Area: Physical Science

Big Idea: S4.C.2 Forms, Sources, Conversion and Transfer of Energy (Reference: 3.4, 4.B-C)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.C.2.1 Recognize basic energy types and sources, or describe how energy can be changed from one form to another.					
• S4.C.2.1.1 • S4.C.2.1.4	• Identify energy forms, energy transfer, and energy examples (e.g., light, heat, electrical). • Identify characteristics of sound (e.g., pitch, loudness, reflection).	• heat • light • shadow • sound • vibrate • loudness • pitch	• Heat from the Sun p. 438 -443 • Light and Dark p. 441 • Look at Shadows p. 446 -451 • What Can Light Pass Through p. 449 • Watching Sound p. 454 -457 • Straw Instrument p. 459	• soil, cups, thermometer • thermometers, black & white paper, lamp, timer • clay, paper, pencil, crayons • colored pencil, foil, cellophane, cloth, cotton, plastic wrap, lamp • rice, foil, pan, bowl, spoon • straws, scissors	• HSP Assessments

Area: Physical Science

Big Idea: S4.C.3 Principles of Motion and Force (Reference: 3.2.4.B, 3.4.4.C, 3.6.4.C)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.C.3.1 Identify and describe different types of force and motion, resulting from these forces, or the effect of the interaction between force and motion.					
• S4.C.3.1.1 • S4.C.3.1.2	• Describe changes in motion caused by forces (e.g., magnetic, pushes or pulls, gravity, friction). • Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go-round).	• magnet • attract • magnetic force • pole • repel	• Ways Objects Move p. 470 -475 • Pulling and Pushing Objects p. 478-483 • Push and Pull a Ball p. 483 • How a Ball Will Move p. 488 -493 • Falling Objects p. 491 • What Magnets Pull p. 496 -499 • Move It With A Magnet p. 501	• small objects that move in different ways • small cube, objects that make the cube move • soccer balls or kickballs • tape, ball, ramp • ball, unsharpened pencil • bar magnet, various objects • strong magnet, paper clip, paper, cloth, cardboard, foil, plastic cup, cup of water	• HSP Assessments

Area: Life Science

Big Idea: S4.B.1 Structure and Function of Organisms (Reference: 3.3.4.A-B, 4.3.4.A, 4.3.4.C, 4.6.4.A)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.B.1.1 Identify and describe similarities and differences between living things and their life processes.					
• S4.B.1.1.4	• Describe how different parts of a living thing work together to provide what the organism needs (e.g., parts of plants: roots, stems, leaves).	• environment • adaptation • camouflage • oxygen • pollen • food chain			• HSP Assessments

Area: Life Science

Big Idea: S4.B.2 Continuity of Life (Reference: 3.3.4.C, 4.7.4.A-C)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.B.2.1 Identify and explain how adaptations help organisms to survive.					
• S4.B.2.1.1 • S4.B.2.1.2	• Identify characteristics for plant and animal survival in different environments (e.g., wetland, tundra, desert, prairie, deep ocean, forest). • Explain how specific adaptations can help a living organism survive (e.g., protective coloration, mimicry, leaf sizes and shapes, ability to catch or retain water).	• environment • adaptation • camouflage • oxygen • pollen • food chain	• Where Animals Live p. 140 -141 (B.3.1) • Some Animals Hide p. 148 -149 (B.3.2)	• crayons, animal picture cards • colored chips, colored paper	• HSP Assessments

Area: Earth Science

Big Idea: S4.D.2 Weather, Climate, and Atmospheric Processes (Reference: 3.2.4.B, 3.5.4.C, 3.7.4.B)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.D.2.1 Identify basic weather conditions and how they are measured.					
• S4.D.2.1.1	• Identify basic cloud types (cirrus, cumulus, stratus, cumulonimbus) and make connections to basic elements of weather (e.g., changes in temperature and precipitation).	• weather • temperature • thermometer • water cycle • evaporate • water vapor • condense	• Daily Weather p. 282-283 • Observing Weather p. 285 • Measure Temperature p. 290-292 • Where's The Heat p. 293 • Make Clouds p. 298-299	• paper, markers • none • thermometer, red crayon, paper • thermometer • jar with lid, hot water, ice cubes	• HSP Assessments
Objective: 2: S4.D.2.1.3 Identify appropriate instruments (i.e., thermometer, rain gauge, weather vane, anemometer, barometer) to study weather and what they measure.					

Area: Earth Science

Big Idea: S4.D.3 Composition and Structure of the Universe (Reference: 3.4.4.D)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.D.3.1 Describe Earth's relationship to the Sun and the Moon.					
• S4.D.3.1.1	• Describe motions of the Sun-Earth-Moon system.	• sun • star • moon • rotate • crater	• The Daytime Sky p. 352 -353 (D.9.1) • Moonlight p. 355 (D.9.1) • Model Day and Night p. 360 -361 (D.9.2) • The Surface of the Moon p. 368-369 (D.9.3)	• paper, crayons • ball, foil, flashlight • labels, tape, globe, flashlight • pan of sand, spray bottle, water, marbles	
Objective: 2: S4.D.3.1.2 Explain how the motion of the Sun-Earth-Moon system relates to time (e.g., days, months, years).					
			• Things Seem to Move p. 364 (D.9.2) • Moon Changes p. 371 (D.9.3)	• none • picture sorting cards 1,2,3,4	

