

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS
SCIENCE CURRICULUM
GRADE 3**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<p>A. LIFE SCIENCE</p> <p>1. How Plants Live and Grow</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore the characteristics of plant leaves, stems, and roots. • learn how roots and stems are important to plants. • explore how green leaves make sugar for a plant. • investigate how fruits and seeds from different plants are alike and different. 	<ul style="list-style-type: none"> • Have the students examine leaves, stems and roots of a plant, draw pictures, and write descriptions of plant parts. Record results in their Lab Manual. • By drawing pictures, students sequence the production of sugar in plants, beginning with the sun and ending with the movement of sugar to the roots. • Have students observe and describe the characteristics of a particular fruit as well as the seeds of that fruit. Record results in their Lab Manual. 	<ul style="list-style-type: none"> • Text pg. A4-A7 • TM pg. A4-A7 • Lab Manual pp. 1-2 • Instruc. Res. pp. 4 <p>From Kit:</p> <ul style="list-style-type: none"> • Pinto bean seed • Seed starter mix • Plastic cup • Hand lens • Newspaper <ul style="list-style-type: none"> • Text pg. A8-A11 • TM pg. A8-A11 • Drawing paper <ul style="list-style-type: none"> • Text pg. A12-A13 • TM pg A12-A13 • Lab Manual pp. 3-4 • Hand lens • Fruits • Paper towels • Colored pencils/crayons 	<ul style="list-style-type: none"> • Teacher Observation • Lesson 1 Assess. • Activity Rubric T1 	<p>5.5 A-3</p> <p>5.5 A-2, 3</p> <p>5.5 A-2</p>

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<p>A. LIFE SCIENCE</p> <p>2. How Animals Grow and Change</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore the structure of eggs. • learn how animal babies grow to look like their parents. • discover how animals grow from eggs. • learn to describe the life cycle of a spider. • learn to describe the life cycle of different kinds of insects. • investigate the stages of a beetles life cycle. • learn about the life cycles of fishes and frogs. • learn about the life cycle of mammals. 	<ul style="list-style-type: none"> • Have students observe the shell, yolk, and egg white of a hard-boiled egg and compare and contrast it with a raw egg. They record observations in their Lab Manuals. • Students compare the bodies of tadpoles with that of an adult frog. Keep a container of tadpoles in the classroom so that students can observe their metamorphosis into frogs. • After reading about insects and arachnids, students compare and contrast them by recording information on a chart they make. • Students observe a mealworm and record how the appearance changes as it enters the pupa stage. After adult beetles emerge from pupal cases, students compare three stages of its life cycle. • Given 4 index cards with pictures that show the life cycle of a fish, frog, or mammal, students form small groups and determine the proper sequence of their group's life cycle. Exchange cards and repeat the process. 	<ul style="list-style-type: none"> • Text pp. A28-A31 • TM pp. A28-A31 • Lab Manual pp. 7-8 • Text pp. A32-A35 • TM pp. A32-A35 • Tadpoles • Jar of pond water • Adult frog • Hand lens • Text pp. A36-A39 • TM pp. A36-A39 • Text pp. A40-41 • TM pp. A40-A41 • Lab Manual pp. 9-10 • Mealworms • Hand lens • Plastic spoon & jar • Cheesecloth • Text pp. A42-A47 • TM pp. A42-A47 • Index cards • Transparency 2 	<ul style="list-style-type: none"> • Activity Rubric T2 • Lesson Assessment p. 15 • Lesson 2 Assessment p. 16 • Activity Rubric T3 • Lesson 3 Assessment p. 17 	<p>5.5 A-1 5.5 B-1, 2</p> <p>5.5 A-1 B-1, 2</p> <p>5.3 D-1 5.5 C-1</p> <p>5.5 C-1</p> <p>5.5 C-1</p>

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<p>A. LIFE SCIENCE</p> <p>3. Living Things and Their Environment (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • discover what a habitat is • explore how organisms can change their environments. • investigate how quickly water moves through leaves of different plants. • understand what an adaptation is • discover how adaptations help organisms meet their needs. 	<ul style="list-style-type: none"> • Have students go out to the playground. On paper, have them record how many there are of five different kinds of organisms they see in the playground habitat. Back in the classroom, they make a pictograph to represent the number of trees, flowers, birds, insects, or other different organisms they recorded outside. • Students observe, measure, categorize, and make a record of the living and nonliving things in a given habitat. • Students make an apparatus that allows them to observe how quickly water passes through the leaves of jade and coleus plants. They observe them for 5 days to determine where the water passes more quickly. Record results in their Lab Manual. • Students choose an organism and describe the adaptations that allow that organism to survive in its environment. They may include a diagram of their organism indicating its physical adaptations or a drawing that illustrates its adaptive behaviors. 	<ul style="list-style-type: none"> • Text pp. A58-A63 • TM pp. A58-A63 • Drawing paper • Text pp. A64-A65 • TM pp. A64-A65 • Lab Manual pp. 13-14 • Jade plant • Coleus plant • Clear plastic cups • Safety goggles • Text pp. A66-A69 • TM pp. A66-A69 • Transparency 3 • Writing and drawing paper 	<ul style="list-style-type: none"> • Lesson 1 Assessment p. 27 • Activity Rubric T4 • Lesson 2 Assessment p. 28 	<p>5.5 A-2</p> <p>5.1 A-4</p> <p>5.5 A-3 5.5 B-2</p>

