals ▪ People <p>1.6 Sun and Earth</p> <ul style="list-style-type: none"> ▪ Heat ▪ Rotation (night/day) 	<p>1.3 Water</p> <ul style="list-style-type: none"> ▪ Liquids and separation ▪ Solids and dissolution ▪ Hot vs. cold dissolution <p>1.2 Motion</p> <ul style="list-style-type: none"> ▪ Direction of motion ▪ Vibration and sound ▪ Effects of pushing/pulling ▪ Observing motion at work in our lives 	<p>1.8 Natural Resources</p> <ul style="list-style-type: none"> ▪ Identification ▪ Quality ▪ Recycling <p>1.4 Plants</p> <ul style="list-style-type: none"> ▪ Needs ▪ Parts ▪ Characteristics

First Grade 1st Quarter SOL Objectives and VA Essential Knowledge and Skills/Science

SOL 1.5 – Animals

The student will investigate and understand that animals, including people, have life needs and specific physical characteristics and can be classified according to certain characteristics. Key concepts include:

- a) life needs (air, food, water, and a suitable place to live)
- b) physical characteristics (body coverings, body shape, appendages, and methods of movement)
- c) other characteristics (wild/tame, water homes/land homes)

VA Essential Knowledge and Skills

The student will

- make and communicate observations of live animals, including people, about their needs, physical characteristics, and where they live.
- describe the life needs of animals including air, food, water, and a suitable place to live.
- classify animals by where they live (their homes).
- distinguish between wild (raccoon, hawk, squirrel, shark) and tame (dog, cat, sheep) animals and recognize examples of each.
- identify and chart simple characteristics by which animals can be classified, including body coverings (hair, fur, feathers, scales, and shells), body shape, appendages (arms, legs, wings, fins, and tails), methods of movement (walking, crawling, flying, and swimming), wild or tame, and water homes or land homes.
- infer type of animals' homes (land or water) using the physical characteristics of animals, such as scales or fins that allow fish to live and move in water, fur and legs that allow dogs to live and move on land.

Flanagan's TFHS – 10 questions for this SOL

SOL 1.1 – Scientific Investigation, Reasoning, and Logic

(*infused throughout the entire year)

The student will conduct investigations in which

- a) differences in physical properties are observed using the senses.
- b) simple tools are used to enhance observations.
- c) objects or events are classified and arranged according to attributes or properties.
- d) observations and data are communicated orally and with simple graphs, pictures, written statements, and numbers.
- e) length, mass, and volume are measured using standard and nonstandard units.
- f) nonstandard units are used to measure common objects.
- g) simple experiments are conducted to answer questions.
- h) inferences are made and conclusions are drawn about familiar objects and events.

VA Essential Knowledge and Skills

In order to meet this standard, it is expected that students should be able to

- use their senses and simple tools, such as a magnifying glass, ruler, and thermometer, to enhance their observations of physical properties.

- classify and arrange objects or events according to at least two attributes or properties so that similarities and differences become apparent.
- communicate observations made and data collected orally and with simple graphs, pictures, written statements, and numbers.
- measure length, mass, and volume, using standard and nonstandard units and appropriate instruments. (By the third grade, students will be expected to have basic facility with metric measure, including centimeters, grams, and liters.)
- use familiar events and objects to make inferences and draw conclusions.
- predict outcomes based on actual observations and evidence rather than random guesses.

