Northpoint Horizons

CAVS (Content Academic Vocabulary System)
Correlated to the
Florida State Science Content Standards and Benchmarks

Grade 4

This document provides a sampling of the extensive science directives offered throughout the *CAVS* program that meet the Florida Science Content Standards. n/a signifies those standards that are not met in the program because of explicit reference to information for the state of Florida (socioeconomic, ecological, and indigenous plants and animals).

Science Content Standard/Benchmarks	***CAVS* Science Grade 3-5 Teacher's Guide Examples/Lessons**
BIG IDEA 1: The Practice of Science	
SC.4.N.1.1 Raise questions about the natural world\, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.	The CAVS Science program includes several components that are used for reference (Science Content Picture Dictionary, Concept Posters, Radius™ Science Vocabulary Cards, etc.). Students can also identify reference materials in the classroom and Learning Center. Each CAVS Science lesson has individual, paired, and small group activities to allow students to work in teams and raise questions, use free exploration, make systematic observations, and generate appropriate explanations. Lesson 6 – TG pp. 31-36 *What helps an organism live in its ecosystem?* Lesson 11 – pp. 61-66 *What causes earthquakes and volcanoes?*
SC.4.N.1.2 Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.	Lesson 3 – TG pp. 13-18 *How do plants reproduce?* Lesson 7 – TG pp. 37-42 *What makes up Earth's atmosphere?*

Science Content Standard / Benchmarks	*CAVS* Science Grade 3-5 Teacher's Guide Examples / Lessons
SC.4.N.1.3 Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence.	Lesson 9 – TG pp. 49-54 *What is the water cycle?* Lesson 11 – TG pp. 61-66 *What causes earthquakes and volcanoes?*
SC.4.N.1.4 Attempt reasonable answers to scientific questions and cite evidence in support.	Lesson 18 – TG pp. 103-108 *How do simple machines help things move?* Lesson 22 – TG pp. 127-132 *What is Earth's place in the universe?*
SC.4.N.1.5 Compare the methods and results of investigations done by other classmates.	Students learn to discuss and share information as they learn the process of experimentation and they become "scientists." Lesson 10 – TG pp. 55-60 *What are the layers of the Earth?* Lesson 14 – TG pp. 79-86 *What makes up matter?*
SC.4.N.1.6 Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.	Each lesson in CAVS Science has students keep records that include pictorial, written, simple charts, and graphs. Lesson 16 – TG pp. 91-96: Record Sheet; Concept Web; Lesson Review *How can matter change?* Lesson 21 – TG pp. 121-126: Record Sheet; Concept Web; Lesson Review *How does electricity move?*
SC.4.N.1.7 Recognize and explain that scientists base their explanations on evidence.	Lesson 18 – TG pp. 103-108 *How do simple machines help things move?* Lesson 22 – TG pp. 127-132 *What is Earth's place in the universe?*
SC.4.N.1.8 Recognize that science involves creativity in designing experiments.	Lesson 9 – TG pp. 49-54 *What is the water cycle?* Lesson 11 – TG pp. 61-66 *What causes earthquakes and volcanoes?*
BIG IDEA 2: The Characteristics of Scientific Knowledge	