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<p>A. LIFE SCIENCE</p> <p>3. Living Things and Their Environment (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • learn the difference between producers and consumers • describe the parts of a food chain. • describe how the size of a population can change. • learn what makes up a community • explore how increasing populations affect an environment. • understand and act on the problem that is presented. • demonstrate knowledge of skills and concepts taught in Ch. 3. 	<ul style="list-style-type: none"> • Students draw a picture of a plant-eating animal (consumer) and a type of plant it eats (producer). They then illustrate consumers and producers from a country that is in their heritage. Share drawings with the class. • In groups, students research the names of animal groups (populations), such as a pride of lions, or a leap of leopards. They write a humorous story about how the name for that animal group originated. • Students follow directions to the experiment on pp. 78-79 to determine if the amount of salt in water in the habitat affects the germination and growth of radish plants. Record results in their Lab Manual. • Review for Chapter 3 Test by completing pp. 80-81 in groups. 	<ul style="list-style-type: none"> • Text pp. A70-A73 • TM pp. A70-A73 • Drawing paper • Text pp. A74-A77 • TM pp. A74-A77 • Text pp. A78-A79 • TM pp. A78-A79 • Lab Manual pp. 15-16 • Text pp. A80-A81 • TM pp. A80-A81 	<ul style="list-style-type: none"> • Lesson 3 Assessment p. 29 • Lesson 4 Assessment p. 30 • Activity Rubric T4 Ch. 3 Test 	<p>5.5 A-1,2</p> <p>5.3 A-2</p> <p>5.3 A-2,3</p>

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<p>A. LIFE SCIENCE</p> <p>4. Changing Environments</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore what happens when a plant's habitat is changed. • explore how changes in habitats affect organisms. • determine how water affects habitats. • learn how some organisms return to a changed habitat. • discover why some organisms are endangered • find out about some extinct organisms. 	<ul style="list-style-type: none"> • Students describe the characteristics and habitat of a jade plant and of an elodea plant. Then they find out what happens when the plants are placed into each other's habitat. Complete Lab Manual to show observations. • After reading the text selection, students complete the prediction chart given. • Students write a paragraph or two encouraging campers to always make sure their campfires are completely extinguished. Discuss in the essay how forest fires could affect a forest habitat and its plant and animal inhabitants. • Have students raise two bean plants in each of two pots in a sunny window. After seedlings are about 8 cm tall, they place one pot in a freezer for a day. Discuss results relating it to everyday living organisms. 	<ul style="list-style-type: none"> • Text pp. A84-A85 • TM pp. A84-A85 • Lab Manual pp. 17-18 • Text pp. A86-A89 • TM pp. A86-A89 • Instruc. Res. p. 28 • Writing paper • Text pp. A90-A93 • TM pp. A90-A93 • Transparency 4 • Bean seeds • Peat pots • Potting soil 	<ul style="list-style-type: none"> • Activity Rubric T5 • Lesson 1 Assessment p. 39 • Lesson 2 Assessment p. 40 	<p>5.1 A-1,2 5.3 D-1</p> <p>5.1 A-1 5.10 B-1</p> <p>5.8 A-3</p>

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<p>A. LIFE SCIENCE</p> <p>4.Changing Environments (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • learn how people change environments. • explore how pollution affects the environment • discover ways that people protect habitats and living things. • investigate a method of cleaning polluted water. • learn about some foods that come from plants and animals. • learn about some other products that come from plants and animals. 	<ul style="list-style-type: none"> • In groups, students go outside to conduct a "habitat survey". They record all human-made changes to the environment they see around the school yard. • Have students make predictions about and observe the effect of water pollutants on the growth of a water plant. Collect and interpret data to be used to draw conclusions. • Have the students observe polluted water at the beginning of the activity and after five minutes, then compare them again. Record results in their Lab Manual. • Have students take a survey of the classroom to identify items from plants and from animals. Discuss. 	<ul style="list-style-type: none"> • Text pp. A94-A99 • TM pp. A94-A99 • Paper & pencil • Text pp. A100-A101 • TM pp. A100-A101 • Lab Manual pp. 19-20 • Plastic cups • Hand lens • Coffee filter • Polluted water • Tap water • 1 L. plastic bottle • Text pp. A102-A105 • TM pp. A102-A105 • Paper & pencil 	<ul style="list-style-type: none"> • Lesson 3 Assessment p. 41 • Activity Rubric T5 • Lesson 4 Assessment p. 42 	<p>5.8 B-1 5.10 B-1</p> <p>5.1 A-1,2 B-1,2,3 C-3 5.3 D-1</p> <p>5.1 A-2</p>

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A. LIFE SCIENCE 4.Changing Environments (cont'd.)	Students will be able to: <ul style="list-style-type: none"> • demonstrate knowledge of skills and concepts taught in Chapter 4 and in the entire unit 1. 	<ul style="list-style-type: none"> • In groups, have students complete review pages in text. Discuss. 	<ul style="list-style-type: none"> • Text pp. A106-A112 • TM pp. A106-A112 	<ul style="list-style-type: none"> • Ch. 4 Test • Unit 1 Test • Activity Rubric 	5.5 C-1 5.8 C-1
B. PHYSICAL SCIENCE 1. Matter & How it Changes	<ul style="list-style-type: none"> • explore properties of solids, liquids, and gases. • learn about the way that objects are alike. • learn about ways to describe matter. • find out how to measure some properties of matter. 	<ul style="list-style-type: none"> • Having been shown a wood block, a glass of water, and an inflated balloon, have students describe the differences they observe between solids, liquids and gases. • Follow directions to complete and record results of the activity in the text. • Have students sort various objects into different groups in as many ways as they can. Record how they categorized them. 	<ul style="list-style-type: none"> • Text pp. B6-B7 • TM pp. B6-B7 • Lab Manual pp. 21-22 • Resealable plastic bags • Rock, wood, balloon, water • Text pp. B8-B13 • TM pp. B8-B13 • Rubber bands, paper clips, construction paper, toys, books, air-filled balls, rulers, pencils, glue, blocks, etc. 	<ul style="list-style-type: none"> • Activity Rubric T6 • Lesson 1 Assessment p. 55 	5.1 A-1,2,3 B-2 5.3 D-1 5.6 A-1 5.1 B-1