ACPS Pacing Guide/Science
First Grade 1st Quarter

SOL	VA Enhanced Scope & Sequence Lessons	Harcourt Lessons and Investigations	VA SOL Support	Literature
<p>1.5 Animals</p> <ul style="list-style-type: none"> ▪ Life needs ▪ Physical characteristics ▪ Other characteristics <p>1.1 Scientific Investigation, Reasoning, and Logic</p>	<p>SOLs 1.1, 1.5 p. 21</p> <p><i>Amazing Animals</i> p. 22 – 26 7 activities available</p> <p>SOL 1.1 p. 1</p> <p><i>15-Bean Soup</i> p. 2 – 6 5 activities available</p>	<p>Unit A – Plants and Animals All Around</p> <p><u>Chapter 1</u> Living and Nonliving Things A2 – A19</p> <p>Investigations: · Using Your Senses A4 · A Mealworm and a Rock A10</p> <p><u>Chapter 3</u> All About Animals A42 – A63</p> <p>Investigations: · An Animal Home A42 · What Are Some Kinds of Animals? A48 · A Model of An Insect A54 · How Do Animals Grow? A58</p>	<p>What People Need p. 5 – 6</p> <p>Animal Body Coverings p. 13 – 16</p> <p>What Animals Are Like p. 17 – 18</p>	<p><i>Harcourt Instant Readers:</i> <u>Living or Nonliving?</u> by C. E. Bear <u>What Do You See?</u> by Rozanne Lanczak Williams</p> <p><i>Harcourt Take-Home Books:</i> Samantha’s Puppies TH3 – 4 Cheryl Chooses a Pet TH7 – 8 How Animals Move TH9 – 10</p> <p><i>Related Literature:</i> <u>My Five Senses</u> by Margaret Miller <u>The Squirrel and the Moon</u> by Eleonore Schmid <u>Stop, Look and Listen</u> by Sarah Williamson <u>The Velveteen Rabbit</u> by Margery Williams <u>Beautiful Bats</u> by Linda Glaser <u>Fox</u> by Mary Ling <u>The Honey Makers</u> by Gail Gibbons <u>How Animals Care for Their Babies</u> by Roger B. Hirschland <u>The Insect Book: A Basic Guide to the Collection and Care of Common Insects for Young Children</u> by Connie Zakowski <u>Those Amazing Ants</u> by Patricia B. Demuth <u>The Ugly Duckling</u> by Hans Christian Andersen</p>

*See next pages for SOL objective and VA Essential Knowledge and Skills, as well as ideas for TAG extension activities and Internet resources.

First Grade 2nd Quarter SOL Objectives and VA Essential Knowledge and Skills/Science

SOL 1.7 – Weather and Seasons

(*this SOL is also taught using our Everyday Math program)

The student will investigate and understand the relationship of seasonal change and weather to the activities and life processes of plants and animals. Key concepts include:

- d) plants (growth, budding, falling leaves, and wilting)
- e) animals (behaviors, hibernation, migration, body covering, and habitat)
- f) people (dress, recreation, and work)

VA Essential Knowledge and Skills

The student will

- relate a temperature and precipitation chart to the corresponding season (daily or weekly).
- identify types of precipitation as rain, snow, and ice and explain the temperature conditions that result in each one.
- compare and contrast the four seasons of winter, spring, summer, and fall (autumn) in terms of temperature, light, and precipitation.
- infer the current season from people's dress, recreational activities, and work activities.
- compare and contrast how some plants (ex./ oak trees and lawn grass) appear during summer and winter.
- measure and chart changes in plants, including budding, growth, wilting, and losing leaves and recognize the season in which budding and wilting will most likely occur.
- predict how an outdoor plant would change through the seasons.
- compare and contrast the activities of some common animals (ex./ squirrels, chipmunks, butterflies, bees, ants, bats, frogs) during summer and winter by describing changes in their behaviors and body covering.
- comprehend the concepts of hibernation, migration, and habitat, and describe how these relate to seasonal changes. (Note: It may be useful to recognize common Virginia animals that hibernate and migrate, but specific names of animals is not the focus of student learning here.)

Flanagan's TFHS – 7 questions for this SOL

SOL 1.6 – Sun and Earth

The student will investigate and understand the basic relationships between the sun and the Earth. Key concepts include:

- g) the sun is the source of heat and light that warms the land, air, and water
- h) night and day are caused by the rotation of the Earth

VA Essential Knowledge and Skills

The student will

- infer that sunlight striking an object makes the object warmer.
- conduct simple experiments to show how sunlight changes the temperature of land, air, and water.
- compare and contrast day and night by characteristic changes in temperature and light.
- model the rotation of Earth and its physical relationship to the sun.
- demonstrate and describe the concept of rotation.
- interpret the relationship between the sun's position in the sky and the general time of day. This includes the sun's relative position in the morning (east), at noon, and the late afternoon (west).

