Grade 1 Science  
Science 1

Scientific Inquiry, Writing and Literacy Skills

Stage 1: Desired Results

Catholic Standards

Targeted Standards

OH Grade 1 OH: ELA & Literacy in History/Social Studies, Science, & Technical Subjects PreK-5

Reading: Informational Text

Key Ideas and Details 1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

RI.1.1. Ask and answer questions about key details in a text.

Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

RI.1.2. Identify the main topic and retell key details of a text.

Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

RI.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.

Craft and Structure 4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

RI.1.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.

Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

RI.1.5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.

Assess how point of view or purpose shapes the content and style of a text.

RI.1.6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.

Integration of Knowledge and Ideas 7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

RI.1.7. Use the illustrations and details in a text to describe its key ideas.

Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

RI.1.9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).

Range of Reading and Level of Text Complexity 10. Read and comprehend complex literary and informational texts independently and proficiently.

RI.1.10.With prompting and support, read informational texts appropriately complex for grade 1.

Writing

Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

W.1.2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.

Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

W.1.3. Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

W.1.5. With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.

Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

W.1.6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

Research to Build and Present Knowledge 7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

W.1.7. Participate in shared research and writing projects (e.g., explore a number of how-to books on a given topic and use them to write a sequence of instructions).

Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

W.1.8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

Speaking and Listening

Comprehension and Collaboration 1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others ideas and expressing their own clearly and persuasively.

SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

SL.1.1a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

SL.1.1b. Build on others talk in conversations by responding to the comments of others through multiple exchanges.

SL.1.1c. Ask questions to clear up any confusion about the topics and texts under discussion.

Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

SL.1.2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Evaluate a speakers point of view, reasoning, and use of evidence and rhetoric.

SL.1.3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.

Presentation of Knowledge and Ideas 4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

SL.1.4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

SL.1.5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

SL.1.6. Produce complete sentences when appropriate to task and situation.

Capacities of the Literate Individual

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, & Language

They demonstrate independence.

OH Grade 1 OH: Science (2011)

Science Inquiry and Application

Theme: Observations of the Environment This theme focuses on helping students develop the skills for systematic discovery to understand the science of the physical world around them in greater depth by using scientific inquiry. During the years of PreK-4 all students must use the following scientific processes to construct their knowledge and understanding in all science content areas:

Observe and ask questions about the natural environment;

Plan and conduct simple investigations;

Employ simple equipment and tools to gather data and extend the senses;

Use appropriate mathematics with data to construct reasonable explanations;

Communicate about observations, investigations and explanations

Review and ask questions about the observations and explanations of others.

Catholic Identity

DOC All Grades Catholic Identity

Catholic Social Justice Teachings

Care for God's Creation

The Rights of Children

1. THE RIGHT TO A CATHOLIC COMMUNITY that witnesses to Christ and the Gospel by protecting them from child abuse, including sexual abuse and neglect.

2. THE RIGHT TO A SAFE ENVIRONMENT that promotes care, protection, and security.

3. THE RIGHT TO BE RESPECTED AS INDIVIDUALS with human dignity.

4. THE RIGHT TO WORK ACTIVELY TOWARD THEIR OWN EMPOWERMENT through the development of their gifts and talents.

5. THE RIGHT TO A LEARNING ENVIRONMENT THAT VALUES COOPERATION and challenges its members to critical and reflective thinking in their search for truth.

6. THE RIGHT TO DEVELOP POSITIVE, RESPONSIBLE AND CARING ATTITUDES AND BEHAVIORS TOWARD OTHERS and to recognize the rights of others to be safe and free from harassment and abuse.

7. THE RIGHT TO LEARN THE SKILL OF SELF PROTECTION by identifying safe and unsafe situations.

8. THE RIGHT TO LEARN RESPONSIBILITY for themselves and their actions.

9. THE RIGHT TO MAKE RESPONSIBLE DECISIONS founded on religious conviction.

10. THE RIGHT TO GUIDANCE FROM THE CHURCH in their development as loving people.

Content

1. Scientific Process hypothesis, experiment, and conclusion
2. Data, evidence
3. Scientific tools
4. Safety procedures
5. Investigations and explanations
6. Measurement techniques estimated and actual
7. Respect for living things and the environment
8. Care of natural resources/conservation of energy
9. Importance of recycling
10. Dangers of pollution
11. Responsible science practices in accordance with social justice teachings

Skills

1. Identify the steps of a scientific process (hypothesis, experiment, and conclusion).
2. Utilize the five senses to gather data.
3. Explain that when trying to build or improve something, it helps to follow directions and ask someone who has done it before.
4. Explore and execute multi-step procedures needed to make things (e.g., building with blocks).
5. Ask, explore, and generate "what happens when" questions.
6. Collaborate in a small group to complete an investigation and then share findings with others.
7. Use oral, written, and pictorial representation to communicate work.
8. Discover that when a science investigation is done the same way multiple times, one can expect to get very similar results each time it is performed.
9. Draw individual conclusions about group findings.
10. Describe things as accurately as possible and compare with the observations of others.
11. Demonstrate valid explanations based on evidence from investigations and observations.
12. Determine and use the correct tools and simple equipment/instruments.
13. Adopt appropriate safety procedures when completing scientific investigations/experiments.
14. Calculate estimates to compare familiar lengths, weights, and time intervals to actual measurements.
15. Interact with living things and the environment in ways that promote respect.
16. Describe ways in which people affect the environment.
17. Discover how pollution harms plants and animals.
18. Demonstrate ways to reduce, reuse, and recycle waste at school.
19. Cite evidence that the supply of many resources is limited but the supply can be extended through careful use, decreased use, reusing and/or recycling.
20. Investigate how people can save energy by turning things off when they are not using them (e.g., lights and water).
21. Develop a logical argument that pollution is harmful to our environment and can influence the health, survival, or activities of organisms.
22. Explain that everyone can practice, invent, and perform science activities.
23. Analyze ways responsible science practices affect people in accordance with social justice teachings.
24. Expand their awareness of careers in science.