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<p>B. PHYSICAL SCIENCE</p> <p>1. Matter & How it Changes (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • investigate the estimated mass of objects, and then measure their actual mass. • learn about the types of physical change. • find out about three states of matter. • discover how matter can change from one state to another. • learn how one kind of matter can change into a different kind. • learn about ways that chemical changes are useful. • demonstrate knowledge of skills and concepts in Ch. 1. 	<ul style="list-style-type: none"> • Have students estimate, then actually measure different object's actual masses. Compare results. Record results in their Lab Manual. • Students will use materials given to create an imaginary fruit salad. Then they separate the salad and return the materials as nearly as possible to their original form. • Students dip a penny into a solution of salt and vinegar to clean the tarnish off the penny, causing a chemical change. • Students work in groups to complete review pages. Discuss. 	<ul style="list-style-type: none"> • Text pp. B14-B15 • TM pp. B14-B15 • Lab Manual pp. 23-24 • Text pp. B16-B17 • TM pp. B16-B17 • Construction paper of different colors, cardboard, scissors • Text pp. B22-B27 • TM pp. B22-B27 • Transparency 5 • Lab Manual pp. 27-28 • Text pp. B28-B29 • TM pp. B28-B29 	<ul style="list-style-type: none"> • Activity Rubric T6 • Lesson 2 Assessment p. 56 • Lesson 3 Assessment P. 57 • Activity Rubric T7 • Ch. 1 Test 	<table border="0"> <tr> <td>5.1</td> <td>A-1,4 B-1,2</td> </tr> <tr> <td>5.2</td> <td>B-1</td> </tr> <tr> <td>5.1</td> <td>B-3</td> </tr> <tr> <td>5.1</td> <td>A-1,2,4 C-2</td> </tr> <tr> <td>5.6</td> <td>A-3 B-1</td> </tr> <tr> <td>5.1</td> <td>A-1,2,4</td> </tr> <tr> <td>5.6</td> <td>A-3</td> </tr> </table>	5.1	A-1,4 B-1,2	5.2	B-1	5.1	B-3	5.1	A-1,2,4 C-2	5.6	A-3 B-1	5.1	A-1,2,4	5.6	A-3
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5.1	B-3																		
5.1	A-1,2,4 C-2																		
5.6	A-3 B-1																		
5.1	A-1,2,4																		
5.6	A-3																		

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<p>B. PHYSICAL SCIENCE</p> <p>2. Forces, Machines & Work</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore the forces needed to move a ball. • learn how force makes an object move. • discover how friction affects a moving object. • explore how the force of gravity affects objects. • learn about magnetism. • investigate how magnetic force acts. 	<ul style="list-style-type: none"> • Students use a ball to compare the force needed to roll a ball directly to a target with the force needed to roll the ball to the target by bouncing it off another surface. Record results in their Lab Manual. • Students use materials given to play a game in which they slide a button toward a piece of tape on the floor. They try to make the button stop closest to the tape. • Students estimate the order of weight of classroom objects from lightest to heaviest. Then, weigh each object. Discuss. • Given different objects in the classroom, students predict which objects will respond to magnetism and which will not. Use a magnet to test predictions. • Students use a magnet to suspend a paper clip in midair and then place various materials between the magnet and paper clip. Observe how the materials affect the magnetic force. Record results in their lab manual. 	<ul style="list-style-type: none"> • Text pp. B30-B33 • TM pp. B30-B33 • Lab Manual pp. 29-30 • Instruc. Res. p. 48 • Half-meter stick • Plastic foam ball • Text pp. B34-B37 • TM pp. B34-B37 • Large button, masking tape, bar floor, metric ruler • Text pp. B38-B41 • TM pp. B38-B41 • Small objects in the classroom • Magnet • Text pp. B42-B43 • TM pp. B42-B43 • Lab Manual pp. 31-32 • Paper clip, string, magnet 	<ul style="list-style-type: none"> • Activity Rubric T8 • Lesson 1 Assessment P. 67 • Lesson 2 Assessment p. 68 • Activity Rubric T8 	<p>5.7 A-1</p> <p>5.7 A-1</p> <p>5.7 A-2 5.1 A-2</p> <p>5.7 A-2 5.1 A-2</p>

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<p>B. PHYSICAL SCIENCE</p> <p>2. Forces, Machines & Work (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • learn how work is done. • learn about levers, inclined planes, and screws. • find out about a wedge, a pulley, and a wheel axle. • discover how some animals use body parts as simple machines. • investigate how moving the fulcrum of a lever affects the force needed to lift an object. • demonstrate knowledge of skills and concepts taught in Chapter 2. 	<ul style="list-style-type: none"> • Students draw a cartoon in which a character is performing work in the scientific sense. The cartoon's caption or thought bubble should indicate why this work fits the scientific definition. • Students use a lever to lift a marble. They measure the amount of effort needed to lift the marble when the lever's fulcrum is placed at different positions. Record results in their Lab Manual. • In groups, students complete review activities in text. 	<ul style="list-style-type: none"> • Text pp. B44-B51 • TM pp. B44-B51 • Transparency 6 • Text pp. B52-B53 • TM pp. B52-B53 • Lab Manual p. 33-34 • Text pp. B54-B55 • TM pp. B54-B55 	<ul style="list-style-type: none"> • Lesson 3 Assessment p. 69 • Activity Rubric T9 • Chapter 2 Test 	<p>5.4 C-3</p> <p>5.4 B-1 C-1,2,3</p> <p>5.7 A-1,2</p>