Flanagan's TFHS – 6 questions for this SOL

ACPS Pacing Guide/Science
First Grade 2nd Quarter

SOL	VA Enhanced Scope & Sequence Lessons	Harcourt Lessons and Investigations	VA SOL Support	Literature
<p>1.7 Weather and Seasons</p> <ul style="list-style-type: none"> ▪ Plants ▪ Animals ▪ People <p>1.6 Sun and Earth</p> <ul style="list-style-type: none"> ▪ Heat ▪ Rotation (night/day) 	<p>SOLs 1.1, 1.7 p. 27 – 28</p> <p><i>The Four Seasons</i> p. 29 – 35 5 activities available</p> <p>SOLs 1.1, 1.6 p. 7</p> <p><i>Light and Dark</i> p. 8 – 13 5 activities available</p>	<p>Unit D – Weather, the Sky, and Seasons</p> <p><u>Chapter 1</u> Measuring Weather D2 – D23</p> <p>Investigations: · Weather Conditions D4</p> <p><u>Chapter 2</u> The Sky and the Seasons D24 – D56</p> <p>Investigations: · The Sky D26 · Day and Night D30 · What Helps Seeds Sprout D34</p>	<p>Plants and Water p. 11 – 12</p> <p>Water and the Weather p. 27 – 28</p> <p>How Animals Change with the Seasons p. 29 – 30</p>	<p><i>Harcourt Instant Readers:</i> <u>Check the Weather</u> by Nancy Roser <u>Seasons</u> by Lucy Floyd</p> <p><i>Harcourt Take-Home Books:</i> Jake Measures the Rain TH25 – 26 Severe Weather TH27 – 28 Mary’s Favorite Season TH29 – 30 Marco’s Space Journey TH31 – 32</p> <p><i>Related Literature:</i> <u>The Cloud Book</u> by Tomie De Paola <u>Cloudy With a Chance of Meatballs</u> by Judy Barrett <u>Feel the Wind</u> by Arthur Dorros <u>Storms</u> by Seymour Simon <u>Thunder Cake</u> by Patricia Polacco <u>Weather Forecasting</u> by Gail Gibbons <u>Weather Words and What They Mean</u> by Gail Gibbons <u>Animals in Winter</u> by Henrietta Bancroft and Richard G. Van Gelder <u>Autumn Across America</u> by Seymour Simon <u>Crab Moon</u> by Ruth Horowitz <u>How Do You Know It’s Fall?</u> by Allan Fowler <u>The Mitten</u> by Jan Brett <u>Moon Rope</u> by Lois Ehlert <u>Rainsong/Snowsong</u> by Philemon Sturges <u>Summer</u> by Ron Hirschi <u>Sunshine Makes the Seasons</u> by Franklyn M. Branley <u>Twilight Comes Twice</u> by Ralph Fletcher <u>What Makes Day and Night</u> by Franklyn M. Branley</p>

* See next pages for SOL objective and VA Essential Knowledge and Skills, as well as ideas for TAG extension activities and Internet resources.

First Grade 3rd Quarter SOL Objectives and VA Essential Knowledge and Skills/Science

SOL 1.3 – Water

The student will investigate and understand how different common materials interact with water. Key concepts include:

- i) some liquids will separate when mixed with water, but others will not
- j) some common solids will dissolve in water, but others will not
- k) some substances will dissolve more readily in hot water than in cold

VA Essential Knowledge and Skills

The student will

- describe and apply the term “dissolve.”
- predict and describe how a variety of materials (vinegar, milk, baking soda, powdered drink mix, sugar, salt, sand, oil, soil, rocks) act when mixed with water.
- classify liquids and solids into those that will dissolve in water and those that will not. Use picture graphs, tables, and/or charts to record and display the information.
- infer that some substances will dissolve more easily in hot water than in cold water by conducting investigations using different temperatures of water.