**Common Core Literacy Skills**

1. Read closely and comprehend scientific text.
2. Cite evidence from text.
3. Draw conclusions from text.
4. Integrate correct scientific terms.
5. Interpret pictures and diagrams.
6. Compare and contrast two texts on the same topic.
7. Utilize various text features (e.g., headings, tables of contents, glossaries, electronic menus, and icon).
8. Distinguish between pictorial and informational text.

**Common Core Writing Content**

1. Formulate arguments focused on discipline-specific content.
2. Compose informative/explanatory text.
3. Produce clear and coherent writing, appropriate to task, purpose, and audience.
4. Edit and revise writing samples.
5. Utilize technology to produce and publish writing.
6. Conduct research projects.
7. Gather relevant sources.
8. Draw conclusion from evidence in text.
9. Write routinely.

**Common Core Listening and Speaking Skills**

1. Participate in collaborative skills.
2. Follow agreed-upon rules for discussions.
3. Ask and answer clarifying questions.
4. Use background knowledge to describe familiar people, places, things, and events.
5. Add drawings to provide additional details.
6. Speak audibly and express thoughts, feelings and ideas clearly.

Essential Questions

1. How are scientific questions answered?
2. How can I communicate what I discover?
3. How can I use science tools safely?
4. Why should I respect our environment?
5. How can I be a scientist?

Standards Vocabulary

1. scientific process
2. hypothesis
3. experiment
4. conclusion
5. estimate
6. resources
7. energy
8. pollution
9. recycling
10. conservation of energy
11. measurement

Stage 2: Assessment Evidence

Safety Scavenger Hunt

Formative: Cooperative Group Work

Challenge students to find safety items in the classroom. Create a worksheet that lists clues or definitions of safety items. (e.g., "Use this to rinse your eyes." The student would locate saline solution in the first aid kit and write the answer next to the clue.) Students may complete the worksheet with a lab partner. Review the worksheets during class time. Encourage class discussion about how students will use safety items to maintain a safe classroom. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Five Senses Learning Centers

Formative: Cooperative Group Work

Students will rotate between five centers. Each center will focus on a different sense (touch, taste, smell, see, hear). Record their observations on a teacher created chart for each station. Students will participate in a class discussion where each sense will be discussed. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Sand Investigation

Formative: Lab Assignment

Students will use beach sand to explore the scientific process. The teacher will pose "What would happen if....?" questions. The students will mix sand, pebbles, and water in a clear unbreakable container. Students will be introduced to the scientific process as they hypothesize, experiment, and draw conclusions (illustrations and written) during the investigation. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Careers in Science

Summative: Oral Assessment

In pairs, students will research and present science careers. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Stage 3: Learning Plan

Learning Experiences

1. Safety Equipment Scavenger Hunt - Have students use a teacher created worksheet to find safety items in the classroom and complete a worksheet with a lab partner. Have students review the worksheets during class time. Have a class discussion about how students will use safety items to maintain a safe classroom. (See Link.)
2. Five Senses Science Center -- Working with a partner, have students rotate between five centers. Each center will focus on a different sense (touch, taste, smell, see, hear). Have them record their observations on a teacher created chart for each station and then participate in a class discussion where each sense will be discussed.
3. Working in small groups, have students use beach sand to explore the scientific process. Pose "What would happen if....?" questions. Have the groups mix sand, pebbles, and water in a clear unbreakable container and observe what happens. Discuss the scientific process with the students as they hypothesize, experiment, and draw conclusions during the investigation.

Working in a small group, have students complete an investigation following appropriate safety procedures. When they have completed their investigation have them share their findings with others. (See link on soil.)

1. In pairs, have students research various science careers. Have them focus their research on the following questions such as:  
   a. What is the career?  
   b. What three things would you use in this career?  
   c. How does this career help people?  
   Using the answers to the questions, have them prepare a poster about the career they researched and present their findings to the class.

Resources

* NIH Kids Pages (kids.niehs.nih.gov/explore/ehs/labcoat.htm)

Resources

1. iPad Resources
2. Literature Connection  
   *The Magic School Bus Explores the Senses* by Joanna Cole and Bruce Degen  
   *The Five Senses* by Nuria Roca and Rosa M. Curto  
   *Counting on Frank* by Rod Clement  
   *Being a Scientist* by Natalie Lunis and Nancy White  
   *How Many Seeds in a Pumpkin?* by Margaret McNamara  
   *Investigating Your Backyard* by Natalie Lunis  
   *In The Snow: Who's Been Here?* by Lindsay Barrett George  
   *In The Woods: Who's Been Here?* by Lindsay Barrett George  
   *Around The Pond: Who's Been Here?* by Lindsay Barrett George  
   *I Use Science Tools* by Kelli Hicks

Resources

* Scientific Method Grade One (<http://firstgradeshenanigans.blogspot.com/2011/07/scientific-method.html>)

Grade 1 Science  
Science 1

ESS: Sun, Energy, and Weather

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Earth and Space Science (ESS)

Topic: Sun, Energy and Weather

The sun is the principal source of energy.