Science Content Standard/Benchmarks	*CAVS* Science Grade 3-5 Teacher's Guide Examples/Lessons
SC.4.N.2.1 Explain that science focuses solely on the natural world.	Lesson 8 – TG pp. 43-48 *How are rocks classified?* Lesson 22 – TG pp. 127 *What is Earth's place in the universe?*
BIG IDEA 3: The Role of Theories, Laws, Hypotheses, and Models	
SC.4.N.3.1 Explain that models can be three dimensional, two dimensional, an explanation in your mind, or a computer model.	Lesson 12 – TG pp. 67-72 *How does Earth's service change?* Lesson 24 – TG pp. 139-144 *What patterns does Earth repeat?*
BIG IDEA 5: Earth in Space and Time Humans continue to explore Earth's place in space	
SC.4.E.5.1 Observe that the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons.	Lesson 22 – TG pp. 127-132 *What is Earth's place in the universe?* Lesson 23 – TG pp. 133-138 *What are patterns in the sky?*
SC.4.E.5.2 Describe the changes in the observable shape of the moon over the course of about a month.	Lesson 23 – TG pp. 133-138 *What are patterns in the sky?*
SC.4.E.5.3 Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.	Lesson 24 – TG pp. 139-144 *What patterns does Earth repeat?*
SC.4.E.5.4 Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected.	Lesson 22 – TG pp. 127-132 *What is Earth's place in the universe?* Lesson 23 – TG pp. 133-138 *What are patterns in the sky?* Lesson 24 – TG pp. 139-144 *What patterns does Earth repeat?*
SC.4.E.5.5 Investigate and report the effects of space research and exploration on the economy and culture of Florida.	n/a
BIG IDEA 6: Earth Structures Humans continue to explore the composition and structure of the surface of Earth	

Science Content Standard/Benchmarks	*CAVS* Science Grade 3-5 Teacher's Guide Examples/Lessons
SC.4.E.6.1 Identify the three categories of rocks: igneous, (formed from molten rock); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic (formed from heat and pressure).	Lesson 8 – TG pp. 43-48 *How are rocks classified?*
SC.4.E.6.2 Identify the physical properties of common earth-forming minerals, including hardness, color, luster, cleavage, and streak color, and recognize the role of minerals in the formation of rocks.	Lesson 8 – TG pp. 43-48 *How are rocks classified?* Lesson 10 – TG pp. 55-60 *What are the layers of the earth?*
SC.4.E.6.3 Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.	Lesson 13 – TG pp. 73-78 *What are Earth's natural resources?*
SC.4.E.6.4 Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).	Lesson 10 – TG pp. 55-60 *What are the layers of the earth?* Lesson 11 – TG pp. 61-66 *What causes earthquakes and volcanoes?* Lesson 12 – TG pp. 67-72 *How does Earth's surface change?*
SC.4.E.6.5 Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things.	Lesson 1 – TG pp. 1-6 *How are living things classified?* Lesson 22 – TG pp. 127-132 *What is Earth's place in the universe?* Lesson 23 – TG pp. 133-138 *What are patterns in the sky?*
SC.4.E.6.6 Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy).	n/a
BIG IDEA 8: Properties of Matter	
SC.4.P.8.1 Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness,	Lesson 14 – TG pp. 79-84 *What makes up matter?* Lesson 15 – TG pp. 85-90

Science Content Standard/Benchmarks	*CAVS* Science Grade 3-5 Teacher's Guide Examples/Lessons
texture, odor, taste, attraction to magnets.	*How do we measure matter?* Lesson 16 – TG pp. 91-65 *How can matter change?*
SC.4.P.8.2 Identify properties and common uses of water in each of its states.	Lesson 9 – TG pp. 49-54 *What is the water cycle?* Lesson 16 – TG pp. 91-96 *How can matter change?*
SC.4.P.8.3 Explore the Law of Conservation of Mass by demonstrating that the mass of a whole object is always the same as the sum of the masses of its parts.	Lesson 15 – TG pp. 85-90 *How do we measure matter?*
SC.4.P.8.4 Investigate and describe that magnets can attract magnetic materials and attract and repel other magnets.	CAVS K-2 Science Lessons – TG pp. 97-102 Lesson 17 – *How do magnets move things?*
BIG IDEA 9: Changes in Matter	
SC.4.P.9.1 Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking. Access Points for Students with Significant Cognitive Disabilities	Lesson 16 – TG pp. 91-96 *How can matter change?*
BIG IDEA 10: Forms of Energy	
SC.4.P.10.1 Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.	Lesson 18 – TG pp. 103-108 *How do simple machines help things move?* Lesson 19 – TG pp. 109-114 *How does heat energy move?* Lesson 20 – TG pp. 115 – 120 *How does light energy move?* Lesson 21 – TG pp. 121-126 *How does electricity move?*
SC.4.P.10.2 Investigate and describe that energy has the ability to cause motion or create change.	Lesson 18 – TG pp. 103-108 *How do simple machines help things move?*