Flanagan’s TFHS – 5 questions for this SOL

SOL 1.2 – Motion

The student will investigate and understand that moving objects exhibit different kinds of motion. Key concepts include:

- a) objects may have straight, circular, and back-and-forth motions
- b) objects may vibrate and produce sound
- c) pushes or pulls can change the movement of an object
- d) the motion of objects may be observed in the manipulation of toys and in playground activities

VA Essential Knowledge and Skills

The student will

- make and communicate observations about moving objects. Examples should include balls, objects with wheels, windup toys, tops, rubber bands, and playground equipment.
- predict an object’s movement using its size, shape, and the force of the push or pull on it.
- conduct a simple experiment to determine an object’s movement.
- describe and classify the motion of an object as straight, circular, curved, or back and forth.
- compare the movement of objects using graphs, pictures, and/or numbers.
- record observations of movement (length/distance), using standard (English/Metric) and nonstandard units.
- understand that vibrations may create sound such as humming, strumming a guitar, or plucking a rubber band.

ACPS Pacing Guide/Science
First Grade 3rd Quarter

SOL	VA Enhanced Scope & Sequence Lessons	Harcourt Lessons and Investigations	VA SOL Support	Literature
<p>1.3 Water</p> <ul style="list-style-type: none"> ▪ Liquids and separation ▪ Solids and dissolution ▪ Hot vs. Cold dissolution <p>1.2 Motion</p> <ul style="list-style-type: none"> ▪ Direction of motion ▪ Vibration and sound ▪ Effects of pushing/pulling ▪ Observing motion at work in our lives 	<p>SOLs 1.1, 1.3 p. 52</p> <p><i>Mix It Up: In Hot Water</i> p. 53 – 54</p> <p>Mix It Up: In the Kitchen p. 55 – 56</p> <p>Mix It Up: In the Yard p. 57 – 58</p> <p>SOLs 1.1, 1.2 p. 59</p> <p><i>Let's Be Motion Detectives</i> p. 60 – 64</p> <p>Sail On p. 65 - 69</p>	<p>Unit E – Matter and Energy</p> <p><u>Chapter 1</u> Investigate Matter E2 – E11, E16 – E19 (omit Lessons 3, 5, 6)</p> <p>Investigations: · Solid Objects E4 · Liquids in Bottles E8 · Solids in Water E16</p> <p><u>Chapter 2</u> Making Sound E32 – E39, E46 – E49 (omit Lesson 2)</p> <p>Investigations: · Sounds E34 · Making Your Own Drum E46</p> <p>Unit F – Forces</p> <p><u>Chapter 1</u> Pushes and Pulls F2 – F29</p> <p>Investigations: · Pushes and Pulls F4 · Moving Objects F8 · Predicting Motion F12 · Smooth and Rough Surfaces F18 · Rollers F22</p>	<p>No lessons are available.</p>	<p><i>Harcourt Instant Readers:</i> <u>Heat Changes Things</u> by Michael Medearis <u>Push It or Pull It?</u> by Rozanne Lanczak Williams</p> <p><i>Harcourt Take-Home Books:</i> Mike Measures Matter TH37 – 38 Emma’s Music TH38 – 40 Carmina Plays on the Swings TH43 – 44</p> <p><i>Related Literature:</i> <u>Grandpa’s Soup</u> by Eiko Kadono <u>Lemonade for Sale</u> by Sarah Hayes <u>Solids and Liquids</u> by David Glover <u>What is the World Made Of? All About Solids, Liquids, and Gases</u> by Kathleen Weidner Zoelfeld <u>Big Band Sound</u> by Harriet Diller <u>Hearing Sounds</u> by Gary Gibson <u>Max Found Two Sticks</u> by Brian Pinkney <u>Song and Dance Man</u> by Karen Ackerman <u>Sounds All Around</u> by Wendy Pfeffer <u>Thump, Thump, Rat-a-Tat-Tat</u> by Gene Baer <u>Doctor DeSoto</u> by William Steig <u>Forces and Movement</u> by Peter D. Riley <u>Inclined Planes</u> by Michael S. Dahl <u>Mrs. Toggler’s Zipper</u> by Robin Pulver <u>The Science Book of Motion</u> by Neil Ardley <u>Train Song</u> by Diane Siebert <u>Wheels and Axles</u> by Machael S. Dahl <u>The Wheeling and Whirling-Around Book</u> by <u>The Wheels on the Bus</u> by Maryann Kovalski</p>

* See next pages for SOL objective and VA Essential Knowledge and Skills, as well as ideas for TAG extension activities and Internet resources.