Catholic Identity

DOC All Grades Catholic Identity

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Care for God's Creation

The Rights of Children

1. THE RIGHT TO A CATHOLIC COMMUNITY that witnesses to Christ and the Gospel by protecting them from child abuse, including sexual abuse and neglect.

2. THE RIGHT TO A SAFE ENVIRONMENT that promotes care, protection, and security.

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Content

**The sun is the principal source of energy.**

a. Sunlight warms Earths land, air and water.  
b. The amount of exposure to sunlight affects the amount of warming or cooling of air, water and land.

**The physical properties of water can change.**

a. Physical properties of water (solid, liquid, gas)  
b. Physical properties change due to changing energy.  
c. Water can change from a liquid to a solid and from a solid to a liquid.  
d. Weather observations can be used to examine the property changes of water.  
e. The downward movement of water is called precipitation.

1. Changes in weather/climate
2. Celsius and Fahrenheit
3. Scientific tools

Resources

* Ohio Dept. of Education - Science Model Curriculum (<http://education.ohio.gov/Topics/Academic-Content-Standards/Science>)

Skills

Recognize that sunlight warms water, air and soil.

Identify the sun as a primary source of energy.

1. Recognize that water can be observed in lakes, ponds, streams, wetlands, the ocean and through weather events.

Differentiate between ocean water and fresh water.

1. Explain how water can change the shape of the land.
2. Describe the water cycle and the downward movement of water as precipitation.
3. Recognize that water can be observed in the air as clouds, steam or fog.

Recognize that water can be a solid or a liquid.

1. Recognize that the freezing and melting of water are investigated through measurements and observations using technology
2. Read and record temperature using Celsius and Fahrenheit.
3. Compare climates of different communities to their own.
4. Explain causes of daily and seasonal weather changes.
5. Calculate quantitative measurements to observe and document the cooling of air, water, and soil.
6. Investigate how the length of time an object or material (including water) is exposed to sunlight determines the amount of time for the object or material to cool down after it is taken out of the sunlight.
7. Determine and use appropriate tools and technology to collect, compare and document data.
8. Describe and illustrate the property changes of water through weather events.
9. Examine maps to illustrate the amount of Earth's surface that is covered in water.
10. Appreciate God's gift of the Earth.
11. Value God's gift of nature.

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1. Participate in collaborative skills.
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4. Use background knowledge to describe familiar people, places, things, and events.
5. Add drawings to provide additional details.
6. Speak audibly and express thoughts, feelings and ideas clearly.

Essential Questions

1. Is the sun a star?
2. What "pictures" can I see in the sky?
3. In what ways does the sun affect land, air, and water?
4. How can water impact our life?
5. Why is water important to Earth?
6. How can I measure temperature?
7. Why does our weather change?

Standards Vocabulary

1. sun
2. constellations
3. land
4. air
5. water
6. physical properties
7. solid
8. liquid
9. gas
10. precipitation
11. appropriate tools (e.g. rulers, thermometer, cylinder)
12. Celsius
13. Fahrenheit

Stage 2: Assessment Evidence

Freezing and Thawing

Formative: Lab Assignment

Students will conduct an investigation to determine what happens to water as it freezes and thaws. Students will formulate a hypothesis, collect measurements, take temperature readings and record the length of time to freeze or thaw. Students will report their findings and identify any conclusions they have made regarding the physical properties of water in written form. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Physical Properties of Water

Formative: Lab Assignment

Working in small groups, students will conduct an investigation to differentiate the physical differences between snow, crushed ice and/or liquid water. They will formulate a hypothesis, record observations that relate to weight, temperature, and texture. At the end of the experiment, students will discuss how their findings can apply to weather observations. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Temperature Changes

Formative: Comparative Study

Students will measure temperature changes in soil, water and air in different settings and/or exposure to sunlight (e.g., select a grassy area in full sun, in partial sun or in shade and collect temperature readings). Students will make a graph, chart or table to record the data and compare and contrast the results in writing or orally. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Comparing Cold Frames

Formative: Class Work

The class will make two mini cold frames that can be used to protect plants from cold temperatures. Use recyclable materials, such as plastic bottles, milk jugs or cartons. Students will evaluate the placement of the cold frame to get the most autumn/winter sunlight. On a regular basis, they will compare their observations of the two cold frames by collecting and recording data (temperature, water, outside weather, amount of daily sunlight) to use in the comparison. As a class, the students will discuss their findings. What conclusions can they make? What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Resources

Stage 3: Learning Plan

Learning Experiences

1. Have students conduct an investigation to determine what happens to water as it freezes and thaws. Have them formulate a hypothesis, collect measurements, take temperature readings and record the length of time to freeze or thaw. Finally, have students report their findings including any conclusions they have generated regarding the physical properties of water.
2. Working in small groups, have students conduct an investigation to differentiate the physical differences between snow, crushed ice and/or liquid water. Have them formulate a hypothesis, record observations that relate to weight, temperature, and texture. At the end of the experiment, have students discuss how their findings can apply to weather observations. During the discussion, have students focus on questions such as:

a. How much does one cup of snow/crushed ice/liquid water weigh?

b. How does snow/crushed ice look through a hand lens?

c. How many inches of snow equal one inch of rain?