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<p>B. PHYSICAL SCIENCE</p> <p>3. Energy in Your World</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore and observe various forms of energy. • learn how energy is used for work. • determine how energy can be stored. • learn about ways that energy changes from one form to another. • learn how heat moves through matter. • explore how heat is produced and used. • explain how temperature is measured. 	<ul style="list-style-type: none"> • Have students use a flashlight to experience electrical, heat, and light energy. In this activity, one form of energy changes to others. Record observations in the Lab Manual. • After reading the text together, students make a series of drawings showing how energy that comes from the sun is used by plants, animals, and humans. • Have students use ice cubes and different temperatures of water to determine how fast ice will melt in water. 	<ul style="list-style-type: none"> • Text pp. B56-B59 • TM pp. B56-B59 • Lab Manual pp. 35-36 • Instruc. Res. p. 55 • Flashlight • Text pp. B60-B63 • TM pp. B60-B63 • Transparency 7 • Text pp. B64-B67 • TM pp. B64-B67 • Ice cubes, containers with 3 different temps of water 	<ul style="list-style-type: none"> • Activity Rubric T9 • Lesson 1 Assessment p. 79 • Lesson 2 Assessment p. 80 	<p>5.7 B-1 5.1 A-4</p> <p>5.7 B-1</p> <p>5.7 B-1</p>

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<p>B. PHYSICAL SCIENCE</p> <p>3. Energy in Your World (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • investigate how a thermometer works. • learn about the straight path of light. • find out how light bounces off objects. • explore what lenses do. • learn why sight depends on light. • learn about electric charges, electricity, and magnets. • find out how electric current flows in a circuit. • determine how to use electricity safely. 	<ul style="list-style-type: none"> • Have students read and follow directions in text to make a model thermometer and test its operation in warm and cold water. • Given a flashlight, a safety mirror, and other reflective objects, students use these materials to explore how light travels and how its direction can be changed. • Students are shown an old piece of electrical cord that has been cut open. They describe how conductors and insulators are used to make electricity flow but keep people from being shocked. 	<ul style="list-style-type: none"> • Text pp. B68-B69 • TM pp. B68-B69 • Lab Manual pp. 37-38 • Funnel, red food coloring, clear plastic straw, modeling clay • Text pp. B70-B73 • TM pp. B70-B73 • Flashlight, safety mirror, metal spoon • Text pp. B74-B79 • TM pp. B74-B79 • Piece of electrical cord 	<ul style="list-style-type: none"> • Activity Rubric T10 • Lesson 3 Assessment p. 81 • Lesson 4 Assessment p. 82 	<p>5.1 A-1,4 B-1,2 C-1,2</p> <p>5.3 D-1</p> <p>5.7 B-2</p> <p>5.4 A-1 5.7 A-2 B-3</p>

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B. PHYSICAL SCIENCE 3. Energy in Your World (cont'd.) 4. Sound	Students will be able to: <ul style="list-style-type: none"> • investigate how an electrical circuit works. • demonstrate knowledge of skills and concepts taught in Chapter 3. • explore vibrations and sound energy. • find out how sound is made. • learn about volume and pitch. • explore what makes sound around you. • investigate how pitch changes when the length of a vibrating object changes. 	<ul style="list-style-type: none"> • Using the directions in the text, students make a circuit and test its operation. Record results and observations in Lab Manual. • In groups, students discuss and complete activities on text review pages. • Have students stretch plastic wrap over a soap can and sprinkle it with salt. They observe how sound causes the plastic to vibrate and move the salt. Record results in their Lab Manual. • Students use cymbals or cookie sheets and mallets to explore the relationship between sound and vibrations. • In groups, students read and follow directions to observe, predict, and infer about change of pitch. Record observations in their Lab Manuals. 	<ul style="list-style-type: none"> • Text pp. B80-B81 • TM pp. B80-B81 • Lab Manual pp. 39-40 • Text pp. B82-B83 • TM pp. B82-B83 • Text pp. B84-B86 • TM pp. B84-B86 • Lab Manual pp. 41-42 • Instruc. Res. p. 64 • Text pp. B88-B91 • TM pp. B88-B91 • Transparency 8 • Text pp. B92-B93 • TM pp. B92-B93 • Lab Manual pp. 43-44 	<ul style="list-style-type: none"> • Activity Rubric T10 • Ch. 3 Test • Activity Rubric T11 • Lesson 1 Assessment p. 91 • Activity Rubric T11 	<ul style="list-style-type: none"> 5.7 B-3 5.4 A-1 5.7 A-2 B-1,2,3 5.1 A-2,4 B-1 5.7 B-4 5.7 B-4 5.1 A-1,2,4 B1,2 C1,2 5.3 D-1 5.7 B-4

