

Grade 3 Science

| Topic/Theme: Plants | | | | |
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| <p>Essential Questions:</p> <ol style="list-style-type: none"> 1. In what ways are living and non-living things alike and different? 2. How do plants change over time? 3. How does the structure of a plant and its environment affect its survival? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| <p>3.1 Describe how the structures of plants and animals complement the environment of the plant or animal.</p> | <p>Are all plants the same?</p> <p>How do the parts (structures) of a plant help it to survive and reproduce?</p> <p>What things or events affect a plant's survival?</p> | <ul style="list-style-type: none"> • Each plant has different structures that serve different functions in growth, survival and reproduction. • Roots help support the plant and take in water and nutrients • Leaves help plants utilize sunlight to make food for the plant. • Stems, stalks, trunks and other similar structures provide support for the plant. • Some plants have flowers • Flowers are reproductive structures of plants that produce fruit which contains seeds. • Seeds contain stored food that aids in germination and the growth of young plants. | <p>Draw a picture; Label parts of a plant. On the drawing identify the functions of the plant's parts.</p> <p>Take a nature walk to collect seeds</p> <p>Sort and classify seeds by the method of dispersal.</p> <p>Observe seed parts</p> <p>Read <u>On the Banks of Plum Creek</u></p> | <p>Students List of ways plants are affected by environment</p> <p>teacher observation of drawings identifying structures</p> <p>Worksheet seed dispersal classification</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
| Connections to Technology: | | | | |
| Vocabulary: SF, Teacher's Edition (=t/e) t/e pp. A4, A28,A54. | | | | |

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| <p>Describe some survival behaviors of common living specimens.</p> | <p>How does a plant's environment affect its survival?</p> <p>How are seeds dispersed?</p> <p>What do plants do to help them respond to changes in their environment</p> | <ul style="list-style-type: none"> • In order to survive in their environment, plants and animals must be adapted to that environment. • Seeds disperse by a plant's own mechanism and/or in a variety of ways that can include wind, water and animals. • Plants respond to changes in their environment. For example, the leaves of some green plants change position as the direction of light changes, the parts of some plants undergo seasonal changes that enable the plant to grow; seeds germinate, and leaves form and grow. | <p>Make a chart of how seeds are dispersed.</p> <p>Collect seeds and classify by method of dispersal</p> <p>Make a list of survival behaviors of common living specimens</p> <p>Make Cause/Effect Chart for how organisms respond to changes in environment</p> | <p>Teacher observation</p> <p>SF Chapter 1 Assessment</p> <p>SF Chap 1 Practice Sheets</p> <p>Students write letter of plants needs to survive</p> |
| <p>• Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3</p> | | | | |
| <p>Connections to Technology:</p> | | | | |
| <p>Vocabulary: SF, Teacher's Edition (=t/e) t/e pp. A4, A28,A54.</p> | | | | |