1. Working with a partner, have students measure temperature changes in soil, water and air in different settings and/or exposure to sunlight (e.g. select a grassy area in full sun, in partial sun or in shade and collect temperature readings). Have students make a graph, chart or table to record the data and compare and contrast the results in writing or orally.

As a class, make two mini cold frames that can be used to protect plants from cold temperatures. Use recyclable materials, such as plastic bottles, milk jugs or cartons. Have the students evaluate the placement of the cold frame to get the most autumn/winter sunlight. On a regular basis, have students compare their observations of the two cold frames by collecting and recording data (temperature, water, outside weather, amount of daily sunlight) to use in the comparison. As a class, have students discuss their findings. What conclusions can they make?

Resources

* Eye on the Sky (<http://cse.ssl.berkeley.edu/first/EyeontheSkyWeatherJournal/>)

Resources

1. iPad Resources
2. Literature Connection  
   *Weather Words and What They Mean by Gail Gibbons*  
   *Water and the Weather* by Rebecca Olien and Ted Williams  
   *The Cloud Book* by Tomie dePaola  
   *Cloudy with a Chance of Meatballs* by Judi Barrett, illustrated by Ron Barrett  
   *What Will the Weather Be Like Today?* by Paul Rogers  
   *The Wind Blew* by Pat Hutchins  
   *Storms* by Susan Canizares and Betsey Chessen  
   *What's the Weather Today?* by Allan Fowler  
   *Who Cares About the Weather?* by Melvin Berger, Natalie Lunis  
   *The Sun: Our Nearest Star* by Franklyn M. Branley  
   *What Makes Day and Night* by Franklyn M. Branley  
   *Sun Up, Sun Down* by Gail Gibbons  
   *The Sun Is My Favorite Star* by Frank Asch  
   *Energy Makes Things Happen* by Kimberly Brubaker Bradley  
   *The Shocking Truth About Energy* by Loreen Leedy  
   *The Boy Who Harnessed the Wind* by William Kamkwamba

Resources

* Teacher Resource -- Weather (teacher.scholastic.com/lessonrepro/k\_2theme/weather.htm)

Grade 1 Science  
Science 1

LS: Basic Needs of Living Things

Stage 1: Desired Results

Catholic Standards

Targeted Standards

OH Grade 1 OH: ELA & Literacy in History/Social Studies, Science, & Technical Subjects PreK-5

Reading: Informational Text

Key Ideas and Details 1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

RI.1.1. Ask and answer questions about key details in a text.

Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

RI.1.2. Identify the main topic and retell key details of a text.

Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

RI.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.

Craft and Structure 4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

RI.1.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.

Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

RI.1.5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.

Assess how point of view or purpose shapes the content and style of a text.

RI.1.6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.

Integration of Knowledge and Ideas 7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

RI.1.7. Use the illustrations and details in a text to describe its key ideas.

Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

RI.1.9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).

Range of Reading and Level of Text Complexity 10. Read and comprehend complex literary and informational texts independently and proficiently.

RI.1.10.With prompting and support, read informational texts appropriately complex for grade 1.

Writing

Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

W.1.2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.

Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

W.1.3. Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

W.1.5. With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.

Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

W.1.6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

Research to Build and Present Knowledge 7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

W.1.7. Participate in shared research and writing projects (e.g., explore a number of how-to books on a given topic and use them to write a sequence of instructions).

Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

W.1.8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

Speaking and Listening

Comprehension and Collaboration 1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others ideas and expressing their own clearly and persuasively.

SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

SL.1.1a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

SL.1.1b. Build on others talk in conversations by responding to the comments of others through multiple exchanges.

SL.1.1c. Ask questions to clear up any confusion about the topics and texts under discussion.

Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

SL.1.2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Evaluate a speakers point of view, reasoning, and use of evidence and rhetoric.

SL.1.3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.

Presentation of Knowledge and Ideas 4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

SL.1.4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

SL.1.5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

SL.1.6. Produce complete sentences when appropriate to task and situation.

Capacities of the Literate Individual

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, & Language

They demonstrate independence.

OH Grade 1 OH: Science (2011)

Science Inquiry and Application

Theme: Observations of the Environment This theme focuses on helping students develop the skills for systematic discovery to understand the science of the physical world around them in greater depth by using scientific inquiry. During the years of PreK-4 all students must use the following scientific processes to construct their knowledge and understanding in all science content areas:

Observe and ask questions about the natural environment;

Plan and conduct simple investigations;

Employ simple equipment and tools to gather data and extend the senses;

Use appropriate mathematics with data to construct reasonable explanations;

Communicate about observations, investigations and explanations

Review and ask questions about the observations and explanations of others.

Life Science (LS)

Topic: Basic Needs of Living Things

Living things have basic needs, which are met by obtaining materials from the physical environment.

Catholic Identity

DOC All Grades Catholic Identity

Catholic Social Justice Teachings

Life and Dignity of the Human Person

Rights and Responsibilities

Care for God's Creation

The Rights of Children

1. THE RIGHT TO A CATHOLIC COMMUNITY that witnesses to Christ and the Gospel by protecting them from child abuse, including sexual abuse and neglect.

