SRA Skills Handbook: Using Science

correlation to

Oklahoma Priority Academic Student Skills: Science Grade 3

Science Processes and Inquiry

Process Standard 1: Observe and Measure—Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

1. Observe and measure objects, organisms, and/or events using developmentally appropriate Systems International (SI) units (i.e., meters, centimeters, grams, and degrees Celsius).

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Science Processes and Inquiry

Process Standard 1: Observe and Measure—Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

2. Compare and contrast similar and/or different characteristics in a given set of simple objects, familiar organisms, and/or observable events.

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Science Processes and Inquiry

Process Standard 2: Classify—Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objects to meet this standard.

1. Classify a set of simple objects, familiar organisms, and/or observable events by observable properties.

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Science Processes and Inquiry

Process Standard 2: Classify—Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objects to meet this standard.

2. Arrange simple objects, familiar organisms, and/or observable events in a serial order.

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Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

1. Ask a question about objects, organisms, or events in the environment.

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Science Processes and Inquiry

Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

2. Plan and conduct a simple investigation.

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Science Processes and Inquiry

Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

3. Employ simple equipment and tools such as magnifiers, thermometers, and rulers to gather data.

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Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

4. Recognize potential hazards and practice safety procedures in all science activities.

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Science Processes and Inquiry

Process Standard 4: Interpret and Communicate—Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

1. Interpret tables, pictorial, and/or simple bar graphs.

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Science Processes and Inquiry

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2. Recognize and describe patterns, then make predictions based on patterns.

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Physical Science

Standard 1: Properties of Objects and Materials—Describe characteristics of objects based on physical properties such as size, shape, color, or texture. Vibration of materials causes sound. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Objects can be described in terms of the materials of which they are made. Mixtures and solutions can be separated (i.e., sand and marbles; or salt and water).

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Physical Science

Standard 1: Properties of Objects and Materials—Describe characteristics of objects based on physical properties such as size, shape, color, or texture. Vibration of materials causes sound. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. Sound is produced by vibrations (i.e., pitch and loudness).

Student Book: pages 118, 119, 120, 121

Skills Workbook: pages 47, 48

Physical Science

Standard 1: Properties of Objects and Materials—Describe characteristics of objects based on physical properties such as size, shape, color, or texture. Vibration of materials causes sound. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

3. Compare how sound travels through air, water, and/or solids.

Student Book: pages 118, 119, 120, 121

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Life Science

Standard 2: Characteristics and Basic Needs of Organisms and Environments—All living things have structures that enable them to function in unique and specific ways to obtain food, reproduce, and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Plants and animals have features (i.e., breathing structures, limbs, skin coverings, seed dispersal, roots, stems, and leaves) that help them, live in environments such as air, water, or land.

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Life Science

Standard 2: Characteristics and Basic Needs of Organisms and Environments—All living things have structures that enable them to function in unique and specific ways to obtain food, reproduce, and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. Each plant or animal has different structures that serve different functions in growth and survival (i.e., the way it moves, type of food it needs, and where it lives).

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Life Science

Standard 2: Characteristics and Basic Needs of Organisms and Environments—All living things have structures that enable them to function in unique and specific ways to obtain food, reproduce, and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

3. All animals depend on plants. Some animals eat plants for food. Other animals eat animals that eat the plants. **Student Edition:** pages 38, 39, 40, 41, 56, 57, 58, 59, 68, 69, 70, 71, 72, 73, 82, 83, 84, 85, 86, 87, 128, 129, 130, 131, 166, 167, 168, 169

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Earth/Space Science

Standard 3: Properties of Earth Materials—Earth materials consist of rocks, soils, water, and air. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Make observations of similarities and differences in rocks and minerals (i.e., size of particles, color pattern, and layering).

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Earth/Space Science

Standard 3: Properties of Earth Materials—Earth materials consist of rocks, soils, water, and air. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. Soils have properties of color and texture, capacity to retain water, and ability to support the growth on many kinds of plants and animals, including those in our food supply.

This concept is not covered at this level.

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Oklahoma Priority Academic Student Skills: Science Grade 4

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1. Observe and measure objects, organisms, and/or events (e.g., mass, length, time, volume, temperature) using Systems International (SI) units (i.e., grams, milligrams, meters, millimeters, centimeters, kilometers, liters, milliliters, and degrees Celsius).

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Science Processes and Inquiry

Process Standard 1: Observe and Measure—Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

2. Compare and/or contrast similar and/or different characteristics (e.g., color, shape, size, texture, sound, position, change) in a given set of objects, organisms, events.

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Science Processes and Inquiry

Process Standard 2: Classify—Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objects to meet this standard.

1. Classify a set of objects, organisms, and/or events by using two or more observable properties (e.g., simple dichotomous keys).