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| <p>Describe the characteristics of and variations between living and non-living things.</p> <p>Describe evidence of growth, repair, and maintenance, such as nails, hair and bone, and the healing of cuts and bruises.</p> <p>Describe how plants and animals, including humans, depend upon each other and the non-living environment.</p> | <p>What does a plant need to grow?</p> <p>Why do people depend on plants?</p> | <ul style="list-style-type: none"> • Plants require air, water, nutrients, and light in order to live and thrive. • Growth is the process by which plants and animals increase in size. • Green plants are producers because they provide the basic food supply for themselves and animals. | <p>Students plant a lima bean seed and care for the plant.</p> <p>Students determine the mass before and after the growth.</p> <p>Fill in Observation Journals</p> <p>Students observe growth of plants. They measure and record data in a chart.</p> <p>Class discussion of food chain</p> <p>Worksheet: What are the different ways we use plants?</p> <p>View -Bill Nye, Science Guy "Plants"</p> | <p>Observe student journals.</p> <p>Worksheet - Plants Make Food</p> <p>SF Chap 2 & 3 Assessment</p> <p>Observe student journals</p> <p>Peer discussion</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
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| <p>Describe the relationship of the sun as an energy source for living and non-living cycles.</p> | <p>How does the sun affect living and non-living things</p> | <p>Plants manufacture food by utilizing air, water, and energy from the Sun.</p> | <p>Use SF Text Transparency #1 SF t/e pA3f.</p> <p>Read <u>Sun</u> by ... , <u>Planta</u> by Stephen Kellogg (books from book room)</p> <p>Listen to book on tape <u>The Sun</u></p> <p>View the tape "The Sun" from Library by Bill Nye</p> | <p>Teacher Observation</p> <p>Students answer Essay question with a Chart or Drawing on the relationship of the sun to living things as an energy source.</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
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| <p>Describe how the structures of plants and animals complement the environment of the plant or animal.</p> <p>Observe that differences within a species may give individuals an advantage in surviving and reproducing.</p> <p>Describe some survival behaviors or common living specimens.</p> | <p>Do all seeds germinate?</p> <p>How does a plant's environment affect its survival?</p> | <p>In order to survive in their environment, plants and animals must be adapted to that environment.</p> <ul style="list-style-type: none"> • Seeds disperse by a plant's own mechanism and/or in a variety of ways that can include wind, water, and animals. • All individuals have variations, and because of these variations, individuals of a species may have an advantage in surviving and reproducing. • Plants respond to changes in their environment. For example, the leaves of some green plants change position when the direction of light changes, the parts of some plants undergo seasonal changes that enable the plant to grow, seeds, germinate, and leaves form and grow | <p>Place collected seeds on petri dishes and observe growth.</p> <p>Class discussion</p> <p>List factors that interfere with successful germination</p> | <p>Observation of student journals</p> <p>Observe students' responses</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
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| <p>Describe some survival behaviors of common living specimens.</p> | <p>What is the effect of winter on seeds?</p> | <p>Plants respond to changes in their environment. For example, the leaves of some green plants change position as the direction of light changes, the parts of some plants undergo seasonal changes that enable to the plant to grow, seeds germinate, and leaves form and grow.</p> | <p>Collect samples of orange and apple seeds.</p> <p>Conduct experiment to determine if freezing temperatures affect the termination of the seed.</p> | <p>Observe students' journals</p> |
| <ul style="list-style-type: none">• Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
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| <p>Observe that differences within a species may give individuals an advantage in surviving and reproducing.</p> <p>Describe some survival behaviors of common living specimens</p> | <p>What are the effects of water, temperature, and light on the germination of a seed?</p> | <p>Individuals within a species may compete with each other for food, mates, space, water, and shelter in their environment.</p> <ul style="list-style-type: none"> • Plants respond to changes in their environment. For example, the leaves of some green plants change position as the direction of light changes, the parts of some plants undergo seasonal changes that enable the plant to grow; seeds germinate and leaves form and grow. | <p>Conduct experiment in group to determine the effects of water, temperature and light on germination.</p> <p>Write a paragraph to explain the effects</p> <p>Do experiment "Investigating Light and Plant Growth" SF t/eA3g</p> | <p>Teacher observation</p> <p>Rubric to score written paragraph</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
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| <p>Describe the characteristics of and variations between living and non-living things.</p> <p>Describe some survival behaviors of common living specimens.</p> | <p>What are the effects of varying amounts of soil, water, and light on plants.</p> | <p>Plants require air, water, nutrients, and light in order to live and thrive.</p> <ul style="list-style-type: none"> • The health, growth and development of organisms are affected by environmental conditions such as the availability of food, air, water, space, shelter, heat and sunlight. | <p>students will conduct a controlled experiment to test the varying amounts of salt, water, and light on plants.</p> <p>Students record changes and observations daily</p> | <p>Observation of student journals</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
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| <p>Describe how the structures of plants and animals complement the environment of the plant or animal.</p> | <p>What are the parts of a flower?</p> | <ul style="list-style-type: none"> • Each plant has different structures that serve different functions in growth, survival, and reproduction. • Roots help support the plant and take in water and nutrients. • Leaves help plants utilize sunlight to make food for the plant. • Stems, stalks, trunks, and other similar structures provide support for the plant. • Some plants have flowers. • Flowers are reproductive structures of plants that produce fruit which contains seeds. • Seeds contain stored food that aids in germination and the growth of young plants | <p>Students will dissect a flower and label its parts.</p> <p>Create and label a paper model of a flower.</p> <p>Explore Parts of a Plant using SF t/e p. A3e Lab Manual p.1</p> | <p>Quiz</p> <p>Worksheet - Parts of A flower</p> |
| <p>• Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3</p> | | | | |
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| <p>Describe the major stages in the life cycles of selected plants and animals.</p> | <p>What happens to the seeds that plants produce?</p> | <p>Major understandings:</p> <ul style="list-style-type: none"> • plants and animals have life cycles. These may include beginning of a life, development into an adult, reproduction as an adult, and eventually death. • each kind of plant goes through its own stages of growth and development that may include seed, young plant, and mature plant. • the length of time from beginning of development to death of a plant is called its life span. • Life cycles of some plants include changes from seeds to mature plant. | <p>Students will dissect an apple or flower to figure out what happens to the seeds.</p> | <p>Students are able to make a model of the life cycle of a plant.</p> |
| <p>• Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3</p> | | | | |
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| <p>Recognize that traits of living things are both inherited and acquired or learned.</p> <p>Recognize that for humans and other living things there is genetic continuity between generations.</p> | <p>Can plants propagate and complete their life cycle in other ways?</p> <p>How do plants that do not come from seeds reproduce?</p> | <ul style="list-style-type: none"> • Some traits of living things have been inherited (e.g. color flowers and number of limbs of animals) • Some characteristics result from an individual's interactions with the environment and cannot be inherited to the next generation (e.g. having scars, riding a bicycle) • Plants and animals closely resemble their parents and other individuals in their species. • Plants and animals can transfer specific traits to their offspring when they reproduce. | <p>Students will propagate plants that do not come from seeds (runner, tuber, bulb, cutting)</p> | <p>Record observations in science journal.</p> <p>Illustrate the four methods of propagation through drawings, collages, etc.</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
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| <p>Describe how the structures of plants and animals complement the environment of the plant or animal</p> <p>Observe that differences within a species may give individuals an advantage in surviving and reproducing.</p> | <p>How do the different structures of the plant affect its survival, growth, and reproduction?</p> | <ul style="list-style-type: none"> • Each plant has different structures that serve different functions in growth, survival, and reproduction. • Roots help support the plant and take in water and nutrients. • Leaves help plants utilize sunlight to make food for the plant. • Stems, stalks, trunks, and other similar structures provide support for the plant. • Some plants have flowers • Flowers are reproductive structures of plants that produce fruit which contains seeds. • Seeds contain stored food that aids in germination and the growth of young plants. • All individuals have variations, and because of these variations, individuals of a species may have an advantage in surviving and reproducing. | <p>Observe, record, and discuss 3 types of 1 species and note how their variations help them survive in their environment.</p> | <p>Create a drawing showing an animal (real or made up) with some parts labeled that help it survive. Write a paragraph telling how labeled parts help animal survive.</p> |
| <p>Describe how plants and animals including humans, depend upon each other and the non-living environment.</p> | <p>What happens to plants after they die?</p> | <ul style="list-style-type: none"> • Decomposers are living things that play a vital role in recycling nutrients. | <ul style="list-style-type: none"> • Students make a compost pile • Read <u>Pumpkin Jack</u> | <ul style="list-style-type: none"> • Write a paragraph about how to build a compost pile and its benefits. |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 1 - 3 | | | | |
| <p>Connections to Technology:</p> | | | | |
| <p>Vocabulary: SF, Teacher's Edition (=t/e) t/e pp. A4, A28,A54.</p> | | | | |

Grade 3 Science

| Topic/Theme: Rocks and Minerals | | | | |
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| Essential Questions: 1. How do we use properties to classify rocks? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Observe and describe properties of materials using appropriate tools | <p>What are properties?</p> <p>What are rocks?</p> <p>What are minerals?</p> | <ul style="list-style-type: none"> • Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses | <p>Have students examine a variety of rock and non-rock samples. Students will sort the items and explain their thinking.</p> <p>Discussion "What is rock?"</p> <p>Make a list of properties describing rocks</p> | <p>Teacher Observation</p> <p>Student's will sort rocks and explain how they sorted them.</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit C, Chapters 1, 2, & 3 | | | | |
| Connections to Technology: | | | | |
| <p>Vocabulary: SF, Teacher's Edition (=t/e) t/e p. C4, volcano, erupt, lava, magma, earthquake, landform, plain, plateau, weathering, erosion, glacier; p. C30 mineral, fossil, fuel, natural resource, ore, decay, humus, nutrient, clay soil, sandy soil, loam, recycle, landfill, conserve, cycle, model. C56 Star, planet, solar system, crater, axis, rotate, orbit, revolution, satellite, tide, phase, telescope, astronaut</p> | | | | |