2. THE RIGHT TO A SAFE ENVIRONMENT that promotes care, protection, and security.

3. THE RIGHT TO BE RESPECTED AS INDIVIDUALS with human dignity.

4. THE RIGHT TO WORK ACTIVELY TOWARD THEIR OWN EMPOWERMENT through the development of their gifts and talents.

5. THE RIGHT TO A LEARNING ENVIRONMENT THAT VALUES COOPERATION and challenges its members to critical and reflective thinking in their search for truth.

6. THE RIGHT TO DEVELOP POSITIVE, RESPONSIBLE AND CARING ATTITUDES AND BEHAVIORS TOWARD OTHERS and to recognize the rights of others to be safe and free from harassment and abuse.

7. THE RIGHT TO LEARN THE SKILL OF SELF PROTECTION by identifying safe and unsafe situations.

8. THE RIGHT TO LEARN RESPONSIBILITY for themselves and their actions.

9. THE RIGHT TO MAKE RESPONSIBLE DECISIONS founded on religious conviction.

10. THE RIGHT TO GUIDANCE FROM THE CHURCH in their development as loving people.

Content

**Living things have basic needs, which are met by obtaining materials from the physical environment.**

a. Living things require energy, water and a particular range of temperatures in their environments.

b. Plants get energy from sunlight.  
c. Animals get energy from plants and other animals.

d. Living things acquire resources from the living and nonliving components of the environment.

**Living things survive only in environments that meet their needs.**

a. Resources are necessary to meet the needs of an individual and populations of individuals.  
b. Living things interact with their physical environments as they meet those needs.  
c. Effects of seasonal changes within the local environment directly impact the availability of resources.

d. Living things survive only in environments that meet their needs.  
e. Plants and animals require resources from the environment.

1. **Plants and animals** **possess unique physical characteristics.**

Skills

1. Recognize that the earth has many different environmental conditions that support living things.
2. Explain how living things meet their basic needs for survival by obtaining necessary materials from the environment.
3. Recognize that living things get the energy they require to respond, grow and reproduce from the environment.
4. Identify and describe physical characteristics of mammals, reptiles, amphibians, birds, fish and insects.
5. Classify animal as invertebrate/vertebrate, warm blooded/cold blooded.
6. Explain the survival behavior of various groups of animals.
7. Describe how animals use the sun to get energy.
8. Recognize similarities/differences between animals and plants.
9. Identify what plants and animals need to survive.
10. Investigate and illustrate a simple food chain.
11. Define offspring, competition, physical/seasonal adaptations, variations found in plants and animals.
12. Describe stages of development for a specific animal from birth to death (life span).
13. Recognize that organisms, including people, have basic needs, which include air, water, food, living space and shelter.
14. Observe energy being used in everyday situations to understand that living things get resources from the physical environment.
15. Investigate the interdependence of animals and plants.
16. Identify patterns in seasonal changes that influence health, survival, or activities of plants and animals.
17. Compare and contrast animals according to their physical environment.
18. Describe ways in which people affect the environment.
19. Appreciate that all life is precious and is to be valued and used wisely.

**Common Core Literacy Skills**

1. Read closely and comprehend scientific text.
2. Cite evidence from text.
3. Draw conclusions from text.
4. Integrate correct scientific terms.
5. Interpret pictures and diagrams.
6. Compare and contrast two texts on the same topic.
7. Utilize various text features (e.g., headings, tables of contents, glossaries, electronic menus, and icon).
8. Distinguish between pictorial and informational text.

**Common Core Writing Content**

1. Formulate arguments focused on discipline-specific content.
2. Compose informative/explanatory text.
3. Produce clear and coherent writing, appropriate to task, purpose and audience.
4. Edit and revise writing samples.
5. Utilize technology to produce and publish writing.
6. Conduct research projects.
7. Gather relevant sources.
8. Draw conclusion from evidence in text.
9. Write routinely.

**Common Core Listening and Speaking Skills**

1. Participate in collaborative skills.
2. Follow agreed-upon rules for discussions.
3. Ask and answer clarifying questions.
4. Use background knowledge to describe familiar people, places, things, and events.
5. Add drawings to provide additional details.
6. Speak audibly and express thoughts, feelings and ideas clearly.

Essential Questions

1. How do animals and plants survive?
2. To what extent do plants and animals differ in varied environments?
3. How can animals be classified?
4. How might animals survive in their habitats?
5. How does climate affect animals and plants?
6. Why is it important to protect the environment from pollution?

Standards Vocabulary

1. basic needs (e.g. air, water, food, living space, shelter)
2. energy
3. resources
4. sunlight
5. environment
6. pollution
7. recycle
8. survival
9. habitat
10. interdependence
11. life cycle
12. physical characteristics of plants and animals
13. animal classification
14. survival behavior
15. simple food chain
16. predator/prey
17. herbivore, carnivore, omnivore

Stage 2: Assessment Evidence

Pinecone Bird Feeders

Formative: Class Work

Students will plan and implement a classroom investigation that answers the following question: Does the type of food influence what type of birds will come to a bird feeder? Students will build simple pine cone bird feeders. Students will record type and number of birds that comes to the bird feeder and will make a graph which displays their observations. They will write a statement summarizing their findings. As a class, they will discuss the findings and formulate conclusions based on the entire investigation. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Observations of Seasonal Changes