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<p>B. PHYSICAL SCIENCE</p> <p>4. Sound (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • determine how sound travels through matter. • learn how echoes are made. • investigate how sound travels through different forms of matter. • discover how people use their vocal cords. • explore how people hear and use sound. • explain how other organisms make and use sound. • demonstrate knowledge of skills and concepts taught in Ch. 4 and Unit B. 	<ul style="list-style-type: none"> • Small groups of students write and perform a skit demonstrating how sound travels. • Using materials given, students complete text activity to observe and describe the difference in the volume of a sound as it travels the same distance through air and wood. • Students create flashcards for each living thing shown in text pictures. Each flashcard should identify a living thing, describe how it makes sound, and tell how it uses sound for communication. • In groups, students discuss and complete review pages. 	<ul style="list-style-type: none"> • Text pp. B94-B97 • TM pp. B94-B97 • Text pp. B98-B99 • TM pp. B98-B99 • Lab Manual pp. 45-46 • Half-meter stick, wood block, metric ruler, penny • Text pp. B100-B105 • TM pp. B100-B105 • Text pp. B106-B112 • TM pp. B106-B112 	<ul style="list-style-type: none"> • Lesson 2 Assessment p. 92 • Activity Rubric T12 • Lesson 3 Assessment p. 93 • Ch. 4 Test • Unit B Test 	<p>5.7 B-4</p> <p>5.1 A-1,2,4 B-1,2 C-1,2</p> <p>5.3 D-1 5.7 B-4</p> <p>5.4 C-1,2</p> <p>5.1 A-1,2,4</p>

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<p>C. EARTH SCIENCE</p> <p>1. Changes In the Earth's Surface</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore the properties of granite, obsidian, and pumice. • learn how volcanoes and earthquakes form and change the earth. • explore how scientists study volcanoes and earthquakes. • discover what to do during an earthquake. • learn about some land forms in North America. • describe land forms on the earth's surface. • investigate how moving water changes the positions of sand and pebbles on a model mountain. 	<ul style="list-style-type: none"> • Students use a hand lens to observe granite, obsidian, and pumice. They also weigh the rocks and classify them according to weight. • After reading the text selection, students write about how a volcanic mountain forms, paying special attention to the sequence to order the events. • Using a map of the United States, have students use modeling clay to make a three-dimensional map, indicating where some major mountain regions are. Discuss. • Students will use sand to make a model of a land form and observe the effects of moving water on land. 	<ul style="list-style-type: none"> • Text pp. C4-C6 • TM pp. C4-C6 • Instruc. Res. p. 73-75 • Lab Manual pp. 47-48 • Text pp. C8-C13 • TM pp. C8-C13 • Text pp. C14-C17 • TM pp. C14-C17 • Lab Manual pp. 49-50 • U.S. map • Modeling clay • Text pp. C18-C19 • TM pp. C18-C19 • Lab Manual pp. 49-50 • Sand, plastic cup, foil pan, pebbles, dropper, goggles. 	<ul style="list-style-type: none"> • Graphic Organizer p. 106 • Activity Rubric T12 • Lesson 1 Assessment p. 107 • Lesson 2 Assessment p. 108 • Activity Rubric T13 • Activity Rubric T13 	<p>5.1 A-1,2,4 B-1</p> <p>5.8 A-1</p> <p>5.8 C-1</p> <p>5.8 B-2 C-1,2</p> <p>5.8 C-1,2</p>

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<p>C. EARTH SCIENCE</p> <p>1. Changes in the Earth's Surface (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • learn how weathering changes rocks. • discover how erosion changes the earth's surface. • learn how plants and animals can change the earth. • know how people can change the earth's surface. • demonstrate knowledge of skills and concepts taught in Ch. 1. 	<ul style="list-style-type: none"> • Students look for instances of weathering and erosion in their community over a few days. After carefully observing streets, walkways, buildings, and statues, compile a class list of examples. • Have students make a mound on a baking pan using damp sand. Use a spray bottle of water to explore how changing the surface shape affects erosion. • In groups, students complete review activities from text pages. 	<ul style="list-style-type: none"> • Text pp. C20-C23 • TM pp. C20-C23 • Transparency 9 • Text pp. C24-C27 • TM pp. C24-C27 • Baking pan, damp sand, spray bottle • Text pp. C28-C29 • TM pp. C28-C29 	<ul style="list-style-type: none"> • Lesson 3 Assessment p. 109 • Lesson 4 Assessment p. 110 • Ch. 1 Test 	<p>5.8 B-2 C-1,2</p> <p>5.8 C-1 5.10 B-1</p> <p>5.8 C-1,2</p>

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<p>C. EARTH SCIENCE</p> <p>2. Materials of the Earth</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore the properties of different kinds of rocks. • explore how minerals make up rocks. • discover and describe how fossils and fossil fuels form. • learn how minerals are used for making objects. • learn what soil is made of. • learn about soil and living things. • learn to describe different kinds of soil. • investigate the properties of different soil samples. 	<ul style="list-style-type: none"> • After carefully observing, classifying, and writing descriptions of rocks observed on index cards, students exchange their descriptions and search to match up rocks with index cards. • After reading the text selection, students make a Venn diagram comparing and contrasting coal and oil. • Have students plant and grow seeds. • After reading text selection, students write several sentences to explain the relationship among the words decay, humus, and nutrient. Draw diagrams to illustrate. • Have students examine soil samples and record observations in their Lab Manual. 	<ul style="list-style-type: none"> • Text pp. C30-C33 • TM pp. C30-C33 • Lab Manual pp. 51-52 • Text pp. C34-C39 • TM pp. C34-C39 • Transparency 10 • Venn diagram form • Text pp. C40-C45 • TM pp. C40-C45 • Soil, pots, seeds • Text pp. C46-C47 • TM pp. C46-C47 • Lab Manual pp. 53-54 	<ul style="list-style-type: none"> • Activity Rubric T13 • Lesson 1 Assessment p. 119 • Lesson 2 Assessment p. 120 • Activity Rubric T14 	<p>5.8 A-1</p> <p>5.8 A-1,3 5.10 A-1</p> <p>5.8 A-2</p> <p>5.1 A-1,2 5.10 A-1</p>