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| Topic/Theme: Rocks and Minerals | | | | |
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| Essential Questions: 1. How do we use properties to classify rocks? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Observe and describe properties of materials, using appropriate tools. | <p>How can we identify a rock by its properties?</p> <p>How do objects change when they are exposed to different forms of energy?</p> | <ul style="list-style-type: none"> • Objects have properties that can be observed, described and/or measured length, width, volume, size, shape, mass or weight, temperature, texture, flexibility, reflectiveness of light. • The material(s) an object is made up of determine some specific properties of the object (sink/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders. • Objects and/or materials can be sorted or classified according to their properties. • Energy can be transferred from one place to another. | <p>Identify a set of unknown rock and mineral samples based upon their physical properties</p> <ul style="list-style-type: none"> • color, luster,, magnet, reacts with acid, electricity, streak, hardness <p>Use flowcharts to classify rocks/ minerals and determine their name.</p> <p>Make a model of a sedimentary rock SF t/e p. C29c</p> <p>Break down rocks into smaller pieces. SF t.e p. C29c</p> | <p>Observe students completed flowcharts</p> <p>Observe student journals</p> <p>"Exploring Properties of Rocks" Lab Man. Pp 51-52; SF t/e p. C29e</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit C, Chapters 1, 2, & 3 | | | | |
| Connections to Technology: | | | | |
| <p>Vocabulary: SF, Teacher's Edition (=t/e) t/e p. C4, volcano, erupt, lava, magma, earthquake, landform, plain, plateau, weathering, erosion, glacier; p. C30 mineral, fossil, fuel, natural resource, ore, decay, humus, nutrient, clay soil, sandy soil, loam, recycle, landfill, conserve, cycle, model. C56 Star, planet, solar system, crater, axis, rotate, orbit, revolution, satellite, tide, phase, telescope, astronaut</p> | | | | |

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| <p>Observe and describe properties of materials using appropriate tools</p> | <p>Where do rocks come from?</p> <p>How can we sort rocks by how they are formed?</p> | <ul style="list-style-type: none"> The material(s) an object is made up of determine some specific properties of the object (sing/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders. Objects and/or materials can be sorted or classified according to their properties. | <p>Make "Edible Rock" Samples</p> <p>Sort rock samples into rock types using "Rock Group Chart"</p> <p>SF t/e ppC3e, C6 "Exploring Rocks Formed from Molten Rock" (Lab Man. Pp47-48)</p> | <p>Students create a graphic organizer that compares the three rock classes and share with the class.</p> |
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- Connections to text: Scott Foresman Text (=SF), Unit C, Chapters 1, 2, & 3

Connections to Technology:

Vocabulary: SF, Teacher's Edition (=t/e) t/e p. C4, volcano, erupt, lava, magma, earthquake, landform, plain, plateau, weathering, erosion, glacier; p. C30 mineral, fossil, fuel, natural resource, ore, decay, humus, nutrient, clay soil, sandy soil, loam, recycle, landfill, conserve, cycle, model. C56 Star, planet, solar system, crater, axis, rotate, orbit, revolution, satellite, tide, phase, telescope, astronaut

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| Topic/Theme: Rocks and Minerals | | | | |
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| Essential Questions: 1. How do we use properties to classify rocks? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Describe the relationship among air, water, and land on Earth | How does erosion on Earth occur? What is sand? | <ul style="list-style-type: none"> • Erosion and deposition result from the interaction among air, water, and land. • interaction between air and water breaks down earth materials. • pieces of earth material may be moved by air, water, wind, and gravity. • pieces of earth material will settle or deposit on land or in the water in different places. • soil is composed of broken-down pieces of living and non-living earth material | <p>Read page 23 in the student booklet - Where do rocks go?</p> <p>Use magnifying glasses to examine the grains of sand and what rock they belong to.</p> <p>SF t/e p. C3f "Transparency 9" "Mountains to sand"; Lab Man pp 49-50. "Making a Model of a landform"</p> | <p>Teacher observation</p> <p>SF t/e C3 e-f UC Chap 1, "Lessons 1-3 Assessment" t/e pp C3g-h Chapter 1 Assessment</p> |
| <ul style="list-style-type: none"> • Connections to text: Scott Foresman Text (=SF), Unit C, Chapters 1, 2, & 3 | | | | |
| Connections to Technology: | | | | |
| <p>Vocabulary: SF, Teacher's Edition (=t/e) t/e p. C4, volcano, erupt, lava, magma, earthquake, landform, plain, plateau, weathering, erosion, glacier; p. C30 mineral, fossil, fuel, natural resource, ore, decay, humus, nutrient, clay soil, sandy soil, loam, recycle, landfill, conserve, cycle, model. C56 Star, planet, solar system, crater, axis, rotate, orbit, revolution, satellite, tide, phase, telescope, astronaut</p> | | | | |

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| <p>Describe patterns of daily, monthly and seasonal changes in their environment</p> | <p>Do rocks have a natural cycle?</p> | <ul style="list-style-type: none"> • Natural cycles and patterns include: <ul style="list-style-type: none"> • Earth spinning around once every 24 hours (rotation), resulting in day and night. • Earth moving in a path around the sun (revolution), resulting in one Earth year. • The length of daylight and darkness varying with the seasons • Weather changing from day-to-day and through the seasons • The appearance of the Moon changing as it moves in a path around Earth to complete a single cycle | <p>Read Rock Cycle page 26 and 27 student journal</p> <p>Act out rock cycle with students</p> <p>SF t/e pp C56 -C83 Chapter 3</p> <p>McGraw Hill <u>The Complete Book of Our Solar System</u> Teacher Resource Book</p> | <p>Teacher observation</p> <p>Answer discussion questions.</p> |
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- Connections to text: Scott Foresman Text (=SF), Unit C, Chapters 1, 2, & 3

Connections to Technology:

Vocabulary: SF, Teacher's Edition (=t/e) t/e p. C4, volcano, erupt, lava, magma, earthquake, landform, plain, plateau, weathering, erosion, glacier; p. C30 mineral, fossil, fuel, natural resource, ore, decay, humus, nutrient, clay soil, sandy soil, loam, recycle, landfill, conserve, cycle, model. C56 Star, planet, solar system, crater, axis, rotate, orbit, revolution, satellite, tide, phase, telescope, astronaut