Summative: Comparative Study

Students will explain, illustrate, journal and photograph what happens during local living and nonliving environments over the course of a school year. Students will answer the following questions: How do seasonal changes affect living organisms and meet their needs? How do seasonal changes affect the nonliving environment? Students will make weekly observations of both living and nonliving environments around the school property. Students will illustrate and write their observations. Students will draw conclusions regarding the changes in living and nonliving environments. Note: Weekly photographs can be turned into a class book about the environment. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Class Terrariums

Summative: Research Project

After building the class terrariums, students will observe what happens in each of the habitats over time and keep notes. They will investigate which types of living, nonliving, and once-living things are inside each of the terrariums. They will keep a journal in which they answer questions such as:a. What things in our terrarium are living, nonliving, and once-living?b. What things do you see happening inside the terrarium?Have a class discussion of their findings. Assessment will include response to the following: 1. Did they list correct living, nonliving, and once living things?2. Did they make good observations about the habitat? 3. Was their writing understandable with good grammar, spelling, and printing? What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Stage 3: Learning Plan

Learning Experiences

1. Using various resources, including the Ohio Department of Natural Resources (See Links.), engage students in an activity in which they will match pictures of local plants and animals to the environment in which they can be found.
2. Working with a partner, have students plan and implement a classroom investigation that answers the following question: Does the type of food influence what type of birds will come to a bird feeder? Have partners build a simple pine cone bird feeder. (Bird feeder instructions: Cover pine cones with vegetable shortening and coat with one type of food [e.g., black or striped sunflower seeds, millet, cracked corn, thistle]). Hang feeders on the classroom windows or outside, and over a two week period have students record daily the type and number of birds that come to the feeder. Have them make a graph of their observations and write a statement summarizing their findings. As a class, discuss the findings and help students formulate conclusions based on the entire investigation.

Working in three cooperative groups and providing necessary materials, have students build a terrarium of a given type (aquatic, woodland, desert). Students within each group can be given different jobs in assembling the habitat, making sure everyone gets a turn to help. Have each group help with the upkeep (i.e. adding water, feeding the animals) of the terrarium.  
Once the habitat is complete, have the students observe and keep notes of what happens in each of the habitats over time. Have them investigate which types of living, nonliving, and once-living things are inside each of the terrariums. Have students keep a journal in which they answer questions such as:  
a. What things in our terrarium are living, nonliving, and once-living?  
b. What things do you see happening inside the terrarium?  
Have a class discussion of their findings.

1. Have students make weekly observations of both living and nonliving environments around the school property at different times in the fall, winter and spring. Have them keep a journal in which they illustrate and write about their observations. On a regular basis, engage students in a class discussion of their observations and journal entries. Help students formulate conclusions regarding the changes they observe in living and nonliving environments by answering questions such as:  
   a. How do seasonal changes affect living organisms?  
   b. How do living organisms adapt to seasonal changes in order to meet their basic needs?  
   c. How do seasonal changes affect the nonliving environment?

Resources

* ilearn Ohio (<http://ilearnohio.org/teacher/>)

Resources

1. iPad Resources
2. Literature Connection  
   *Near One Cattail: Turtles, Logs and Leaping Frogs* by Anthony D. Fredricks  
   *The Magic School Bus Plants Seeds: A Book About How Living Things Grow* by Joanna Cole, J Cole, B. Degan, and John Speirs  
   *That's How!* by Christoph Niemann  
   *What Is a Living Thing?* by Bobbie Kalman  
   *What Kind of Living Thing Is It?* by Bobbie Kalman  
   *Living and Nonliving* by Angela Royston  
   *How Do Living Things Find Food?* by Bobbie Kalman  
   *Living Things* by Adrienne Mason  
   *Life on Earth* by Pennie Stoyles  
   *In Touch with Nature - Living Things* by John Farndon  
   *Each Living Thing* by Joanne Ryder  
   *Jack's Garden* by Henry Cole  
   *One Bean* by Anne Rockwell  
   *The Tiny Seed* by Eric Carle  
   *Plants in Different Habitats* by Bobbie Kalman  
   *From Seed to Plant* by Gail Gibbons  
   *Animals in Winter* by Henrietta Bancroft  
   *What Do Animals Do in Winter?: How Animals Survive the Cold* by Melvin Berger  
   *National Geographic Little Kids First Big Book of Animals* by Catherine D. Hughes  
   *The ABC's of Habitats* by Bobbie Kalman  
   *Crinkleroots Guide To Knowing Animal Habitats* by Jim Arnosky  
   *One Small Place in a Tree* by Barbara Brenner

Resources

* Science Lesson Plans ([http://www.learner.org/resources/lessonplanbrowse.html?grade\_levels%5B%5D=K-2disciplines%5B%5D=SCIpage=1per\_page=20query=](http://www.learner.org/resources/lessonplanbrowse.html?grade_levels%5B%5D=K-2&disciplines%5B%5D=SCI&page=1&per_page=20&query=))

Grade 1 Science  
Science 1

PS: Motion and Materials

Stage 1: Desired Results

Catholic Standards

Targeted Standards

OH Grade 1 OH: ELA & Literacy in History/Social Studies, Science, & Technical Subjects PreK-5

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RI.1.10.With prompting and support, read informational texts appropriately complex for grade 1.

Writing

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W.1.7. Participate in shared research and writing projects (e.g., explore a number of how-to books on a given topic and use them to write a sequence of instructions).

Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

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Speaking and Listening

Comprehension and Collaboration 1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others ideas and expressing their own clearly and persuasively.

SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

SL.1.1a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

SL.1.1b. Build on others talk in conversations by responding to the comments of others through multiple exchanges.

SL.1.1c. Ask questions to clear up any confusion about the topics and texts under discussion.

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Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

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Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

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Capacities of the Literate Individual

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, & Language

They demonstrate independence.

OH Grade 1 OH: Science (2011)

Science Inquiry and Application

Theme: Observations of the Environment This theme focuses on helping students develop the skills for systematic discovery to understand the science of the physical world around them in greater depth by using scientific inquiry. During the years of PreK-4 all students must use the following scientific processes to construct their knowledge and understanding in all science content areas:

Observe and ask questions about the natural environment;

Plan and conduct simple investigations;

Employ simple equipment and tools to gather data and extend the senses;

Use appropriate mathematics with data to construct reasonable explanations;

Communicate about observations, investigations and explanations

Review and ask questions about the observations and explanations of others.

Physical Science (PS)

Topic: Motion and Materials

Properties of objects and materials change.

Catholic Identity

DOC All Grades Catholic Identity

Catholic Social Justice Teachings

Care for God's Creation

The Rights of Children

1. THE RIGHT TO A CATHOLIC COMMUNITY that witnesses to Christ and the Gospel by protecting them from child abuse, including sexual abuse and neglect.

2. THE RIGHT TO A SAFE ENVIRONMENT that promotes care, protection, and security.

3. THE RIGHT TO BE RESPECTED AS INDIVIDUALS with human dignity.

4. THE RIGHT TO WORK ACTIVELY TOWARD THEIR OWN EMPOWERMENT through the development of their gifts and talents.

5. THE RIGHT TO A LEARNING ENVIRONMENT THAT VALUES COOPERATION and challenges its members to critical and reflective thinking in their search for truth.

6. THE RIGHT TO DEVELOP POSITIVE, RESPONSIBLE AND CARING ATTITUDES AND BEHAVIORS TOWARD OTHERS and to recognize the rights of others to be safe and free from harassment and abuse.

7. THE RIGHT TO LEARN THE SKILL OF SELF PROTECTION by identifying safe and unsafe situations.

8. THE RIGHT TO LEARN RESPONSIBILITY for themselves and their actions.

9. THE RIGHT TO MAKE RESPONSIBLE DECISIONS founded on religious conviction.

10. THE RIGHT TO GUIDANCE FROM THE CHURCH in their development as loving people.

Content

**Properties of objects and materials can change.**

a. Objects and materials change when exposed to various conditions, such as heating or freezing. (physical change)  
b. Changes in temperature are a result of changes in energy.  
c. Not all materials change in the same way.   
d. Physical changes in the environment are caused by the effects of weathering, erosion, deposition.

**Objects can be moved in a variety of ways, such as straight, zigzag, circular and back and forth.**

a. The position of an object can be described by locating it relative to another object or to the objects surroundings.

b. An object is in motion when its position is changing.

c. The motion of an object can be affected by pushing or pulling.  
d. A push or pull is a force that can make an object move faster, slower or go in a different direction.  
e. Changes in motion are a result of changes in energy.

Skills

1. Classify objects according to the materials they are made of and their physical properties (e.g., size, color, shape, texture, weight).
2. Explore and observe that things can be done to materials to change their properties (e.g., heating, freezing, mixing, cutting, wetting, dissolving, bending, and exposing to light).
3. Explore changes that greatly change the properties of an object (e.g., burning paper) and changes that leave the properties largely unchanged (e.g., tearing paper).
4. Compare different ways of changing an object or material.
5. Recognize that some materials can be a liquid or solid at room temperature and may change from one form to the other with a change in the temperature.
6. Explain that the amount of material in a solid or liquid remains the same when it is frozen or heated.
7. Explain that parts of objects have specific properties that allow them to work with other parts to carry out a particular function.
8. Define weathering, erosion and deposition.
9. Recognize effects of erosion as a physical change.
10. Describe the position of an object by comparing its location relative to another object (e.g., in front, behind, above, below).
11. Illustrate how objects can be moved and their positions are changed.
12. Demonstrate how objects can move in a straight line or a circle or back and forth or even in a zigzag pattern.
13. Explain that objects near Earth fall to the ground unless something holds them up.
14. Show how an objects motion can be faster, slower or change direction by pushing or pulling the object.
15. Investigate and predict a variety of ways to make things move and what causes them to change speed, direction, and/or stop.
16. Cite evidence that when parts are put together, they can do things that they could not do by themselves (e.g., blocks, gears and wheels).
17. Investigate a variety of ways to make things move and what causes them to change speed, direction and/or stop.
18. Explore how energy makes things work (e.g., batteries in a toy).
19. Recognize that the sun is an energy source that warms the land, air and water.
20. Describe that energy can be obtained from many sources in many different ways (e.g., food, electricity, batteries).

**Common Core Literacy Skills**

1. Read closely and comprehend scientific text.
2. Cite evidence from text.
3. Draw conclusions from text.
4. Integrate correct scientific terms.
5. Interpret pictures and diagrams.
6. Compare and contrast two texts on the same topic.
7. Utilize various text features (e.g., headings, tables of contents, glossaries, electronic menus, and icon).
8. Distinguish between pictorial and informational text.