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Science Processes and Inquiry

Process Standard 2: Classify—Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objects to meet this standard.

2. Arrange objects, organisms, and/or events in serial order (e.g., least to greatest, fastest to slowest).

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Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

1. Ask questions about the world and formulate an orderly plan to investigate a question.

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2. Evaluate the design of a scientific investigation.

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3. Design and conduct a scientific investigation.

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4. Recognize potential hazards and practice safety procedures in all science activities.

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Process Standard 4: Interpret and Communicate—Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

1. Report data using tables, line, bar, trend, and/or simple circle graphs.

Student Edition: pages 154, 155, 156, 157, 158, 159, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Teacher's Guide: pages 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81

Skills Workbook: pages 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80

Science Processes and Inquiry

Process Standard 4: Interpret and Communicate—Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

2. Interpret tables, line, bar, trend, and/or simple circle graphs.

Student Edition: pages 154, 155, 156, 157, 158, 159, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

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Skills Workbook: pages 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80

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3. Make predictions based on patterns in experimental data.

Student Edition: pages 82, 83, 84, 85, 154, 155, 156, 157, 158, 159, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183

Teacher's Guide: pages 34, 35, 62, 63, 68, 69, 70, 71, 72, 73

Skills Workbook: pages 33, 34, 61, 62, 67, 68, 69, 70, 71, 72

Science Processes and Inquiry

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4. Communicate the results of investigations and/or give explanations based on data.

Student Edition: pages 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 42, 43, 44, 45, 46, 47, 78, 79, 80, 81, 82, 83, 84, 85, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193

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Skills Handbook: pages 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 31, 32, 33, 34, 59, 60, 61, 62, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76

Science Processes and Inquiry

Process Standard 5: Inquiry—Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

1. Use different ways to investigate questions and evaluate the fairness of the test.

Student Book: pages 18, 19, 20, 21, 32, 33, 34, 35, 36, 37

Teacher's Guide: pages 8, 9, 14, 15

Skills Workbook: pages 7, 8, 13, 14

Science Processes and Inquiry

Process Standard 5: Inquiry—Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

2. Use a variety of measurement tools and technology.

Student Edition: pages 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 174, 175, 176, 177, 178, 179

Teacher's Guide: pages 4, 5, 6, 7, 10, 11, 12, 13, 70, 71

Skills Workbook: pages 3, 4, 5, 6, 9, 10, 11, 12, 69, 70

Process Standard 5: Inquiry—Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

3. Formulate a general statement to represent the data.

Student Book: pages 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 86, 87, 88, 89, 154, 155, 156, 157, 158, 159

Teacher's Guide: pages 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 36, 37, 62, 63

Skills Workbook: pages 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 35, 36, 61, 62

Science Processes and Inquiry

Process Standard 5: Inquiry—Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

4. Share results of an investigation in sufficient detail so that data may be combined with data from other students and analyzed further.

Student Edition: pages 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 108, 109, 110, 111, 112, 113, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135

Teacher's Guide: pages 14, 15, 16, 17, 18, 19, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55

Skills Workbook: pages 13, 14, 15, 16, 17, 18, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54

Physical Science

Standard 1: Position and Motion of Objects—The position of a moving object can be described relative to a stationary object or the background. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. The position and motion of objects can be changed by pushing or pulling. The size of the change is related to the strength of the push or pull.

Student Book: pages 22, 23, 24, 25, 26, 27

Teacher's Guide: pages 10, 11

Skills Workbook: pages 9, 10

Physical Science

Standard 1: Position and Motion of Objects—The position of a moving object can be described relative to a stationary object or the background. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. The motion of an object can be described by tracing and measuring its position over time.

Student Edition: pages 22, 23, 24, 25, 26, 27

Teacher's Guide: pages 10, 11

Skills Workbook: pages 9, 10

Physical Science

Standard 2: Electricity—Electricity in circuits can product light. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Some materials are conductors of electricity while others are insulators.

This concept is not covered at this level.

Physical Science

Standard 2: Electricity—Electricity in circuits can product light. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. The flow of electricity is controlled by open and closed circuits.

This concept is not covered at this level.

Life Science

Standard 3: Characteristics of Organisms—Each type of organism has structures that enable it to function in unique and specific ways to obtain food, reproduce and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Organisms can survive only in environments in which their needs can be met.

Student Edition: pages 42, 43, 44, 45, 46, 47, 62, 63, 64, 65, 66, 67, 94, 95, 96, 97, 100, 101, 102, 103, 166, 167, 168, 169

Teacher's Guide: pages 18, 19, 26, 27, 40, 41, 42, 43, 66, 67

Skills Workbook: pages 17, 18, 25, 26, 39, 40, 41, 42, 65, 66

Life Science

Standard 3: Characteristics of Organisms—Each type of organism has structures that enable it to function in unique and specific ways to obtain food, reproduce and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. Living organisms can be classified using various characteristics (e.g., habitats, anatomy, behaviors).