Grade 3 Science

| Topic/Theme: Simple Machines | | | | |
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| Essential Questions: 1. How do simple machines make human's lives easier? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Observe and describe properties of materials using appropriate tools/ | <p>What does a spring scale measure?</p> <p>How do we measure weight and Volume of objects?</p> | <ul style="list-style-type: none"> • Measurements can be made with standard metric units and non-standard units. • Objects have properties that can be observed, described and/or measured length, width, volume, size, shape, mass or weight, temperature, texture, flexibility, reflectiveness of light • The force of gravity pulls objects toward the center of Earth | <p>Students can use a spring scale to determine the amount of Newton's a classroom object is.</p> <p>Students use a spring scale to find the Newtons of washers.</p> <p>SF t/e p. B3f Lab Man. Pp 23-24 "Estimating and measuring Mass</p> | <p>Students will use spring scales to accurately measure simple classroom objects and record their results.</p> <p>Given a set of numbers with decimals, students will be able to read them correctly.</p> <p>SF t/e pp B3f-B3h Unit B, Chap1 lesson & Chapter Assessments</p> |
| Connections to text: Scott Foresman Text (=SF), Unit B Chapters 1 & 2; t/e pp B1 - B54 | | | | |
| Connections to Technology: | | | | |
| Vocabulary: SF t/e p. B4 Matter, property, volume, mass, physical change, mixture, states of matter, solid, liquid, gas, water vapor, evaporates, condenses, chemical change,; p. B30 force, friction, gravity, magnetism, pole, work, simple machine, lever, fulcrum, inclined plane, screw, wedge, pulley, gear, wheel and axle, spring scale, Newtons, tenths, force. | | | | |

Grade 3 Science

| Topic/Theme: Simple Machines | | | | |
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| Essential Questions: 1. How do simple machines make human's lives easier? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Describe the effects of common forces (pushes and pulls) of objects, such as those caused by gravity, magnetism, and mechanical forces. | How does an inclined plane help you move an object? | <ul style="list-style-type: none"> • The position of an object can be described by locating it relative to another object of the background (e.g. on top of, next to, over, under, etc.) • The force of gravity pulls objects toward the center of Earth. • Mechanical energy may cause change in motion through the application of force and through the use of simple machines such as pulleys, levers, and inclined planes. | <p>Students will construct two inclined planes of varying steepness.</p> <p>View tapes on simple machines from Library by Bill Nye</p> | <p>Students will build two inclined planes - one steep and one low</p> <ul style="list-style-type: none"> - and compare the - efficiency of the two. |
| Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 1 & 2; t/e pp B1 - B54 | | | | |
| Connections to Technology: | | | | |
| Vocabulary: simple machine, inclined plane, slope, steep | | | | |

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| <p>Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy.</p> <p>Describe the effects of common forces (pushes and pulls) of objects, such as those caused by gravity, magnetism, and mechanical forces.</p> | <p>What is "Work"</p> <p>What makes objects move?</p> | <ul style="list-style-type: none"> • Energy can be transferred from one place to another. • Mechanical energy may cause change in motion through the application of force and through the use of simple machines such as pulley, levers, and inclined planes. | <p>Brainstorm "What does work mean to you?"</p> <p>Calculate work given the force and distance.</p> | <p>Students will demonstrate the ability to accurately measure work by using the formula $W = F \times D$</p> <p>Quiz on Force x Distance = Work</p> <p>SF t/e pp B29e-B29h Unit B, Chap2 lesson & Chapter Assessments</p> |
| <p>Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 1 & 2; t/e pp B1 - B54</p> | | | | |
| <p>Connections to technology:</p> | | | | |
| <p>Vocabulary: $W = F \times D$, Newton, centimeters, resistance</p> | | | | |

Grade 3 Science

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| <p>Describe the effects of common forces (pushes and pulls) of objects, such as those caused by gravity, magnetism, and mechanical forces.</p> | <p>What is a lever?</p> <p>How does a lever do work?</p> <p>How do Simple Machines help you do work?</p> | <ul style="list-style-type: none"> • The position of an object can be described by locating it relative to another object of the background (e.g. on top of, next to, over, under, etc.) • The force of gravity pulls objects toward the center of Earth. • Mechanical energy may cause change in motion through the application of force and through the use of simple machines such as pulleys, levers, and inclined planes. | <p>Use human lever activity label parts.</p> <p>Students will assemble a lever and label fulcrum, lad and force arm.</p> <p>SF t/e pp B52-53 "Lifting Objects with a Lever"</p> | <p>Teacher observation</p> <p>Students will record data in their student activity journals.</p> |
| <p>Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 1 & 2; t/e pp B1 - B54</p> | | | | |
| <p>Connections to technology:</p> | | | | |
| <p>Vocabulary: lever, fulcrum, effort arm, resistance arm</p> | | | | |

Grade 3 Science

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| <p>Describe the effects of common forces (pushes and pulls) of objects, such as those caused by gravity, magnetism, and mechanical forces.</p> | <p>Does a pulley make work easier?</p> <p>How does a pulley change the amount of force that needs to be applied?</p> | <ul style="list-style-type: none"> • Mechanical energy may cause change in motion through the application of force and through the use of simple machines such as pulleys, levers, and inclined planes. | <p>Students will construct the three different types of pulleys.</p> | <p>Teacher observation</p> <p>Student Demonstration</p> <p>Students will record data in their student activity journal</p> |
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Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 1 & 2; t/e pp B1 - B54

Connections to technology:

Vocabulary: fixed pulley, movable pulley, belt, block, tackle, block and tackle

Grade 3 Science

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| <p>Describe the effects of common forces (pushes and pulls) of objects such as those caused by gravity, magnetism, and mechanical forces.</p> | <p>How do different surfaces affect the force needed to move a load?</p> | <ul style="list-style-type: none">The amount of change in the motion of an object is affected by friction. | <p>Students will construct a ramp and use different materials to determine the effects of friction.</p> | <p>Teacher observation</p> <p>Students will record data in their student activity journal</p> |
| <p>Connections to text: Scott Foresman Text (=SF), Unit B Chapters 1 & 2; t/e pp B1 - B54</p> | | | | |
| <p>Connections to technology:</p> | | | | |
| <p>Vocabulary: friction, reduce, and increase</p> | | | | |