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<p>C. EARTH SCIENCE</p> <p>3. The Sun, Planets, and Moon (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • discover what the sun is like. • learn what the planets are like and the position of each planet in our solar system. • investigate how a shadow's length and position change as a day progresses. • learn what causes day and night. • find out how sunlight heats Earth. • learn how Earth moves around the sun. • discover what causes seasons. 	<ul style="list-style-type: none"> • Darken the room as much as possible. Have the students use different size lights to discover how smaller lights can look brighter than larger lights. Discuss this in relation to the sun. • Have students construct a sundial shadow maker to record the position and length of shadow for specific times during a day. Record observations and data collected in the Lab Manual in order to draw conclusions. • With a globe and a light, pairs of students demonstrate how Earth rotates, causing day and night. With index cards and tape, students label the lit side of the globe as "day", and the unlit side "night". 	<ul style="list-style-type: none"> • Text pp. C60-C63 • TM pp. C60-C63 • Transparency 11 • Pen light, small flashlight, large flashlight • Text pp. C64-C65 • TM pp. C64-C65 • Lab Manual pp. 59-60 • Modeling clay, straw, cardboard, black marker, clock, metric ruler • Text pp. C66-C71 • TM pp. C66-C71 • Overhead projector, ball, reflective tape 	<ul style="list-style-type: none"> • Lesson 1 Assessment p. 131 • Activity Rubric T15 • Lesson 2 Assessment p. 132 	<p>5.9 B-1 C-1</p> <p>5.1 A-1,2,4 5.3 A-1,3 B-1,2 5.9 A-1</p> <p>5.2 B-1 5.9 A-1</p>

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<p>C. EARTH SCIENCE</p> <p>3. The Sun, Planets, & Moon (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • investigate how the moon's shape appears to change because people see different amounts of it in a shadow as it travels around Earth. • learn what the moon looks like and how it moves. • discover what the phases of the moon are. • learn how scientists view space from Earth. • determine how scientists view objects from space. • demonstrate knowledge of skills and concepts taught in Ch. 3 	<ul style="list-style-type: none"> • Students use the ball, lamp, and themselves to make a model of how the moon revolves around Earth. Record results in their Lab Manuals. • After reading text selection, have student groups write and present skits about astronauts sent to the moon and what they find there. Share skits. • After reading text selection, students imagine that they live during the 1600's. They write a one-page news report announcing the discoveries Galileo has recently made with his telescope. • In pairs, have students complete review activities in the text book. 	<ul style="list-style-type: none"> • Text pp. C72-C73 • TM pp. C72-C73 • Lab Manual pp. 61-62 • Ball, lamp • Text pp. C74-C77 • TM pp. C74-C77 • Text pp. C78-C81 • TM pp. C78-C81 • Writing paper • Text pp. C82-C83 • TM pp. C82-C83 	<ul style="list-style-type: none"> • Activity Rubric T16 • Lesson 3 Assessment p. 133 • Lesson 4 Assessment p. 134 • Ch. 3 Test 	<p>5.1 A-1,2,4 B-1 C-1,2</p> <p>5.9 A-1,2</p> <p>5.3 C-1 5.9 A-1,2 D-2</p> <p>5.2 B-1 5.9 D-1</p> <p>5.1 A-1 5.9 A-1</p>

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD																						
<p>C. EARTH SCIENCE</p> <p>4. Clouds & Storms</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore how clouds form by making a model. • learn how clouds form. • determine what weather clues you can get from clouds. • investigate the different kinds of clouds and weather associated with them. • discover how rain and snow form. • learn where water can be found on Earth. • find out how water moves in a cycle. 	<ul style="list-style-type: none"> • Have students make a model of a cloud by placing ice on top of a container of warm water. They observe water vapor condensing, forming a cloud inside the container. Record results in their Lab Manual. • Given one chilled and one room temperature plastic bag, students open each bag, blow into it, and quickly seal it again. Discuss what has happened in each bag and it's relation to water vapor and clouds. • Have students use cotton to make a model of different cloud types. They observe cloud types and weather for a period of ten days and then classify the cloud types that they observe. Record results in their Lab Manual. • Have students make their own rain gauges using a jar, waterproof marker, and a ruler. They can use it at home to measure the amount of rainfall in inches or centimeters. 	<ul style="list-style-type: none"> • Text pp. C84-C87 • TM pp. C84-C87 • Lab Manual pp. 63-64 • Instruc. Res. pp. 97-100 • Plastic container, warm water, ice cubes, clock • Text pp. C88-C91 • TM pp. C88-C91 • Transparency 12 • Text pp. C92-C93 • TM pp. C-92-C93 • Lab Manual pp. 65-66 • Text pp. C94-C97 • TM pp. C94-C97 	<ul style="list-style-type: none"> • Activity Rubric T16 • Lesson 1 Assessment p. 143 • Activity Rubric T17 • Lesson 2 Assessment p. 144 	<table border="0"> <tr> <td>5.1</td> <td>A-1</td> </tr> <tr> <td>5.3</td> <td>D-3</td> </tr> <tr> <td>5.6</td> <td>A-3</td> </tr> <tr> <td>5.8</td> <td>B-4,6</td> </tr> <tr> <td>5.1</td> <td>B-1</td> </tr> <tr> <td>5.8</td> <td>B</td> </tr> <tr> <td>5.1</td> <td>A-1,2,4</td> </tr> <tr> <td>5.3</td> <td>D-1</td> </tr> <tr> <td>5.8</td> <td>B-3,5</td> </tr> <tr> <td>5.6</td> <td>A-3</td> </tr> <tr> <td>5.8</td> <td>B-2,4,5</td> </tr> </table>	5.1	A-1	5.3	D-3	5.6	A-3	5.8	B-4,6	5.1	B-1	5.8	B	5.1	A-1,2,4	5.3	D-1	5.8	B-3,5	5.6	A-3	5.8	B-2,4,5
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<p>C. EARTH SCIENCE</p> <p>4. Clouds & Storms (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • investigate the movement of air in a tornado. • determine the causes of thunderstorms, hurricanes, and tornadoes. • find out about two types of winter storms. • explain how to stay safe during storms. • demonstrate knowledge of skills and concepts in Ch. 4 and Unit C. 	<ul style="list-style-type: none"> • Have students use water and a plastic bottle to make a model of a tornado. They use the model to study how the "tornado" moves at different speeds. They complete Lab Manual pages to record observations. • Have students rub a comb with a piece of wool and place it near a metal doorknob to produce electric sparks. After reading text selection, discuss the experiment in relation to thunder, lighting, and electricity. • Have students, in groups, read and complete review pages to prepare for tests. 	<ul style="list-style-type: none"> • Text pp. C98-C99 • TM pp. C98-C99 • Lab Manual pp. 67-68 • Text pp. C100-C105 • TM pp. C100-C105 • Comb, piece of wool • Text pp. C106-C112 • TM pp. C106-C112 	<ul style="list-style-type: none"> • Activity Rubric T17 • Lesson 3 Assessment p. 145 • Ch. 4 Test • Unit C Test 	<p>5.1 A-1,4 B-1,2 D-1 5.8 B-3</p> <p>5.2 B-3 5.8 D-1 5.8 B-3</p> <p>5.4 C-3 5.6 C-3 5.8 B-2,4,5,6 C-1,2</p>