Student Book: pages 114, 115, 116, 117, 118, 119, 184, 185, 186, 187, 188, 189

Teacher's Guide: pages 74, 75

Skills Workbook: pages 73, 74

Life Science

Standard 3: Characteristics of Organisms—Each type of organism has structures that enable it to function in unique and specific ways to obtain food, reproduce and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

3. Many observable characteristics of an organism, such as the color of flowers or the number of limbs on an animal, are inherited from the parents of the organisms.

This concept is not covered at this level.

Earth/Space Science

Standard 4: Properties of Earth Materials—Earth materials consist of rocks, soils, water, and air. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. The processes of erosion, weathering, and sedimentation affect Earth materials.

Student Edition: pages 82, 83, 84, 85

Teacher's Guide: pages 34, 35

Skills Workbook: pages 33, 34

Earth/Space Science

Standard 4: Properties of Earth Materials—Earth materials consist of rocks, soils, water, and air. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. Fossils provide evidence about the plants and animals that loved long ago and the nature of the environments at that time (e.g., simulating the formation of fossils).

This concept is not covered at this level.

SRA Skills Handbook: Using Science correlation to Oklahoma Priority Academic Student Skills

Oklahoma Priority Academic Student Skills Grade 5

Science Processes and Inquiry

Process Standard 1: Observe and Measure—Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

1. Observe and measure objects, organisms, and/or events (e.g., mass, length, time, volume, temperature) using Systems International (SI) units (i.e., grams, milligrams, meters, millimeters, centimeters, kilometers, liters, milliliters, and degrees Celsius).

Student Book: pages 10, 11, 12, 13, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31

Teacher's Guide: pages 4, 5, 10, 11, 12, 13

Skills Workbook: pages 3, 4, 9, 10, 11, 12

Science Processes and Inquiry

Process Standard 1: Observe and Measure—Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

2. Compare and/or contrast similar and/or different characteristics (e.g., color, shape, size, texture, sound, position, change) in a given set of objects, organisms, or events.

Student Edition: pages 54, 55, 56, 57, 116, 117, 118, 119

Teacher's Guide: pages 22, 23, 48, 49

Skills Workbook: pages 21, 22, 47, 48

Science Processes and Inquiry

Process Standard 2: Classify—Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objects to meet this standard.

1. Classify a set of objects, organisms, and/or events by using two or more observable properties (e.g., simple dichotomous keys).

Student Edition: pages 50, 51, 52, 53

Teacher's Guide: pages 20, 21

Skills Workbook: pages 19, 20

Science Processes and Inquiry

Process Standard 2: Classify—Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objects to meet this standard.

2. Arrange objects, organisms, and/or events in serial order (e.g., least to greatest, fastest to slowest).

Student Edition: pages 120, 121, 122, 123, 148, 149, 150, 151, 152, 153, 160, 161, 162, 163, 164, 165, 188, 189, 190, 191, 192, 193, 206, 207

Teacher's Guide: pages 18, 19, 50, 51, 60, 61, 64, 65, 76, 77, 84, 85

Skills Workbook: pages 17, 18, 49, 50, 63, 64, 75, 76, 83, 84

Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

1. Ask questions about the world and formulate an orderly plan to investigate a question.

Student Edition: pages 18, 19, 20, 21, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47

Teacher's Guide: pages 8, 9, 12, 13, 14, 15, 16, 17, 18, 19

Skills Workbook: pages 7, 8, 11, 12, 13, 14, 15, 16, 17, 18

Science Processes and Inquiry

Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

2. Evaluate the design of a scientific investigation.

Student Edition: pages 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 54, 55, 56, 57, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 116, 117, 118, 119

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Science Processes and Inquiry

Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

3. Design and conduct a scientific investigation.

Student Book: pages 18, 19, 20, 21, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47

Teacher's Guide: pages 8, 9, 12, 13, 14, 15, 16, 17, 18, 19

Skills Workbook: pages 7, 8, 11, 12, 13, 14, 15, 16, 17, 18

Process Standard 3: Experiment and Inquiry—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

4. Recognize potential hazards and practice safety procedures in all science activities.

Student Edition: pages 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

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Science Processes and Inquiry

Process Standard 4: Interpret and Communicate—Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

1. Report data using tables, line, bar, trend, and/or simple circle graphs.

Student Edition: pages 4, 5, 6, 7, 8, 9, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 50, 51, 52, 53, 54, 55, 56, 57, 80, 81, 82, 83, 84, 85, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

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2. Interpret data tables, line, bar, trend, and/or simple circle graphs.