**Common Core Writing Content**

1. Formulate arguments focused on discipline-specific content.
2. Compose informative/explanatory text.
3. Produce clear and coherent writing, appropriate to task, purpose and audience.
4. Edit and revise writing samples.
5. Utilize technology to produce and publish writing.
6. Conduct research projects.
7. Gather relevant sources.
8. Draw conclusion from evidence in text.
9. Write routinely.

**Common Core Listening and Speaking Skills**

1. Participate in collaborative skills.
2. Follow agreed-upon rules for discussions.
3. Ask and answer clarifying questions.
4. Use background knowledge to describe familiar people, places, things, and events.
5. Add drawings to provide additional details.
6. Speak audibly and express thoughts, feelings and ideas clearly.

Essential Questions

1. How can we change matter?
2. How do things move?
3. How do we change the way things move?
4. How do parts working together refine movement?
5. Why is it important for me to recycle materials?

Standards Vocabulary

1. physical properties
2. physical change
3. forces(push, pull)
4. motion/speed/direction
5. position
6. objects
7. magnets
8. energy sources
9. direction
10. batteries
11. electricity
12. blocks/gears/wheels

Stage 2: Assessment Evidence

New Crayons

Formative: Project

Students will fill a muffin tray with muffin cups, and place small crayon pieces inside the cups. Crayons will be heated until they are melted (oven or microwave). When melted, students will make observations of the melting process and observe what happens as the crayons cool. When cooled, they will remove the crayon from the muffin cup and color with their new crayons. Students will then engage in a class discussion about what happened to the crayons and reflect on the idea of using materials to create a new material. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Zigzag Ping-Pong Ball Activity

Summative: Cooperative Group Work

Working in cooperative groups, students will design, construct, and test a device that will cause a ping-pong ball to move in a zigzag pattern. They will record their observations and evaluate the effectiveness of the different devices made by different groups in the class. Finally, students will work together to redesign the device for greater effectiveness. They will test the redesigned device and record their observations. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Recycling

Summative: Research Project

Students will classify objects as recyclable and non-recyclable. They will then classify recyclable items into categories (paper, plastic, metal). Students create a poster showing the importance of recycling and share their poster with the class. What assessment tools/strategies will you use to assess student work? (checklists, rubrics, self-assessment tools, etc.)

Resources

Stage 3: Learning Plan

Learning Experiences

1. Using the site *On Line Lab* (see Links), engage students in various activities designed to help them  
   a. understand different materials and their physical make-up  
   b. understand materials and how they are affected  
   c. see how water will affect solids  
   d. understand the change in properties of an object in reference to its environment  
   e. understand effects some object have on others  
   f. understand effects some object have on others using Magnets  
   g. understand effects of using electricity
2. New Crayons -- Solid to liquid to solid --Investigate changes of properties in matter (See Link). Have students fill a muffin tray with muffin cups, and place small crayon pieces inside the cups. (Remove the paper from the crayons first.) Heat the crayons until they are melted (oven or microwave). When melted, have students make observations of the melting process and observe what happens as the crayons cool. When cooled, have students remove the crayon from the muffin cup and color with their new crayons. Engage students in a discussion about what happened in the process. Students will reflect on the idea of using materials to create a new material.  
   *(See http://www.ehow.com/info\_8495595\_activities-meltingcrayons.html#ixzz2WmTrC5YB for more information.)*
3. Working in cooperative groups, have students design, construct, and test a device that will cause a ping-pong ball to move in zigzag pattern. Have them record their observations and evaluate the effectiveness of the different devices made by different groups in the class. Have the students work together to redesign the device for greater effectiveness. Test the redesigned device and record their observations.
4. Using the PBS video *Recycling Center Field Trip* (see Links) and the teacher resource materials provided with it, engage students in a series of lessons designed to teach them the importance of recycling and how they can take care of the environment by recycling. The lessons and activities should address:  
   a. Environmental awareness  
   b. The recyclables/Making comparisons  
   c. Machines and people - How technology affects life  
   d. Using materials carefully  
   In each lesson, have students engage in the planned activities and record their observations, write journal entries, or create posters depicting what they learned about recycling. Have them share their work with the class.

Resources

* Melting Crayons (<http://www.ehow.com/info_8495595_activities-melting-crayons.html#ixzz2WmTrC5YB>)

Resources

1. iPad Resources
2. Literature Connection  
   *Move It!: Motion, Forces and You by Adrienne* Mason and Claudia Davila  
   *Forces and Motion: A Question and Answer Book* by Catherine A. Welch  
   *Recycle!: A Handbook for Kids* by G. Gibbons  
   *Motion: Push and Pull, Fast and Slow* by Darlene R. Stille  
   *Forces Make Things Move* by Kimberly Brubaker Bradley  
   *What Makes a Magnet?* by Franklyn M. Branley  
   *Forces Make Things Move* by Kimberly Brubaker Bradley  
   *Magnets: Pulling Together, Pushing Apart* by Natalie M. Rosinsky  
   *Touch It!: Materials, Matter and You* by Adrienne Mason  
   *Change It!: Solids, Liquids, Gases and You* by Adrienne Mason  
   *Matter: See It, Touch It, Taste It, Smell It* by Darlene R. Stille  
   *What Is a Solid?* by Jennifer Boothroyd  
   *Solids, Liquids, And Gases* by Ginger Garrett

Resources

* Brain Pop Junior (<http://www.brainpopjr.com/>)