CACS Curriculum Map — Grade 2 Science (FOSS Kit-Based)

Built around the three FOSS Next Generation kits used for Grade 2 — Pebbles, Sand, and Silt; Solids and Liquids; and Insects and Plants — 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 Pebbles, Sand, and Silt	Earth's Systems: Processes That Shape the Earth
Mid-October – October	— *gap* —	Reinforcement / reteaching / other instruction, not detailed in this map
November – Mid-December (Weeks 1–6)	FOSS Solids and Liquids	Structure and Properties of Matter
Mid-December – February	— *gap* —	Winter break falls in this window; reinforcement / reteaching / other instruction, not detailed in this map
March – Mid-April (Weeks 1–6, extending as needed)	FOSS Insects and Plants	Interdependent Relationships in Ecosystems · Engineering Design
Mid-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 2 Performance Expectations span 2-PS1 (Physical Science), 2-LS2, 2-LS4 (Life Science), 2-ESS1, 2-ESS2 (Earth and Space Sciences), and the shared K-2-ETS1 (Engineering Design).
FOSS Grade 2 Kits	FOSS Pebbles, Sand, and Silt; FOSS Solids and Liquids; and FOSS Insects and Plants — 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., “All About Volcanoes,” “How Plants Grow”).

Grade 2 Science Curriculum Map

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
September – Mid-October (Weeks 1–6) **FOSS Pebbles, Sand, and Silt** *Earth's Systems: Processes That Shape the Earth*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 2-ESS1-1 — Use information from several sources to provide evidence that Earth events can occur quickly or slowly. • 2-ESS2-1 — Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. • 2-ESS2-2 — Develop a model to represent the shapes and kinds of land and bodies of water in an area. • 2-ESS2-3 — Obtain information to identify where water is found on Earth and that it can be solid or liquid. ***Learning Objectives*** • 2-ESS1-1: I can use information from several sources to show that Earth events can happen quickly or slowly. • 2-ESS2-1: I can compare different solutions for slowing or preventing wind or water from changing the shape of the land. • 2-ESS2-2: I can build a model that shows the shapes and kinds of land and water in an area. • 2-ESS2-3: I can find information to identify where water is found on Earth and whether it's solid or liquid.	***Areas of Focus*** • Some Earth events happen very quickly (earthquakes, volcanic eruptions); others happen very slowly, over a much longer time than we can observe (erosion). • Wind and water can change the shape of the land; designed solutions (dikes, windbreaks, plants) can slow or prevent that change. • Maps show where things are located and can represent the shapes and kinds of land and water in an area. • Water is found in oceans, rivers, lakes, and ponds, and it exists as both solid ice and liquid water. ***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 how Earth's surface changes and where water is found). • Use the WIDA Key Language Use of Explain and Inform as the language focus: provide sentence frames (e.g., "I notice ___." "This happens because ___.") to scaffold explain and inform 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 research a real fast Earth event (e.g., a volcanic eruption or earthquake) and a real slow Earth event (e.g., a canyon	***Investigations*** • 2-ESS1-1: Use information from several sources (texts, media, models) to construct an evidence-based account of Earth events that happen quickly versus slowly; explore the FOSSweb digital resources "All About Volcanoes" and "All About Land Formations." • 2-ESS2-1: Compare multiple solutions (e.g., different designs of dikes and windbreaks) for slowing or preventing wind or water from changing the shape of the land. • 2-ESS2-2: Develop a model representing the shapes and kinds of land and bodies of water in a chosen area. • 2-ESS2-3: Obtain information using text features (headings, glossaries, tables of contents) to identify where water is found on Earth and whether it is solid or liquid.	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 2-ESS1-1: FOSS Pebbles, Sand, and Silt: EA Notebook Entry, IG p. 90 (Step 13); EA Performance Assessment, IG pp. 97–98 (Step 14) • 2-ESS2-1: FOSS Pebbles, Sand, and Silt: EA Notebook Entry, IG p. 259 (Step 7) • 2-ESS2-2: FOSS Pebbles, Sand, and Silt: EA Notebook Entry, IG p. 259 (Step 7) • 2-ESS2-3: FOSS Pebbles, Sand, and Silt: EA Notebook Entry, IG p. 253 (Step 12)	• FOSS Pebbles, Sand, and Silt Investigations Guide • FOSSweb (fossweb.com) digital resources: "All About Volcanoes," "All About Land Formations" • Maps and models of land/water areas • Appropriate literature on landforms and water