First Grade 4th Quarter SOL Objectives and VA Essential Knowledge and Skills/Science

SOL 1.8 – Natural Resources

The student will investigate and understand that natural resources are limited. Key concepts include:

- a) identification of natural resources (plants and animals, water, air, land, minerals, forests, and soil)
- b) factors that affect air and water quality
- c) recycling, reusing, and reducing consumption of natural resources

VA Essential Knowledge and Skills

The student will

- identify natural resources such as plants and animals, water, air, land, minerals, forests, and soil.
- recognize that many natural resources are limited.
- predict what would happen if natural resources were used up, and explain ways to prevent this from happening.
- classify factors that affect air and water quality.
- describe ways students and schools can help improve water and air quality in our communities.
- determine some basic factors that affect water quality by conducting simple investigations in the school environment. Students should be able to make and record observations of what happens to runoff water on rainy days (related to SOL 1.3).
- discuss the value of parks to wildlife and to people.

Flanagan’s TFHS – 8 questions for this SOL

SOL 1.4 – Plants

The student will investigate and understand that plants have life needs and functional parts and can be classified according to certain characteristics.

Key concepts include:

- a) needs (food, air, water, light, and a place to grow)
- b) parts (seeds, roots, stems, leaves, blossoms, fruits)
- c) characteristics (edible/nonedible, flowering/nonflowering, evergreen/deciduous)

VA Essential Knowledge and Skills

The student will

- conduct simple experiments/investigations related to plant needs by changing one variable (food, air, water, light, and place to grow) at a time. Students do not need to know the term variable.
- create and interpret a model/drawing of a plant, including seeds, roots, stems, leaves, blossoms, and fruits.
- identify the functions of the seed, root, stem, and leaf.
- classify plants by the characteristics of edible/nonedible, flowering/nonflowering, and evergreen/deciduous using tables, charts, and picture graphs.

Flanagan’s TFHS – 10 questions for this SOL

ACPS Pacing Guide/Science
First Grade 4th Quarter

SOL	VA Enhanced Scope & Sequence Lessons	Harcourt Lessons and Investigations	VA SOL Support	Literature
<p>1.8 Natural Resources</p> <ul style="list-style-type: none"> ▪ Identification ▪ Quality ▪ Recycling <p>1.4 Plants</p> <ul style="list-style-type: none"> ▪ Needs ▪ Parts ▪ Characteristics 	<p>SOLs 1.1, 1.8 p. 36</p> <p><i>What Are Natural Resources?</i> p. 37 – 40</p> <p><i>Let the Sun Shine In!</i> p. 41 – 43</p> <p><i>Reduce, Reuse, Recycle</i> p. 44 – 46</p> <p><i>The Is-It-Litter? Box</i> p. 47 – 48</p> <p><i>Henry Heron: A Litter Story</i> p. 49 – 51</p> <p>SOLs 1.1, 1.4 p. 14</p> <p><i>Fun With Plants</i> p. 15 – 20 6 activities available</p>	<p>Unit C – About Our Earth</p> <p><u>Chapter 2</u> Our Natural Resources C20 – C45</p> <p>Investigations: · The World Around You C22 · Air in a Bag C28 · Making Salt Water Fresh C32 · Reusing a Resource C36</p> <p>Unit A – Plants and Animals All Around</p> <p><u>Chapter 2</u> All About Plants A20 – A39</p> <p>Investigations: · Plant Parts A22 · The Inside of a Seed A28 · What Plants Need to Grow A32</p>	<p>Limited Natural Resources p. 19 – 22</p> <p>Air and Water Pollution p. 23 – 26</p> <p>What Plants Are Like p. 7 – 10</p>	<p><i>Harcourt Instant Readers:</i> <u>Water’s Journey</u> by F. R. Robinson</p> <p><i>Harcourt Take-Home Books:</i> Reducing, Reusing, and Recycling TH21 – 22 Mark and the Watermelon Seed TH5 – 6</p> <p><i>Related Literature:</i> <u>The Crazy Quilt</u> by Kristin Avery <u>The Great Trash Bash</u> by Loreen Leedy <u>June 29, 1999</u> by David Wiesner <u>Just a Dream</u> by Chris Van Allsburg <u>The Magic School Bus at the Water Works</u> by Joanna Cole <u>Pond Year</u> by Kathryn Lasky <u>Recycle</u> by Gail Gibbons <u>The Science Book of Air</u> by Neil Ardley <u>Apples, How They Grow</u> by Bruce McMillan <u>The Flower: An Ecology Story Book (The Ecology Series</u> by Chris Baines <u>Flowers, Trees, and Fruits (Young Discoverers: Biology Facts and Experiments Series)</u> by Sally Morgan <u>I Wonder Why Trees Have Leaves: And Other Questions About Plants</u> by Andrew Charman <u>Jody’s Beans</u> by Malachy Doyle <u>Planting a Rainbow</u> by Lois Ehlert</p>