Grade 3 Science

| Topic/Theme: Motion | | | | |
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| Essential Questions: 1. How does gravity affect the forces of pushes and pulls? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Describe the effects of common forces (pushes and pulls) of objects such as those caused by gravity, magnetism, and mechanical forces. | <p>What are inertia and force?</p> <p>Does the center of gravity of an object change with movement?</p> <p>Can forces be measured?</p> <p>What do you need to do to make an object "start" or "stop"?</p> <p>Do you need more force to start an object moving or keep it moving?</p> <p>Can kinetic energy travel through objects and be transferred to other objects?</p> <p>Will a more massive object have more kinetic energy to pass along?</p> | <ul style="list-style-type: none"> The position of an object can be described by locating it relative to another object or the background (e.g. on top of, next to, over, under, etc.) The position of direction of motion of an object can be changed by pushing or pulling. The force of gravity pulls objects toward the center of Earth. The amount of change in the motion of an object is affected by friction. | <p>SF Unit B, Chapters @ & 3</p> <p>Foss Kit</p> <p>Video Bill Nye "Gravity"; "Friction"</p> <p>Pendulum ball activity</p> <p>Book Room - Gravity t/e p. B29d <u>The Best New Thing</u> activity</p> | <p>Teacher observation</p> <p>Center of Gravity mobile</p> <p>Make a list of things that you can't do on earth but could do somewhere else</p> |
| Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2; t/e pp B1 - B54 &3 t/e pp B55- B83 | | | | |
| Connections to technology: | | | | |
| Vocabulary: balance point, center of gravity, energy, force, friction, gravity, inertia, interact, kinetic energy, mass, motion, pendulum, potential energy, properties, revolution, system, transfer, variable | | | | |
| Connections to text: | | | | |

Grade 3 Science

| Topic/Theme: Buoyancy | | | | |
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| Essential Questions: 1. How do the properties of an object affect its buoyancy? 2. How does the density of liquid affect buoyancy? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Observe and describe properties of materials, using appropriate tools. | What is matter? What are properties? How can tools help us observe and measure objects? What objects will float? | <ul style="list-style-type: none"> • Matter takes up space and has mass. Two objects cannot occupy the same place at the same time. • Objects have properties that can be observed, described and/or measured length, width, volume, size, shape, mass or weight, temperature, texture, flexibility, reflectiveness of light. • The material(s) an object is made up of determine some specific properties of the object (sink/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders. • Objects and/or materials can be sorted or classified according to their properties. | Magnetism & Electricity Foss Kit Make a list of properties Sort objects by properties Give students tools and objects and have them pair up object with correct measuring tool Bill Nye video Magnetism 7 Measurement & Buoyancy | Unit Test Boat float Project Buoyancy Class Evaluation, |
| Connections to text: Student Activity Packet, Math Text (measurement), Houghton-Mifflin - Enjoy-Titanic - p. 225-249 | | | | |
| Connections to Technology: NOVA Online (GOOGLE) | | | | |
| Vocabulary: bar graph, buoyancy, capacity, cargo, characteristic, chart, constant, density, displacement, float, level, load, shape, sink, space, stability, surface area, table, variable, weight, | | | | |

Grade 3 Science

| Topic/Theme: Water Around Us | | | | |
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| Essential Questions: 1. How does the relationship among air, water and land affect the earth's weather? 2. How do extreme natural events impact living things positively and negatively? 3. How can water exist in different forms/states? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Describe the relationship among air, water and land on Earth Describe chemical and physical changes, including changes in states of matter. | How can weather be measured and described? What is the water cycle? What are evaporation, condensation, and precipitation? | <ul style="list-style-type: none"> • Weather is the condition of the outside air at a particular moment. • Weather can be described and measured by: temperature wind speed and direction form and amount of precipitation general sky conditions (cloudy, sunny, partly cloudy) • Water is recycled by natural processes on Earth • Evaporation: changing of water (liquid) into water vapor (gas) • Condensation: changing of water vapor (gas) into water (liquid) • Precipitation: rain, sleet, snow, hail runoff: water flowing on Earth's surface groundwater: water that moves downward into the dirt | <u>All About Water</u> <u>Magic School Bus</u> <u>Inside the Water Treatment Plant</u> <u>Water Dance</u> __SF Unit C Chapters 1, 2, & 4 SF t/e p. C83d Human Weather Vane Game t/e p. C86 "Exploring How Clouds Form" Create a diagram of the water cycle View library video Bill Nye "Water Cycle" | Water Cycle Review and Student Activity Sheets Label diagram of water cycle Explain how the water cycle works t/e p. C96-97. |
| Connections to text: Scott Foresman Text (=SF), Unit C, Chapters 1, 2, & 3 | | | | |
| Vocabulary: evaporation, temperature, precipitation, water cycle, water vapor, condensation, fog, ground water, solid, liquid, gas, cloud, dew, hail, matter, property, rain run-off, sleet, snow, thermometer, weathering, erosion, glacier, | | | | |

Grade 3 Science

| Topic/Theme: Water Around Us | | | | |
|---|---|--|---|--|
| Essential Questions: | | | | |
| 1. How does the relationship among air, water and land affect the earth's weather? 2. How do extreme natural events impact living things positively and negatively? 3. How can water exist in different forms/states? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| | Where does the water go when it keeps raining? Which material will soak up more water? What is the water cycle? | <ul style="list-style-type: none"> • Erosion and deposition result from the interaction among air, water, and land. <ul style="list-style-type: none"> • interaction between air and water breaks down earth materials • Pieces of earth material may be moved by air, water, wind, and gravity. <ul style="list-style-type: none"> • Pieces of earth material will settle or deposit on land or in the water in different places. • soil is composed of broken-down pieces of living and non-living earth material • Extreme natural events (floods, fires, earthquakes, volcanic eruptions, hurricanes, tornadoes, and other severe storms) may have positive or negative impacts on living things | <u>Drip Drop - How Water Gets to Your Tap</u> <u>Thundercake</u> <u>Books from book Room</u> BOCES videos; Introduction to the Water Cycle Rain: A First Film Bill Nye video "Erosion Tornado in a bottle t/e p. C98-99 Make chart on ways to Prevent Erosion Walk to view erosion to McGraw park t/e p. C111 Beach Erosion Model | Write a short News Report describing what happened to the beach (p.C111) Write about what they saw as signs of erosion SF Unit C Chapter 4 Assessments |
| Connections to Text: Scott Foresman Text (=SF), Unit C, Chapters 1, 2, & 3 | | | | |