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD																										
<p>D. HUMAN BODY</p> <p>1. The Body's Systems</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explore how different parts of the body work together to help keep one's balance. • find out about your body's systems. • discover what makes up organs and tissues. • learn about the skeletal system, and how joints help you move. • discover the job of the muscles. • investigate how muscles work in pairs to move your legs. 	<ul style="list-style-type: none"> • Several students try to walk, heel to toe, along a 6m long strip of masking tape placed on the floor. Other students observe how the balancing students move their bodies. Record observations. • Have students work in same-gender pairs to trace each other's body shapes. Use index cards to identify various body organs. • Have students write a letter to a friend explaining how wearing a piece of safety equipment prevented a serious injury during an accident. Describe how the equipment protected a specific body part. • Following directions in the text, students make a model of muscle pairs to show how the leg and foot work together. Complete Lab Manual to record observations. 	<ul style="list-style-type: none"> • Text pp. D6-D7 • TM pp. D6-D7 • Lab Manual pp. 69-70 • Instruc. Res. p. 112 • Masking tape • Text pp. D8-D13 • TM pp. D8-D13 • Bulletin board paper, index cards, markers • Text pp. D14-D21 • TM pp. D14-D21 • Writing paper • Text pp. D22-D23 • TM pp. D22-D23 • Lab Manual pp. 71-72 	<ul style="list-style-type: none"> • Activity Rubric pp. 69-70 • Lesson 1 Assessment p. 159 • Lesson 2 Assessment • Activity Rubric T18 	<table border="0"> <tr> <td>5.1</td> <td>A-1,2</td> </tr> <tr> <td>2.1</td> <td>B-3</td> </tr> <tr> <td></td> <td>B-1</td> </tr> <tr> <td>5.5</td> <td>A-4</td> </tr> <tr> <td>2.1</td> <td>B-1</td> </tr> <tr> <td>5.4</td> <td>A-1</td> </tr> <tr> <td>5.5</td> <td>A-4</td> </tr> <tr> <td>2.1</td> <td>B-1</td> </tr> <tr> <td>5.1</td> <td>A-1,2,4</td> </tr> <tr> <td></td> <td>C-1,2</td> </tr> <tr> <td>5.3</td> <td>D-1</td> </tr> <tr> <td>5.5</td> <td>A-4</td> </tr> <tr> <td>2.1</td> <td>B-1</td> </tr> </table>	5.1	A-1,2	2.1	B-3		B-1	5.5	A-4	2.1	B-1	5.4	A-1	5.5	A-4	2.1	B-1	5.1	A-1,2,4		C-1,2	5.3	D-1	5.5	A-4	2.1	B-1
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<p>D. HUMAN BODY</p> <p>2. Staying Healthy (cont'd.)</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • discover how nutrients help your body. • learn how to exercise safely. • determine why rest and sleep are important. <ul style="list-style-type: none"> • investigate which foods contain fat. <ul style="list-style-type: none"> • learn about harmful germs and how to keep them from spreading. • examine how the body fights disease germs. <ul style="list-style-type: none"> • discover how people can use medicines safely. • determine the harmful effects of alcohol, tobacco, and illegal drugs. 	<ul style="list-style-type: none"> • Have students find nutrition information on food labels to group foods according to nutrients they contain. Discuss in relation to information read in the text. • Students predict what would happen if they stopped eating an entire food group for a period of time. <ul style="list-style-type: none"> • Have students use a paper bag to test for the presence of fat in various foods. They rank foods accordingly and record observations in their Lab Manuals. <ul style="list-style-type: none"> • Make a class list of all the communicable illnesses students have had in the past year. They choose a symbol for each disease and make a pictograph based on the data collected. <ul style="list-style-type: none"> • After reading and discussing the text selection, students write 2 paragraphs telling about what they will say if they were to be asked to try smoking. They should include reasons why in their answer. 	<ul style="list-style-type: none"> • Text pp. D36-D43 • TM pp. D36-D43 <ul style="list-style-type: none"> • Text pp. D44-D45 • TM pp. D44-D45 • Lab Manual pp. 77-78 <ul style="list-style-type: none"> • Text pp. D46-D49 • TM pp. D46-D49 <ul style="list-style-type: none"> • Text pp. D50-D54 • TM pp. D50-D54 • Transparency 14 	<ul style="list-style-type: none"> • Lesson 1 Assessment p. 171 <ul style="list-style-type: none"> • Activity Rubric T20 <ul style="list-style-type: none"> • Lesson 2 Assessment p. 172 <ul style="list-style-type: none"> • Lesson 3 Assessment p. 173 	<ul style="list-style-type: none"> 5.1 A-1 2.1 A-3 B-3 C-1 <ul style="list-style-type: none"> 5.1 A-1,2,4 5.3 D-1 2.1 C-1 <ul style="list-style-type: none"> 5.1 C-1,2 2.1 D-1-4 <ul style="list-style-type: none"> 5.1 A-1 2.3 A-1,2,3