* See next pages for SOL objective and VA Essential Knowledge and Skills, as well as ideas for TAG extension activities and Internet resources.

First Grade TAG Extension Ideas and Activities/Science

First Quarter

Unit A – Animals All Around

Chapter 1

Living and Nonliving Things

Encourage children to plan and carry out their own investigation about living and nonliving things, including things that were once living and things that move but are nonliving, such as planes, boats, and water. Have children share their findings with the class.

Chapter 3

All About Animals

Provide an opportunity for children to work on a long-term project that they plan and carry out themselves. Have children find out about the different animals that live outdoors closest to their home. Have them:

- Brainstorm a list of animals from their area they would like to know more about.
- Do library research to find out about different animals and draw or write about their findings.
- Go on a supervised field trip to collect information.
- Invite a speaker to class who might be able to share information about animals they are interested in, with children helping to introduce and thank the guest.
- Make and predict a culminating project of their findings in the form of a book, a mural, or an exhibit.

First Grade Internet Resources/Science

All Quarters

Smithsonian Institution www.si.edu/harcourt/science

The Learning Site www.harcourtschool.com

NSTA SciLinks www.scilinks.org/harcourt

Virtual Smithsonian http://2k.si.edu/2k/node_rotunda/indexe.htm

Encyclopedia Britannica <http://school.eb.com/elementary/>

World Book Online <http://www.worldbookonline.com>

BrainPop <http://www.brainpop.com>

Physical Science SOLutions <http://www.smv.org/pubs/PSSolutionsTOC2.pdf>

4-H Virtual Forest <http://www.ext.vt.edu/resources/4h/virtualforest/index.html>

National Geographic Kids <http://www.nationalgeographic.com/kids/index.html>

The NASA SCIENCE Files: Kid's Tree House http://scifiles.larc.nasa.gov/kids/inside_treehouse.html

PBS Kids ZOOMsci <http://www.pbskids.org/zoom/activities/sci/>

FirstGov for Kids <http://www.kids.gov>

First Quarter

National Geographic Animals http://www.nationalgeographic.com/kids/creature_feature/archive/

What's My Covering? http://www.zoofieldtrips.com/cove_game.htm

Exploring Mammals <http://www.nhm.org/mammals/sumact.html>

Animal Index <http://nationalzoo.si.edu/Animals/AnimalIndex/>

Other resources from the National Zoo <http://nationalzoo.si.edu/Audiences/Educators/>

BBC Science & Nature – Animals – Children's Zone <http://www.bbc.co.uk/nature/reallywild/>

Kid's Planet <http://www.kidsplanet.org/>

North American Mammals <http://www.mnh2.si.edu/education/mna/main.cfm>

First Grade Internet Resources/Science

All Quarters

Smithsonian Institution www.si.edu/harcourt/science

The Learning Site www.harcourtschool.com

NSTA SciLinks www.scilinks.org/harcourt

Virtual Smithsonian http://2k.si.edu/2k/node_rotunda/indexe.htm

Encyclopedia Britannica <http://school.eb.com/elementary/>

World Book Online <http://www.worldbookonline.com>

BrainPop <http://www.brainpop.com>

Physical Science SOLutions <http://www.smv.org/pubs/PSSolutionsTOC2.pdf>

4-H Virtual Forest <http://www.ext.vt.edu/resources/4h/virtualforest/index.html>

National Geographic Kids <http://www.nationalgeographic.com/kids/index.html>

The NASA SCIENCE Files: Kid's Tree House http://scifiles.larc.nasa.gov/kids/inside_treehouse.html