Grade 3 Science

| Topic/Theme: Water Around Us | | | | |
|---|--|--|---|---|
| Essential Questions: | | | | |
| 1. How does the relationship among air, water and land affect the earth's weather? 2. How do extreme natural events impact living things positively and negatively? 3. How can water exist in different forms/states? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| | What is matter? What are 3 states of matter? How can you classify objects? How can you change states of matter? What changes do you see when matter changes? | Major understanding: <ul style="list-style-type: none"> • Matter exists in three states: solid, liquid, gas <ul style="list-style-type: none"> -solids have a definite shape and volume -liquids do not have a definite shape but have a definite volume -gasses do not hold their shape or volume • Temperature can affect the state of matter of a substance • Changes in the properties or materials of objects can be observed and described | Classify objects in classroom by solid, liquid, or gas Physical change - t/e p. B3c "Physically change cream to make butter" Melt ice, boil water, and freeze water Chemical Change t/e p.B23 Apple Experiment Cook batter to bake a cake | Teacher Observation SF t/e p. B19 Give students a piece of paper & write down ways they can make a physical change to it. t/e p. B23 Quick Quiz |
| Connections to text: Scott Foresman Text (=SF), Unit C, Chapters 1, 2, & 3 | | | | |
| Vocabulary: evaporation, temperature, precipitation, water cycle, water vapor, condensation, fog, ground water, solid, liquid, gas, cloud, dew, hail, matter, property, rain run-off, sleet, snow, thermometer, weathering, erosion, glacier, | | | | |

Grade 3 Science

| Topic/Theme: Sound | | | | |
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| Essential Questions: 1. What is the effect on energy when sound is transferred from one object to another? 2. How do humans use the interactions between matter and energy? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy. | <p>What causes sound?</p> <p>How do we hear?</p> <p>What is pitch?</p> <p>How does vibration produce sound?</p> <p>How can people use materials to transfer sound energy?</p> | <ul style="list-style-type: none"> • Energy exists in various forms: sound • Energy can be transferred from one place to another: • Energy and matter interact: water is evaporated by the sun's heat, a musical instrument is played to produce sound. • Humans utilize interactions between matter and energy. <ul style="list-style-type: none"> • Mechanical to sound (e.g. musical instrument, clapping) | <p>Ear Model Project SF Unit B Chapter 4 BOCES videos: Toot, Whistle, Plunk & Boom, Listen! Hear!, Exploring Sound, What is an Echo Library videos - Bill Nye SF t/e p. B83c "Make a Pitch Pipe" t/e p. B83e-f LabMan. pp 41-24 Exploring Sound & "Changing Pitch Students make a Tuning Fork and a Comb Kazoo</p> | <p>Teacher observation of student participation during group activities</p> <p>Student Journals - Responses to Activities</p> <p>SF Unit B Chapter 4 Assessments</p> |
| Connections to text: Scott Foresman Text (=SF), Unit B, Chapter 4 | | | | |
| Connections to Technology: Science Court (Sound) GOOGLE | | | | |
| Vocabulary: vibrate, vibrations, volume, pitch, echo, vocal cords, eardrum, nerve, energy, lower, pitch, volume, softer, decibel, sound waves. | | | | |

Grade 3 Science

| Topic/Theme: Life in a Community | | | | |
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| Essential Questions: 1. What do living things need? 2. How do you know when something is living or non-living? 3. What is a plant life cycle? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Describe the characteristics of variations between living and non-living things. Describe the life processes common to all living things. | What is a community? What do animals need to live and thrive? What are characteristics of living and non-living things? What is a life cycle/ What is a habitat? | Major Understandings: <ul style="list-style-type: none"> • Animals need air, water and food in order to live and thrive. • Plants require air, water, nutrients, and light in order to live and thrive. • Non-living things do not live and thrive. • Non-living things can be human-created or naturally occurring. • Living things grow, take in nutrients, breathe, produce, eliminate waste and die. | BOCES Videos - Soil: an Introduction; Plants and Animals Depend on Each Other; Producers and Consumers; Predators of North America; How Animals Survive. Library videos by Bill Nye SG Poster of Lifecycle pf Plants/Animals SF Unit A Chaps 2-4 Animal Reports Make animal habitats SF Inst. Resrce. p.33 Create a "Food Chain Poster using pictures of plants, animals, & environments | Unit Test Teacher observation Student activity sheets Write an essay describing animals adapt & how it helps the animal to thrive and survive. |
| Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 3 -4 | | | | |
| Connections to Technology: | | | | |
| Vocabulary: SF t/e p. A54; Organism, habitat, environment, adaptation, producer, consumer, food chain, predator, prey, population, behavior, camouflage, carnivore, community, dependent, energy source, food web, habitat, interdependent, omnivores, shelter, t/e p. A82: drought, endangered organism, extinct organism, fossil, pollution, recycle. | | | | |

Grade 3 Science

| Topic/Theme: Life in a Community | | | | |
|---|--|---|---|--|
| Essential Questions: 1. What do living things need? 2. How do you know when something is living or non-living? 3. What is a plant life cycle? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| <p>Recognize that traits of living things are both inherited and acquired or learned.</p> <p>Recognize that for humans and other living things there is genetic continuity between generations.</p> | <p>What traits in living things are inherited,, acquired or learned?</p> <p>What is an adaptation?</p> <p>What is the difference between learned and inherited behavior?</p> | <p>Major understandings</p> <ul style="list-style-type: none"> Some traits of living things have been inherited (e.g. color flowers and number of limbs of animals) Some characteristics result from an individuals' interactions with the environment and cannot be inherited by the next generation (e.g. having scars, riding a bicycle) Plants and animals closely resemble their parents and other individuals in their species. Plants and animals can transfer specific traits to their offspring when they reproduce. | <p>Pond Study using "Life in a Pond" 1979 National Geographic Guide & "Rivers and Ponds" by TCM Inc. (TCM 2114) Library Bill Nye videos on ecosystems, animal adaptations, life in a Pond</p> <p>Pick and animal and describe an adaptation that will help it live & thrive in its habitat</p> <p>Read "Around the Pond: Who Has been Hear?" Gr. 2 Anthology</p> <p>Read 7n Discuss and do Activities in SF Unit A Chapters 2,3,& 4</p> | <p>Pond Study Field Trip</p> <p>Chapter & Lesson Assessments See SF t/e pp A27e-B27h; A53e - A53h; A81e - 81h.</p> |
| Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 2 -4 | | | | |
| Connections to Technology: | | | | |
| Vocabulary: SF t/e p. A54; Organism, habitat, environment, adaptation, producer, consumer, food chain, predator, prey, population, behavior, camouflage, carnivore, community, dependent, energy source, food web, habitat, interdependent, omnivores, shelter, t/e p. A82: drought, endangered organism, extinct organism, fossil, pollution, recycle. | | | | |