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
		formed by erosion), then present how each changed the land. • Challenge students to design and test two different windbreak or dike structures using classroom materials, then compare which held back more sand or water and explain why.			
November – Mid-December (Weeks 1–6) **FOSS Solids and Liquids** *Structure and Properties of Matter*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 2-PS1-1 — Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. • 2-PS1-2 — Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. • 2-PS1-3 — Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. • 2-PS1-4 — Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. ***Learning Objectives*** • 2-PS1-1: I can investigate and classify materials by their observable properties. • 2-PS1-2: I can use data to figure out which material works best for a specific purpose. • 2-PS1-3: I can explain, using evidence, how an object made of small pieces can be taken apart and rebuilt into something new. • 2-PS1-4: I can use evidence to argue whether a change from heating or cooling can be reversed.	***Areas of Focus*** • Different kinds of matter exist, and many can be either solid or liquid depending on temperature; matter can be described and classified by its observable properties. • Different properties (strength, flexibility, hardness, texture, absorbency) are suited to different purposes. • A great variety of objects can be built from — and taken apart into — a small set of pieces. • Heating or cooling a substance can cause a change; sometimes that change can be reversed, and sometimes it cannot. ***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 observable properties of materials and arguing whether a change can be reversed). • Use the WIDA Key Language Use of Explain and Argue as the language focus: provide sentence frames (e.g., “I notice ___.” “This happens because ___.”) to scaffold explain and argue in both the interpretive (listening/viewing) and expressive (speaking/representing) modes. • Pair verbal explanations with visual models, real objects, and hands-on	***Investigations*** • 2-PS1-1: Plan and conduct an investigation to describe and classify materials by observable properties such as color, texture, hardness, and flexibility; explore the FOSSweb digital resources “All About the Properties of Matter,” “Properties of Materials,” and “Clothing and Building Materials.” • 2-PS1-2: Analyze data from testing different materials (e.g., strength, flexibility, absorbency) to determine which is best suited for an intended purpose. • 2-PS1-3: Make observations while disassembling an object made of a small set of pieces (e.g., building bricks) and reassembling the pieces into a new object. • 2-PS1-4: Construct an argument with evidence, testing materials such as water and butter at different temperatures, for whether a heating or cooling change can be reversed; explore the FOSSweb digital resources “Solids and Liquids” and “Change It!”	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 2-PS1-1: FOSS Solids and Liquids: EA Notebook Entry, IG p. 90 (Step 14), IG p. 101 (Step 13), IG p. 157 (Step 18), IG p. 194 (Step 16), IG p. 245 (Step 23), IG p. 252 (Step 13); EA Performance Assessment, IG p. 107 (Step 7), IG p. 148 (Step 7), IG p. 205 (Step 7) • 2-PS1-2: FOSS Solids and Liquids: EA Notebook Entry, IG p. 211 (Step 7); EA Performance Assessment, IG p. 115 (Step 8), IG p. 199 (Step 8) • 2-PS1-3: FOSS Solids and Liquids: EA Performance Assessment, IG p. 115 (Step 8), IG p. 118 (Step 21) • 2-PS1-4: FOSS Solids and Liquids: EA Notebook Entry, IG p. 245 (Step 23), IG p. 252 (Step 13), IG p. 269 (Step 19); EA Performance	• FOSS Solids and Liquids Investigations Guide • FOSSweb (fossweb.com) digital resources: “All About the Properties of Matter,” “Properties of Materials,” “Clothing and Building Materials,” “Solids and Liquids,” “Change It!” • Material samples of varying properties (fabric, wood, metal, building bricks) • Appropriate literature on matter