PBS Kids ZOOMsci <http://www.pbskids.org/zoom/activities/sci/>

FirstGov for Kids <http://www.kids.gov>

Second Quarter

Weather Wiz Kids <http://weatherwizkids.com/>

KIDSTORM <http://skydiary.com/kids/>

AccuWeather <http://www.home.accuweather.com>

FEMA for Kids <http://www.fema.gov/kids/>

The Weather Channel <http://www.weather.com>

NASA Space Place <http://spaceplace.jpl.nasa.gov/en/kids/>

Learning About the Seasons <http://www.kathimitchell.com/seasons.htm> (list of links about each season)

First Grade Internet Resources/Science

All Quarters

Smithsonian Institution www.si.edu/harcourt/science

The Learning Site www.harcourtschool.com

NSTA SciLinks www.scilinks.org/harcourt

Virtual Smithsonian http://2k.si.edu/2k/node_rotunda/indexe.htm

Encyclopedia Britannica <http://school.eb.com/elementary/>

World Book Online <http://www.worldbookonline.com>

BrainPop <http://www.brainpop.com>

Physical Science SOLutions <http://www.smv.org/pubs/PSSolutionsTOC2.pdf>

4-H Virtual Forest <http://www.ext.vt.edu/resources/4h/virtualforest/index.html>

National Geographic Kids <http://www.nationalgeographic.com/kids/index.html>

The NASA SCIENCE Files: Kid's Tree House http://scifiles.larc.nasa.gov/kids/inside_treehouse.html

PBS Kids ZOOMsci <http://www.pbskids.org/zoom/activities/sci/>

FirstGov for Kids <http://www.kids.gov>

Third Quarter

Chem4Kids http://www.chem4kids.com/files/matter_intro.html

Strange Matter <http://www.strangematterexhibit.com>

Oobleck <http://www.kinderteacher.com/oobleck.htm>

Neuroscience for Kids – Hearing Experiments <http://faculty.washington.edu/chudler/chhearing.html>

I Love What I Hear! Activities <http://www.nidcd.nih.gov/health/education/teachers/activities.asp>

The Odd Machine http://www.edheads.org/activities/odd_machine/ (extension of SOL)

First Grade Internet Resources/Science

All Quarters

Smithsonian Institution www.si.edu/harcourt/science

The Learning Site www.harcourtschool.com

NSTA SciLinks www.scilinks.org/harcourt

Virtual Smithsonian http://2k.si.edu/2k/node_rotunda/indexe.htm

Encyclopedia Britannica <http://school.eb.com/elementary/>

World Book Online <http://www.worldbookonline.com>

BrainPop <http://www.brainpop.com>

Physical Science SOLutions <http://www.smv.org/pubs/PSSolutionsTOC2.pdf>

4-H Virtual Forest <http://www.ext.vt.edu/resources/4h/virtualforest/index.html>

National Geographic Kids <http://www.nationalgeographic.com/kids/index.html>

The NASA SCIENCE Files: Kid's Tree House http://scifiles.larc.nasa.gov/kids/inside_treehouse.html

PBS Kids ZOOMsci <http://www.pbskids.org/zoom/activities/sci/>

FirstGov for Kids <http://www.kids.gov>

Fourth Quarter

Virginia Naturally <http://www.vanaturally.com/guide>

Virginia Natural Resources Conservation Service <http://www.va.nrcs.usda.gov/>

EEK! Environmental Education for Kids <http://www.dnr.state.wi.us/org/caer/ce/EEK/teacher/index.htm>

SPLASH! Watershed Learning <http://www.epa.gov/owow/nps/kids/splash/webpage2/>

The Great Plant Escape <http://www.urbanext.uiuc.edu/gpe/index.html>

The Seed Site <http://theseedsite.co.uk/>

Plants Database <http://plants.usda.gov/>