Grade 3 Science

| Topic/Theme: Life in a Community | | | | |
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| Essential Questions: 1. How does the environment affect living things? 2. What is an environment (habitat)? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Describe basic life functions of common living specimens (e.g. guppies, mealworms, gerbils) Describe some survival behaviors of common living specimens | What is a Life Cycle? How do an organism's physical features help it to survive? | Major Understandings: <ul style="list-style-type: none"> • All living things grow, take in nutrients, breathe, reproduce, and eliminate waste. • An organism's external physical features can enable it to carry out life functions in particular environment. • Plants respond to changes in their environment. For example, the leaves of some green plants change position as the direction of light changes; the parts of some plants undergo seasonal changes that enable the plant to grow; seeds germinate, and leaves form and grow. | Draw and describe the life cycle of an organism. Read "The Crafty Chameleon" Make a list of organisms and their survival behavior Make a model of a camouflaged egg (SF t/e p. A53c) | Teacher Observation Science Journals - Write a Letter from a Chameleon to a relative describing its survival behavior. SF Unit A, Chapter 2 Assessments |
| Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 3 -4 | | | | |
| Connections to Technology: | | | | |
| Vocabulary: SF t/e p. A54; Organism, habitat, environment, adaptation, producer, consumer, food chain, predator, prey, population, behavior, camouflage, carnivore, community, dependent, energy source, food web, habitat, interdependent, omnivores, shelter, t/e p. A82: drought, endangered organism, extinct organism, fossil, pollution, recycle. | | | | |

Grade 3 Science

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| <p>Describe how plants and animals, including humans, depend upon each other and the non-living environment.</p> | <p>What are the carnivores, herbivores, and omnivores?</p> <p>What I a producer? What is a consumer?</p> <p>What is a food chain?</p> <p>What is a habitat?</p> <p>How can we represent how all the organisms in a community get energy?</p> <p>What is the source of the energy that moves through the food Chain?</p> | <p>Major Understandings:</p> <p>Green plants are producers because they provide the basic food supply for themselves and animals</p> <p>All animals depend on plants. Some animals (predators) each other animals (prey).</p> <p>Animals that eat plants for food may in turn become food for other animals. This sequence is called a food chain.</p> <p>Decomposers are living things that play a vital role in recycle nutrients.</p> <p>An organism's pattern of behavior is related to the nature of that organism's environment, the availability of food and other resources, and the physical characteristics of the environment.</p> <p>When the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.</p> | <p>SF Unit A Chapters 3-4</p> <p>Books: <u>Chato's Kitchen</u>, <u>Elephant Baby Bashi</u>, <u>Who Eats What?</u> <u>Food Chains and Food Webs</u>, <u>Welcome to the Greenhouse</u></p> <p>Compare & Contrast two different habitats</p> <p>Graphic Organizer t/e p. A61 (Reading Assist)</p> <p>Library Bill Nye</p> <p>Videos</p> <p>SF t/e p. A81d</p> <p>Environmental Impacts t/e p. A53c Who Eats What?</p> <p>t/e p. A72</p> <p>Integrating the Science</p> | <p>Teacher Observation</p> <p>Students write "A Day In the life of a/n (name an organism of their choice)"</p> <p>SF Unit A, Chapters 3 & 4 Assessments</p> <p>Students Display and Share their Food Chain Models</p> |
| <p>Connections to text: Scott Foresman Text (=SF), Unit A, Chapters 3 -4</p> | | | | |
| <p>Connections to Technology:</p> | | | | |
| <p>Vocabulary: SF t/e p. A54; Organism, habitat, environment, adaptation, producer, consumer, food chain, predator, prey, population, behavior, camouflage, carnivore, community, dependent, energy source, food web, habitat, interdependent, omnivores, shelter, t/e p. A82: drought, endangered organism, extinct organism, fossil, pollution, recycle.</p> | | | | |

Grade 3 Science

| Topic/Theme Electricity | | | | |
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| Essential Questions: 1. How does energy change? 2. How is energy conserved? | | | | |
| Performance Indicators | Guided Questions | Essential Knowledge & Skills | Classroom Ideas | Assessment Ideas |
| Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy. | <p>What are different forms of energy?</p> <p>How do objects change when they are exposed to different forms of energy?</p> | <ul style="list-style-type: none"> Energy exists in various forms: heat, electric, sound, chemical, mechanical, light Energy can be transferred from one place to another | <p>Complete a closed circuit using a battery, bulb and wire.</p> <p>"Exploring forms of energy" SF t/e p B 58</p> <p>"Stored Energy Twirl and Whirl" SF t/e p B 55c</p> <p>Activity - "Will sugar melt faster in hot tea or ice tea?"</p> <p>Read/ Discuss SF pp60-63</p> | <p>Teacher observation</p> <p>List energy sources</p> <p>SF t/e p. B 62 "Quick Quiz"</p> |
| Connections to text: Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2 & 3; t/e pp B30 - B83 | | | | |
| Connections to Technology: | | | | |
| Vocabulary: SF t/e pB30 gravity magnetism pole. t/e p B56 energy, stored energy, energy of motion, conductor, insulator, fuel, temperature, ray reflect, lens, electric charges, electric circuit, electromagnet, battery, circuit, closed circuit, system | | | | |

