CACS Curriculum Map — Grade 5 Science (FOSS Kit-Based)

Built around the three FOSS Next Generation kits used for Grade 5 — Living Systems; Sun and Earth; and Mixtures and Solutions — one per trimester, aligned to the 2026 NJSLS-Science standards (NGSS Performance Expectations).

Pacing Overview

When	FOSS Kit	Focus
September – Mid-October (Weeks 1–6)	FOSS Living Systems	Matter and Energy in Organisms and Ecosystems
Mid-October – October	— *gap* —	Reinforcement / reteaching / other instruction, not detailed in this map
November – Mid-January (Weeks 1–8, spanning winter break)	FOSS Sun and Earth	Space Systems: Stars and the Solar System · Earth's Systems · Engineering Design
Mid-January – February	— *gap* —	Reinforcement / reteaching / other instruction, not detailed in this map
March – Late April (Weeks 1–7)	FOSS Mixtures and Solutions	Structure and Properties of Matter · Engineering Design
Late April – June	— *gap* —	Reinforcement / reteaching / other instruction, not detailed in this map

Standards Key

Key	What It Means
NGSS / NJSLS-Science	2026 New Jersey Student Learning Standards for Science (readoption effective 2025–2026), aligned to the Next Generation Science Standards (NGSS). Grade 5 Performance Expectations span 5-PS1, 5-PS2, 5-PS3 (Physical Science), 5-LS1, 5-LS2 (Life Science), 5-ESS1, 5-ESS2, 5-ESS3 (Earth and Space Sciences), and the shared 3-5-ETS1 (Engineering Design).
FOSS Grade 5 Kits	FOSS Living Systems; FOSS Sun and Earth; and FOSS Mixtures and Solutions — the three FOSS Next Generation (2018) kits this map is built around, one per trimester.
IG / EA	IG = Investigations Guide page reference. EA = Embedded Assessment (FOSS's built-in Performance Assessment), cited from the FOSS Next Generation K–5 NGSS Correlation (May 2019).
FOSSweb	FOSS's official companion website (fossweb.com), source for this map's named digital resources (e.g., “Food Webs,” “Tutorial: Solutions”).

Grade 5 Science Curriculum Map

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
September – Mid-October (Weeks 1–6) **FOSS Living Systems** *Matter and Energy in Organisms and Ecosystems*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 5-LS1-1 — Support an argument that plants get the materials they need for growth chiefly from air and water. • 5-LS2-1 — Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. • 5-PS3-1 — Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. • 5-ESS2-1 — Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. ***Learning Objectives*** • 5-LS1-1: I can use evidence to argue that plants get what they need to grow mainly from air and water. • 5-LS2-1: I can build a model showing how matter moves among plants, animals, decomposers, and the environment. • 5-PS3-1: I can use a model to show that the energy in an animal's food originally came from the sun. • 5-ESS2-1: I can use a model and example to describe how Earth's land, living things, water, and air interact.	***Areas of Focus*** • Plants get the materials they need for growth chiefly from air and water, not from the soil. • Matter moves among plants, animals, decomposers, and the environment in an interconnected web of life; decomposers recycle matter back to the soil. • The energy in an animal's food can be traced back to the sun, captured by plants and passed through food chains. • Earth's geosphere, biosphere, hydrosphere, and atmosphere interact as systems, each shaping the others (e.g., the ocean's influence on climate and landforms). ***ESL Accommodations (WIDA ELD Standard 4 — Language for Science)*** • Pre-teach and post key vocabulary for this unit with visuals, realia, and student-friendly definitions before whole-group instruction (arguing evidence for how plants grow and describing how matter and energy move through ecosystems). • Use the WIDA Key Language Use of Argue and Describe as the language focus: provide sentence frames (e.g., “I notice ___.” “This happens because ___.”) to scaffold argue and describe in both the interpretive (listening/viewing) and expressive (speaking/representing) modes. • Pair verbal explanations with visual models, real objects, and hands-on materials (photos, charts, FOSS kit materials) so multilingual learners can access content independent of English proficiency level. ***Enrichment*** • Have students trace a specific food chain from the sun through several	***Investigations*** • 5-LS1-1: Support an argument, using evidence from an investigation, that plants get the materials they need for growth chiefly from air and water; explore the FOSSweb digital resources “Plant Structure and Growth” and “Plant Vascular System.” • 5-LS2-1: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment; explore the FOSSweb digital resources “Food Chains” and “Food Webs.” • 5-PS3-1: Use a model (e.g., a diagram or flow chart) to describe that the energy in animals' food was once energy from the sun; explore the FOSSweb digital resource “Web of Life: Life in the Sea.” • 5-ESS2-1: Develop a model using an example (e.g., the ocean's influence on climate) to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact; explore the FOSSweb digital resource “Geography for Students - Physical Systems.”	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 5-LS1-1: FOSS Living Systems: Interim Assessment, Life Science Task 1—Plant Growth (no embedded EA is listed for this PE in the correlation) • 5-LS2-1: FOSS Living Systems: EA Notebook Entry, IG p. 102 (Step 13), IG p. 230 (Step 40); EA Performance Assessment, IG p. 132 (Step 6), IG p. 249 (Step 4); EA Response Sheet, IG p. 123, SNM No. 4 • 5-PS3-1: FOSS Living Systems: EA Notebook Entry, IG p. 175 (Step 16); EA Response Sheet, IG p. 123, SNM No. 4, IG p. 190, SNM No. 11 • 5-ESS2-1: FOSS Living Systems: EA Notebook Entry, IG p. 102 (Step 13), IG p. 116 (Step 29); EA Performance Assessment, IG p. 132 (Step 6)	• FOSS Living Systems Investigations Guide • FOSSweb (fossweb.com) digital resources: “Plant Structure and Growth,” “Food Chains,” “Food Webs,” “Geography for Students - Physical Systems” • Live organism and aquatic ecosystem materials (e.g., decomposer cultures, plant-growth setups) for classroom observation • Appropriate literature on plant growth, ecosystems, food webs, and Earth's systems