Student Book: pages 4, 5, 6, 7, 8, 9, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 42, 43, 44, 45, 46, 47, 50, 51, 52, 53, 80, 81, 82, 83, 84, 85, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

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Science Processes and Inquiry

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3. Make predictions based on patterns in experimental data.

Student Edition: pages 18, 19, 20, 21, 76, 77, 78, 79

Teacher's Guide: pages 8, 9, 32, 33

Skills Workbook: pages 7, 8, 31, 32

Science Processes and Inquiry

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4. Communicate the results of investigations and/or give explanations based on data.

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Process Standard 5: Inquiry—Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

1. Use different ways to investigate questions and evaluate the fairness of the test.

Student Edition: pages 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 96, 97, 98, 99, 100, 101, 110, 111, 112, 113, 114, 115, 154, 155, 156, 157

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2. Use a variety of measurement tools and technology.

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Science Processes and Inquiry

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3. Formulate a general statement to represent the data.

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Process Standard 5: Inquiry—Inquiry can be defined as the skills necessary to carry out the process of scientific or systematic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

4. Share results of an investigation in sufficient detail so that data may be combined with data from other students and analyzed further.

Student Edition: pages 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Teacher's Guide: pages 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81

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Physical Science

Standard 1: Properties of Matter and Energy—Describe characteristics of objects based on physical qualities such as size, shape, color, mass, temperature, and texture. Energy can produce changes in properties of objects such as changes in temperature. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Matter has physical properties that can be used for identification (e.g., color, texture, shape).

Student Book: pages 42, 43, 44, 45, 46, 47, 66, 67, 68, 69, 106, 107, 108, 109

Teacher's Guide: pages 18, 19, 28, 29, 44, 45

Skills Workbook: pages 17, 18, 27, 28, 43, 44

Physical Science

Standard 1: Properties of Matter and Energy—Describe characteristics of objects based on physical qualities such as size, shape, color, mass, temperature, and texture. Energy can produce changes in properties of objects such as changes in temperature. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. Physical properties of objects can be observed, described, and measured using tools such as simple microscopes, gram spring scales, metric rulers, metric balances, and Celsius thermometers.

Student Edition: pages 10, 11, 12, 13, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 66, 67, 68, 69

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Skills Workbook: pages 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 27, 28

Physical Science

Standard 1: Properties of Matter and Energy—Describe characteristics of objects based on physical qualities such as size, shape, color, mass, temperature, and texture. Energy can produce changes in properties of objects such as changes in temperature. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

3. Energy can be transferred in many ways (e.g., energy from the Sun to air, water, and metal).

Student Edition: pages 106, 107, 108, 109

Teacher's Guide: pages 44, 45

Life Science

Standard 2: Organisms and Environments—Organisms within a community are dependent on one another and the environments. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Organisms in a community, interacting populations in a common location, depend on each other for food, shelter, and reproduction.

Student Book: pages 110, 111, 112, 113, 114, 115, 174, 175, 176, 177

Teacher's Guide: pages 46, 47, 70, 71

Skills Workbook: pages 45, 46, 69, 70

Life Science

Standard 2: Organisms and Environments—Organisms within a community are dependent on one another and the environments. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. Changes in environmental conditions due to human interactions or natural phenomena can affect the survival of individual organisms and/or entire species.

Student Edition: pages 32, 33, 34, 35, 36, 37, 62, 63, 64, 65, 76, 77, 78, 79, 174, 175, 176, 177

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Skills Workbook: pages 13, 14, 25, 26, 31, 32, 69, 70

Earth/Space Science

Standard 3: Structure of Earth and the Solar System—Interaction between air, water, rocks/soils, and all living things. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Soil consists of weathered rocks and decomposed organic material from dead plants, animals, and bacteria. Soils are often found in layers.

Skills Workbook: pages 13, 14

Earth/Space Science

Standard 3: Structure of Earth and the Solar System—Interaction between air, water, rocks/soils, and all living things. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

2. Weather exhibits daily and seasonal patterns (i.e., air temperature, cloud type, wind direction, wind speed, and precipitation).

Student Book: pages 4, 5, 6, 7, 8, 9, 80, 81, 82, 83, 84, 85

Grade 5 Teacher's Guide: pages 2, 3, 34, 35

Grade 5 Skills Workbook: pages 1, 2, 33, 34

Earth/Space Science

Standard 3: Structure of Earth and the Solar System—Interaction between air, water, rocks/soils, and all living things. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

3. Earth is the third planet from the Sun in a system that includes the moon, the Sun, and eight other planets.

Skills Workbook: pages 41, 42