Grade 3 Science

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| <p>Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy.</p> | <p>How is a circuit created?</p> <p>What is needed to make a circuit closed?</p> <p>What is an open circuit?</p> | <ul style="list-style-type: none"> • Energy and matter interact; water is evaporated by the sun's heat; a bulb is lighted by means of electrical current; a musical instrument is played to produce sound; dark colors may absorb light, light colors may reflect light. • Electricity travels in a closed circuit. | <p>Energy Ball Activity - Students will connect hands and use an energy ball to make a closed circuit.</p> <p>Use "Foss Kit" to build a closed circuit - Give students a wire, light bulb, and battery, then have them arrange them so that the bulb lights.</p> | <p>Complete worksheet demonstrating where wires and bulbs go to create closed circuit.</p> <p>Teacher observation.</p> |
| <p>Connections to text: Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2 & 3; t/e pp B30 - B83</p> | | | | |
| <p>Connections to Technology:</p> | | | | |
| <p>Vocabulary: SF t/e pB30 gravity magnetism pole. t/e p B56 energy, stored energy, energy of motion, conductor, insulator, fuel, temperature, ray reflect, lens, electric charges, electric circuit, electromagnet, battery, circuit, closed circuit, system</p> | | | | |

Grade 3 Science

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| <p>Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy.</p> | <p>How can brightness be measured?</p> <p>What liquids conduct electricity?</p> <p>What solids conduct electricity?</p> <p>What is a conductor?</p> <p>What is an insulator?</p> <p>How does heat move through matter</p> | <ul style="list-style-type: none"> Some materials transfer energy better than others (heat and electricity) | <p>Create a device to measure brightness using paper, test on a light bulb.</p> <p>"Kids Discover magazine - Electricity p.45</p> <p>Create a Chart of conductors and insulators</p> <p>R&D SF pp B 64-65.</p> <p>Melt ice cubes using water with different temperature. SF t/e p B64 (Inquiry) With Electricity</p> <p>Read books on Electricity from Book Room</p> <p>View -Bill Nye, Science Guy "Electricity"</p> | <ul style="list-style-type: none"> teacher observation oral demonstration |
| <p>Connections to text: Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2 & 3; t/e pp B30 - B83</p> | | | | |
| <p>Connections to Technology:</p> | | | | |
| <p>Vocabulary: SF t/e pB30 gravity magnetism pole. t/e p B56 energy, stored energy, energy of motion, conductor, insulator, fuel, temperature, ray reflect, lens, electric charges, electric circuit, electromagnet, battery, circuit, closed circuit, system</p> | | | | |

Grade 3 Science

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| <p>Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy</p> | <p>How can electrical language be used in drawings?</p> | <p>Discover that a model of something is different from the real thing but can be used to study the real thing.</p> <p>Use different types of models, such as graphs, sketches, diagrams, and maps to represent various aspects of the real world.</p> | <p>Draw and label a closed circuit.</p> | <p>Students draw and label a diagram of a closed circuit.</p> |
| <p>Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2 & 3; t/e pp B30 - B83</p> | | | | |
| <p>Connections to technology:</p> | | | | |
| <p>Vocabulary: SF t/e pB30 gravity magnetism pole. t/e p B56 energy, stored energy, energy of motion, conductor, insulator, fuel, temperature, ray reflect, lens, electric charges, electric circuit, electromagnet, battery, circuit, closed circuit, system terminal, bare wire, positive terminal, negative terminal, insulated wire</p> | | | | |

Grade 3 Science

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| <p>Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy</p> | <p>What is a series circuit? In what ways would the circuit <u>not</u> work?</p> | <p>Electricity travels in a closed circuit.</p> | <p>Construct a series circuit and a parallel circuit. (See p. 34 - 35 in <u>Experiments with Electricity</u>) Use Foss kits</p> | <p>Teacher observation</p> |
| <p>Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2 & 3; t/e pp B30 - B83</p> | | | | |
| <p>Connections to technology:</p> | | | | |
| <p>Vocabulary: Vocabulary: SF t/e pB30 gravity magnetism pole. t/e p B56 energy, stored energy, energy of motion, conductor, insulator, fuel, temperature, ray reflect, lens, electric charges, electric circuit, electromagnet, battery, circuit, closed circuit, system terminal, bare wire, positive terminal, negative terminal, insulated wire series circuit, dimmer</p> | | | | |

Grade 3 Science

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| <p>Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy</p> | <p>How are circuits with batteries wired in series and batteries wired in parallel different?</p> | <ul style="list-style-type: none"> • Identify common things that can be considered to be system. • Electricity travels in a closed circuit | <p>Create series and parallel circuits where batteries and bulbs are wired differently;</p> <p>Compare and contrast brightness. (See p. 34 - 35 in <u>Experiments with Electricity</u>)</p> | <p>teacher observation</p> <p>Fill out science journal - Students will create diagrams of a series and a parallel circuit.</p> |
| <p>Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2 & 3; t/e pp B30 - B83</p> | | | | |
| <p>Connections to technology:</p> | | | | |
| <p>Vocabulary: Vocabulary: SF t/e pB30 gravity magnetism pole. t/e p B56 energy, stored energy, energy of motion, conductor, insulator, fuel, temperature, ray reflect, lens, electric charges, electric circuit, electromagnet, battery, circuit, closed circuit, system terminal, bare wire, positive terminal, negative terminal, insulated wire series circuit, dimmer</p> | | | | |

Grade 3 Science

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| <p>Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy</p> | <p>How is a light turned on and off?</p> | <p>Observe and describe interactions among components of simple systems.</p> <p>Electricity travels in a closed circuit.</p> | <p>Use materials to construct a successful switch</p> | <p>Teacher observation</p> |
| <p>Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2 & 3; t/e pp B30 - B83</p> | | | | |
| <p>Connections to technology:</p> | | | | |
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Grade 3 Science

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|--|--|--|--|--|
| <p>Describe a variety of forms of energy (e.g. heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy</p> | | <ul style="list-style-type: none"> • Humans utilize interactions between matter and energy. <ul style="list-style-type: none"> -chemical to electrical, light and heat: battery and bulb -electrical to sound (e.g. doorbell buzzer) -mechanical to sound (e.g. musical instrument, clapping) -light to electrical (e.g. solar-powered calculator) | <p>Make a chart on how energy moves as heat, electrical, sound, chemical, mechanical and light forms (SF t/e p. B62-63.)</p> | |
| <p>Connections to text: Connections to text: Scott Foresman Text (=SF), Unit B Chapters 2 & 3; t/e pp B30 - B83</p> | | | | |
| <p>Connections to technology:</p> | | | | |
| <p>Vocabulary: Vocabulary: SF t/e pB30 gravity magnetism pole. t/e p B56 energy, stored energy, energy of motion, conductor, insulator, fuel, temperature, ray reflect, lens, electric charges, electric circuit, electromagnet, battery, circuit, closed circuit, system terminal, bare wire, positive terminal, negative terminal, insulated wire series circuit, dimmer</p> | | | | |