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
		organisms to a decomposer, diagramming the transfer of matter and energy at each step. • Challenge students to research a real ecosystem restoration project and describe, using evidence, how it addressed interactions among the geosphere, biosphere, hydrosphere, and/or atmosphere.			
November – Mid-January (Weeks 1–8, spanning winter break) **FOSS Sun and Earth** *Space Systems: Stars and the Solar System · Earth's Systems · Engineering Design*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 5-ESS1-1 — Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth. • 5-ESS1-2 — Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. • 5-PS2-1 — Support an argument that the gravitational force exerted by Earth on objects is directed down. • 5-ESS2-2 — Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. • 5-ESS3-1 — Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources, environment and address climate change issues. • 3-5-ETS1-3 — Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. ***Learning Objectives*** • 5-ESS1-1: I can use evidence to argue that the sun looks brighter	***Areas of Focus*** • The sun appears larger and brighter than other stars only because it is closer to Earth; stars vary greatly in their distance from Earth. • The rotation of Earth and the orbits of Earth around the sun and the moon around Earth cause observable patterns — day and night, changing shadow length and direction, and the seasonal appearance of stars. • Earth's gravity pulls objects near its surface toward the planet's center — what we experience as "down." • Nearly all of Earth's water is in the ocean, with most fresh water in glaciers or underground; individuals and communities can take steps to protect Earth's resources and environment. ***ESL Accommodations (WIDA ELD Standard 4 — Language for Science)*** • Pre-teach and post key vocabulary for this unit with visuals, realia, and student-friendly definitions before whole-group instruction (describing patterns in shadows, day and night, and star appearance, and supporting an argument about gravity and star brightness). • Use the WIDA Key Language Use of Describe and Support as the language focus: provide sentence frames (e.g., "I notice ___." "This happens because ___.") to scaffold describe and support in both the	***Investigation Set A — Space Systems and Gravity*** • 5-ESS1-1: Support an argument, using evidence, that the sun appears brighter than other stars because of its relative distance from Earth; explore the FOSSweb digital resource "All about the Stars." • 5-ESS1-2: Represent data in graphical displays (bar graphs, pictographs) to reveal patterns of daily changes in shadow length and direction, day and night, and the seasonal appearance of stars; explore the FOSSweb digital resources "Tutorial: Sun Tracking" and "Shadow Tracker." • 5-PS2-1: Support an argument, using evidence, that the gravitational force exerted by Earth on objects is directed down; explore the FOSSweb digital resource "The Planets and the Solar System." ***Investigation Set B — Earth's Water Systems and Engineering Design*** • 5-ESS2-2: Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth; explore the FOSSweb digital resource "Water Cycle Game." • 5-ESS3-1: Obtain and combine information from books and other reliable media about ways individual communities use science	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 5-ESS1-1: FOSS Sun and Earth: EA Notebook Entry, IG p. 182 (Step 18), IG p. 229 (Step 15) • 5-ESS1-2: FOSS Sun and Earth: EA Notebook Entry, IG pp. 142–143 (Steps 27–29), IG p. 182 (Step 18), IG p. 229 (Step 15); EA Response Sheet, IG p. 127, SNM No. 3 • 5-PS2-1: FOSS Sun and Earth: EA Response Sheet, IG p. 218, SNM No. 10 • 5-ESS2-2: FOSS Sun and Earth: EA Notebook Entry, IG p. 406 (Step 20) • 5-ESS3-1: FOSS Sun and Earth: EA Notebook Entry, IG p. 421 (Step 20) • 3-5-ETS1-3: FOSS Sun and Earth: EA Performance Assessment, IG p. 355 (Step 14)	• FOSS Sun and Earth Investigations Guide • FOSSweb (fossweb.com) digital resources: "All about the Stars," "Tutorial: Sun Tracking," "Shadow Tracker," "Water Cycle Game," "Climate and Seasons" • Shadow-tracking tools, models of the sun-Earth-moon system, and water-cycle/reservoir models • Appropriate literature on the solar system, gravity, Earth's water systems, and climate