Area: Science Readiness

Big Idea: S4.A.1 Reasoning and Analysis (Reference: 3.1.4.C, 3.1.4.E, 3.2.4.A, 3.2.4.C, 3.8.4.C, 4.7.4.B, 4.8.4.A, 4.8.4.C)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.A.1.1 Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems.					
• S4.A.1.1.1	• Distinguish between a scientific fact and an opinion, providing clear explanations that connect observations and results (e.g., a scientific fact can be supported by making observations).	• environment, adaptation, camouflage, oxygen, pollen, food chain (chapter 3) • forest, habitat, desert, ocean (chapter 4)	• Where Animals Live p. 140 -141 (B.3.1) • Some Animals Hide p. 148 -149 (B.3.2) • Animals in a Tree p. 158 -159 (B.3.3) • Compare Leaves and Barks p. 174-175 (B.4.1) • Made in the Shade p. 177 (B.4.1) • Desert Plants p. 182-183 (B.4.2) • Soak It Up p. 185 (B.4.2) • Additional Activities may be located in Unit D, Unit F (Lesson 11, 12) and Unit E	• crayons, animal picture cards • colored chips, colored paper • hand lens • dark crayons, paper • paper towels, spray bottle, file folder, timer, optional lamp • paper towels, water, wax paper, paper clips • sponge, water, tray, paper, crayons	• HSP Assessments
Objective: 2: S4.A.1.3 Recognize and describe change in natural or human-made systems and the possible effects of those changes.					
• *S4.A.1.3.4*	• *Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., it might die, migrate, change behavior, eat something else).*	• adaptation • camouflage	• Some Animals Hide p. 148 -149 (B.3.2)	• colored chips, colored paper	• HSP Assessments

Area: Science Readiness

Big Idea: S4.A.2 Processes, Procedures, and Tools of Scientific Investigations (Reference: 3.2.4.C-D, 3.7.4.A-B)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.A.2.1 Apply skills necessary to conduct an experiment or design a solution to solve a problem.					
• *S4.A.2.1.2* • *S4.A.2.1.3* • *S4.A.2.1.4*	• *Design and describe an investigation (a fair test) to test one variable.* • *Observe a natural phenomenon (e.g., weather changes, length of daylight/night, movement of shadows, animal migrations, growth of plants), record observations, and then make a prediction based on those observations.* • *State a conclusion that is consistent with the information/data.*	• inquiry skills (chapter 2) • senses (chapter 1) • light, shadow (chapter 11) • sun, star, moon (chapter 9)	• Fruit Protection p. 14-15 (RSS.2) • How Your Senses Work p. 4 -5 (RSS.1) • What Do You Hear? p. 7 (RSS.1) • Look at Shadows p. 446 -447 (F.11.2) • Can Light Pass Through? p. 449 (F.11.2) • The Daytime Sky p. 352 -353 (D.9.1)	• fruit, hand lens • fruit, plates • objects that create various sounds • clay, pencil, paper, crayons • colored paper, foil, cellophane, cloth, cotton, plastic wrap, lamp • colored paper, crayons	
Objective: 2: S4.A.2.2 Identify appropriate instruments for a specific task and describe the information the instrument can provide.					
• *S4.A.2.2.1*	• *Identify appropriate tools or instruments for specific tasks and describe the information they can provide (e.g., measuring: length-ruler, mass-balance scale, volume-beaker, temperature-thermometer; making observations: hand lens, binoculars, telescope).*	• science tools	• Compare Fruits p. 28-29 (RSS.3) • Introduce science tools (RSS.3)	• strawberry, pear, balance • thermometer, measuring cups, tape measure, forceps, ruler	

Area: Science Readiness

Big Idea: S4.A.3 Systems, Models and Patterns (Reference: 3.1.4.A-C, 3.2.4.B, 3.6.4.A-C, 4.3.4.C, 4.4.4.C, 4.6.4.A-B)

PA/Common Core Standards	Assessment Anchors/ Eligible Content	Key Vocabulary	Learning Activities	Materials/ Resources/ Technology Tools	Common Summative Assessments/ Targeted Outcomes
Objective: 1: S4.A.3.1 Identify systems and describe relationships among parts of a familiar system (e.g., digestive system, simple machines, water cycle).					
• S4.A.3.1.2	• Explain a relationship between the living and nonliving components in a system (e.g., food web, terrarium).	• environment	• Where Animals Live p. 140 -141 (B.3.1)	• animal picture cards, crayons	
Objective: 2: S4.A.3.3 Identify and make observations about patterns that regularly occur and reoccur in nature.					
• *S4.A.3.3.1* • S4.A.3.3.2	• Identify and describe observable patterns (e.g., growth patterns in plants, weather, water cycle). • Predict future conditions/events based on observable patterns (e.g. day/night, seasons, sunrise/sunset, lunar phases).	• weather • water cycle • evaporate • water vapor • condense • seasons • spring • winter • fall • summer • migrate	• Daily Weather p. 282-283 (D.7.1) • Observing Weather p. 285 (D.7.1) • Make Clouds p. 298-299 (D.7.3) • Plants and Light p. 312-313 (D.8.1) • Hot Weather Activities p. 322-323 (D.8.2) • Compare Seeds p. 330-331 (D.8.3) • How To Stay Warm p. 338 -339 (D.8.4)	• paper, markers • none • jar with lid, hot water, ice cubes • young plant, shoebox with hole, spray bottle • season picture cards • fruit with seeds, hand lens • plastic bag, ice water, mitten	