Science Content Standard / Benchmarks	*CAVS* Science Grade 3-5 Teacher's Guide Examples / Lessons
	Lesson 19 – TG pp. 109-114 *How does heat energy move?* Lesson 20 – TG pp. 115 – 120 *How does light energy move?* Lesson 21 – TG pp. 121-126 *How does electricity move?*
SC.4.P.10.3 Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.	CAVS Science Lessons K-2 – TG pp. 115-116 Lesson 20 – *What makes sound?*
SC.4.P.10.4 Describe how moving water and air are sources of energy and can be used to move things.	Lesson 11 – TG pp. 61-66 *What causes earthquakes and volcanoes?* Lesson 12 – TG pp. 67-72 *How does Earth's surface change?*
BIG IDEA 11: Energy Transfer and Transformations	
SC.4.P.11.1 Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperature.	Lesson 19 – TG pp. 109-114 *How does hear energy move?*
SC.4.P.11.2 Identify common materials that conduct heat well or poorly.	Lesson 19 – TG pp. 109-114 *How does hear energy move?*
BIG IDEA 12: Motion of Objects	
SC.4.P.12.1 Recognize that an object in motion always changes its position and may change its direction.	Lesson 17 – TG pp. 97-102 *What makes things move?* Lesson 18 – TG pp. 103-108 *How do simple machines help things move?*
SC.4.P.12.2 Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.	Lesson 17 – TG pp. 97-102 *What makes things move?* Lesson 18 – TG pp. 103-108 *How do simple machines help things move?* Lesson 20 – TG pp. 115-120 *How does light energy move?* Lesson 21 – TG pp. 121-126 *How does electricity move?*

Science Content Standard/Benchmarks	*CAVS* Science Grade 3-5 Teacher's Guide Examples/Lessons
BIG IDEA 16: Heredity and Reproduction	
SC.4.L.16.1 Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination.	Lesson 3 – TG pp. 13-18 *How do plants reproduce?*
SC.4.L.16.2 Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment.	Lesson 2 – TG pp. 7-12 *How are plant and animal systems different?* Lesson 4 – TG pp. 19-24 *What is an ecosystem?* Lesson 5 – TG pp. 25-30 *How does energy flow in an ecosystem?* Lesson 6 – TG pp. 31-36 *What helps an organism live in its ecosystem?*
SC.4.L.16.3 Recognize that animal behaviors may be shaped by heredity and learning.	Lesson 6 – TG pp. 31-36 *What helps an organism live in its ecosystem?*
SC.4.L.16.4 Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and nonflowering seed-bearing plants.	n/a
BIG IDEA 17: Interdependence	
SC.4.L.17.1 Compare the seasonal changes in Florida plants and animals to those in other regions of the country.	n/a
SC.4.L.17.2 Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.	Lesson 4 – TG pp. 19-24 *What is an ecosystem?* Lesson 5 – TG pp. 25-30 *How does energy flow in an ecosystem?* Lesson 6 – TG pp. 31-36 *What helps an organism live in its ecosystem?*
SC.4.L.17.3 Trace the flow of energy from the Sun as it is transferred along the food chain through	Lesson 5 – TG pp. 25-30 *How does energy flow in an ecosystem?*

Science Content Standard/Benchmarks	*CAVS* Science Grade 3-5 Teacher's Guide Examples/Lessons
the producers to the consumers.	
SC.4.L.17.4 Recognize ways plants and animals, including humans, can impact the environment.	Lesson 3 – TG pp. 13-18 *How do plants reproduce?* Lesson 4 – TG pp. 19-24 *What is an ecosystem?* Lesson 5 – TG pp. 25-30 *How does energy flow in an ecosystem?* Lesson 6 – TG pp. 31-36 *What helps an organism live in its ecosystem?* Lesson 13 – TG pp. 73-78 *What are Earth's natural resources?*