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
	than other stars because it's closer to Earth. • 5-ESS1-2: I can use graphs to show patterns in shadows, day and night, and stars in the night sky. • 5-PS2-1: I can use evidence to argue that Earth's gravity pulls objects straight down. • 5-ESS2-2: I can describe and graph how much salt water and fresh water exist in different places on Earth. • 5-ESS3-1: I can research and combine information about how communities use science to protect Earth's resources and environment. • 3-5-ETS1-3: I can plan and carry out a fair test to find what part of my design needs improvement.	interpretive (listening/viewing) and expressive (speaking/representing) modes. • Pair verbal explanations with visual models, real objects, and hands-on materials (photos, charts, FOSS kit materials) so multilingual learners can access content independent of English proficiency level. ***Enrichment*** • Have students track and graph the length and direction of an object's shadow at the same time each day across several weeks, then use the data to predict future shadow patterns. • Challenge students to research a real community effort to protect a local water resource and present a claim, with evidence, about how it addresses one of Earth's interacting systems.	ideas to protect Earth's resources, environment, and address climate-related issues; explore the FOSSweb digital resource "Climate and Seasons." • 3-5-ETS1-3: Plan and carry out a fair test, considering failure points, to identify aspects of a model or prototype (e.g., a solar-powered design) that can be improved.		
March – Late April (Weeks 1–7) **FOSS Mixtures and Solutions** *Structure and Properties of Matter · Engineering Design*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 5-PS1-1 — Develop a model to describe that matter is made of particles too small to be seen. • 5-PS1-2 — Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. • 5-PS1-3 — Make observations and measurements to identify materials based on their properties. • 5-PS1-4 — Conduct an investigation to determine whether the mixing of two or more substances results in new substances. • 3-5-ETS1-1 — Define a simple design problem reflecting a need or a want that includes specified	***Areas of Focus*** • Matter of any type can be subdivided into particles too small to see, but the matter still exists and can be detected by other means. • The total weight of matter is conserved regardless of the type of change — heating, cooling, or mixing — that substances undergo. • Measurements of properties like solubility, reflectivity, and response to magnets can be used to identify materials; when some substances mix, a new substance with different properties can form. • Engineers define a design problem's criteria and constraints and generate and compare multiple possible solutions before testing them. ***ESL Accommodations (WIDA ELD Standard 4 — Language for Science)***	***Investigation Set A — Matter, Mixtures, and Properties*** • 5-PS1-1: Develop a model to describe that matter is made of particles too small to be seen (e.g., dissolving sugar in water, evaporating salt water); explore the FOSSweb digital resource "Tutorial: Air and Atmosphere." • 5-PS1-2: Measure and graph quantities to provide evidence that the total weight of matter is conserved when heating, cooling, or mixing substances; explore the FOSSweb digital resources "Tutorial: Concentration" and "Tutorial: Conservation of Mass." • 5-PS1-3: Make observations and measurements to identify materials based on their properties; explore the FOSSweb digital resources "Tutorial: Saturation" and "Tutorial: Solutions."	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 5-PS1-1: FOSS Mixtures and Solutions: EA Notebook Entry, IG p. 111 (Step 20), IG p. 210 (Step 17), IG p. 239 (Step 11); EA Performance Assessment, IG p. 226 (Step 4), IG p. 284 (Step 7); EA Response Sheet, IG p. 219, SNM No. 12, IG p. 279, SNM No. 15 • 5-PS1-2: FOSS Mixtures and Solutions: EA Notebook Entry, IG p. 269 (Step 21); EA Performance Assessment, IG p. 226 (Step 4), IG p. 284	• FOSS Mixtures and Solutions Investigations Guide • FOSSweb (fossweb.com) digital resources: "Tutorial: Air and Atmosphere," "Tutorial: Concentration," "Tutorial: Saturation," "Tutorial: Solutions," "Tutorial: Conservation of Mass," "Tutorial: Reaction or Not?" • Water, salt, baking soda, vinegar, balances, and other mixture