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D. HUMAN BODY 2. Staying Healthy (cont'd.)	Students will be able to: <ul style="list-style-type: none"> • conduct a survey to determine the number of hours of sleep most third graders get on a school night. • demonstrate knowledge of skills and concepts taught in Ch. 2 and Unit D. 	<ul style="list-style-type: none"> • After using scientific survey methods, students record in their Lab Manuals the average number of hours of sleep that their classmates get on a school night. • Students work in groups to complete and discuss review pages from the text. 	<ul style="list-style-type: none"> • Text pp. D55-D57 • TM pp. D55-D57 • Lab Manual pp. 79-80 	<ul style="list-style-type: none"> • Activity Rubric T20 	5.1 A-1,2,4 2.1 A-3
E. SCIENCE HANDBOOK	<ul style="list-style-type: none"> • use the process skill of observing. • use the process skills of communicating and classifying. • use the process skills of estimating, measuring, and inferring. 	<ul style="list-style-type: none"> • Students will observe a hand bell by using the senses of sight, smell, and hearing, but without touching or tasting. Record observations. • Have students discuss how to classify 5 pennies, 10 dimes, 2 nickels, 4 quarters, and 2 foreign coins into different subgroups. Record results. • Students use gram cubes to estimate the mass of small classroom objects before using a balance to measure their actual weight. Record results. 	<ul style="list-style-type: none"> • Text pp. 6-7 • TM pp. 6-7 • Lab Manual pp. 89-90 • Hand bell <ul style="list-style-type: none"> • Text pp. 8-11 • TM pp. 8-11 • Lab Manual pp. 91-94 • Various coins <ul style="list-style-type: none"> • Text pp. 12-15 • TM pp. 12-15 • Lab Manual pp. 95-98 • Classroom objects • Balance • Gram cubes 	<ul style="list-style-type: none"> • Teacher Observation • Teacher Observation • Teacher Observation 	5.1 A-1,2,4 B-1,2 5.3 D-1 5.1 A-1,2,4 B-1,2 5.3 D-1 5.1 A-1,2,4 B-1,2 5.3 A-1,2,3 B-1,2 D-1

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E. SCIENCE HANDBOOK (cont'd.)	Students will be able to: <ul style="list-style-type: none"> • use the process skills of predicting and making operational definitions. • use the process skills of making and using models and of formulating questions and hypotheses. • use the process skills of collecting and interpreting data. • use the process skills of identifying and controlling variables and of experimenting. 	<ul style="list-style-type: none"> • Students observe and measure their shadow at two different times of day. Based on results, they write an operational definition of a shadow. • Students design a model car using an assortment of craft supplies. They then hypothesize about how their model is similar to and different from the object it models. • Students collect data on the amount per serving of sodium, protein, and sugars in three different brands of cereal. They graph the data and draw inferences. • Have students roll a marble down a ramp with one end of the ramp set at different heights. They measure the distance the marble travels after it leaves the ramp at each ramp height. Record results. 	<ul style="list-style-type: none"> • Text pp. 16-19 • TM pp. 16-19 • Lab Manual pp. 99-102 • Text pp. 20-23 • TM pp. 20-23 • Cardboard, tape, toy wheels, paint brushes, paper, scissors, toothpicks, rubber bands, fabric • Lab Manual pp. 103-106 • Text pp. 24-25 • TM pp. 24-25 • Lab Manual pp. 107-108 • Graph paper • Text pp. 26-29 • TM pp. 26-29 • Lab Manual pp. 109-112 • Books, ruler with groove down the middle, marble, metric tape measure 	<ul style="list-style-type: none"> • Teacher Observation • Teacher Observation • Teacher Observation • Teacher Observation 	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">5.1</td> <td style="width: 50%;">A1,2,4 B-1,2</td> </tr> <tr> <td>5.1</td> <td>A-1,2,3 B-1,2</td> </tr> <tr> <td>5.1</td> <td>A-1,2,4 B-1,2</td> </tr> <tr> <td>5.1</td> <td>A-1,2,4 B-1,2 C-1</td> </tr> <tr> <td>5.4</td> <td>B-1 C-1</td> </tr> </table>	5.1	A1,2,4 B-1,2	5.1	A-1,2,3 B-1,2	5.1	A-1,2,4 B-1,2	5.1	A-1,2,4 B-1,2 C-1	5.4	B-1 C-1
5.1	A1,2,4 B-1,2														
5.1	A-1,2,3 B-1,2														
5.1	A-1,2,4 B-1,2														
5.1	A-1,2,4 B-1,2 C-1														
5.4	B-1 C-1														