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
	criteria for success and constraints on materials, time, or cost. • 3-5-ETS1-2 — Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. ***Learning Objectives*** • 5-PS1-1: I can build a model showing that matter is made of particles too small to see. • 5-PS1-2: I can measure and graph evidence that the total weight of matter stays the same when substances are heated, cooled, or mixed. • 5-PS1-3: I can make observations and measurements to identify a material based on its properties. • 5-PS1-4: I can investigate whether mixing two or more substances creates a new substance. • 3-5-ETS1-1: I can define a design problem, including what it needs to do and what limits I have to work within. • 3-5-ETS1-2: I can generate and compare more than one possible solution to a problem.	• Pre-teach and post key vocabulary for this unit with visuals, realia, and student-friendly definitions before whole-group instruction (explaining evidence that matter is conserved and comparing solutions to a design problem). • Use the WIDA Key Language Use of Explain and Compare as the language focus: provide sentence frames (e.g., "I notice ___." "This happens because ___.") to scaffold explain and compare in both the interpretive (listening/viewing) and expressive (speaking/representing) modes. • Pair verbal explanations with visual models, real objects, and hands-on materials (photos, charts, FOSS kit materials) so multilingual learners can access content independent of English proficiency level. ***Enrichment*** • Have students design and conduct an investigation testing whether mixing two additional household substances (not used in class) produces a new substance, then present their evidence. • Challenge students to research a real engineering application of solutions or mixtures (e.g., water treatment, an alloy) and compare it to the mixtures explored in class.	• 5-PS1-4: Conduct an investigation to determine whether the mixing of two or more substances (e.g., baking soda and vinegar) results in a new substance; explore the FOSSweb digital resource "Tutorial: Reaction or Not?" ***Investigation Set B — Engineering Design*** • 3-5-ETS1-1: Define a simple design problem reflecting a need or want, including specified criteria for success and constraints on materials, time, or cost; explore the FOSSweb digital resource "Water Cycle." • 3-5-ETS1-2: Generate and compare multiple possible solutions to a design problem based on how well each is likely to meet the criteria and constraints of the problem.	(Step 7); EA Response Sheet, IG p. 117, SNM No. 4, IG p. 188, SNM No. 8 • 5-PS1-3: FOSS Mixtures and Solutions: EA Performance Assessment, IG p. 226 (Step 4), IG p. 284 (Step 7); EA Response Sheet, IG p. 279, SNM No. 15 • 5-PS1-4: FOSS Mixtures and Solutions: EA Notebook Entry, IG p. 325 (Step 20); EA Response Sheet, IG p. 332, SNM No. 18 • 3-5-ETS1-1: FOSS Mixtures and Solutions: EA Notebook Entry, IG p. 298 (Step 21) • 3-5-ETS1-2: FOSS Mixtures and Solutions: EA Notebook Entry, IG p. 298 (Step 21); EA Performance Assessment, IG p. 127 (Steps 6–9)	and solution materials • Appropriate literature on matter, mixtures, solutions, and engineering design