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		materials (photos, charts, FOSS kit materials) so multilingual learners can access content independent of English proficiency level. ***Enrichment*** • Have students test two additional materials (beyond those used in class) for a specific purpose (e.g., waterproofing, insulation), record their properties, and argue which is best suited using evidence. • Challenge students to find and record three more examples of reversible and irreversible changes from heating or cooling at home, then explain their reasoning to the class.		Assessment, IG p. 259 (Step 11)	
March – Mid-April (Weeks 1–6, extending into Week 7 as needed) **FOSS Insects and Plants** *Interdependent Relationships in Ecosystems · Engineering Design*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 2-LS2-1 — Plan and conduct an investigation to determine if plants need sunlight and water to grow. • 2-LS2-2 — Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. • 2-LS4-1 — Make observations of plants and animals to compare the diversity of life in different habitats. • K-2-ETS1-1 — Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. • K-2-ETS1-2 — Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. • K-2-ETS1-3 — Analyze data from tests of two objects designed to solve the same problem to compare	***Areas of Focus*** • Plants depend on water and light to grow. • Plants depend on animals for pollination or to move (disperse) their seeds around. • There are many different kinds of living things in any area, on land and in water. • A situation people want to change can be approached as a problem to be solved through engineering; because there is more than one possible solution, it is useful to compare and test designs. ***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 how plants, animals, and habitats depend on and interact with each other). • Use the WIDA Key Language Use of Inform and Explain as the language focus: provide sentence frames (e.g., “I notice ___.” “This	***Investigations*** • 2-LS2-1: Plan and conduct an investigation, testing one variable at a time, to determine if plants need sunlight and water to grow; explore the FOSSweb digital resource “How Plants Grow.” • 2-LS2-2: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants; explore the FOSSweb digital resources “How Seeds Get Here … and There” and “What Is Pollination?” • 2-LS4-1: Make observations of plants and animals across multiple habitats to compare the diversity of life in each; explore the FOSSweb digital resources “All About Water Ecosystems,” “Habitat Gallery,” “Habitat Havoc,” “House and Backyard Insects,” and “Where Does It Live?” • K-2-ETS1-1 / K-2-ETS1-2 / K-2-ETS1-3: Ask questions, make observations, and gather information to define a simple problem; sketch or build a model of a possible solution; test two object	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 2-LS2-1: FOSS Insects and Plants: EA Notebook Entry, IG p. 146 (Steps 10–11); EA Performance Assessment, IG p. 153 (Step 6) • 2-LS2-2: FOSS Insects and Plants: EA Performance Assessment, IG p. 315 (Step 8), IG p. 315 (Steps 14–15) • 2-LS4-1: FOSS Insects and Plants: EA Notebook Entry, IG p. 120 (Step 9), IG p. 121 (Step 12), IG p. 306 (Step 11); EA Performance Assessment, IG p. 107 (Step 5) • K-2-ETS1-1: FOSS Insects and Plants: EA Notebook Entry, IG p.	• FOSS Insects and Plants Investigations Guide • FOSSweb (fossweb.com) digital resources: “How Plants Grow,” “How Seeds Get Here … and There,” “What Is Pollination?,” “All About Water Ecosystems,” “Habitat Gallery,” “Habitat Havoc,” “House and Backyard Insects,” “Where Does It Live?” • Live plant and insect materials for classroom observation • Appropriate literature on habitats and pollination

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
	the strengths and weaknesses of how each performs. ***Learning Objectives*** • 2-LS2-1: I can investigate whether plants need sunlight and water to grow. • 2-LS2-2: I can build a model that shows how an animal spreads seeds or pollinates plants. • 2-LS4-1: I can compare the diversity of life I observe in different habitats. • K-2-ETS1-1: I can ask questions and gather information to define a problem I want to solve. • K-2-ETS1-2: I can draw or build a model that shows how an object's shape helps it do its job. • K-2-ETS1-3: I can compare data from two tested objects to see which one works better.	happens because ___.") to scaffold inform and explain 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 carry out an investigation testing a second variable (e.g., soil type or amount of water) affecting plant growth, beyond the sunlight/water comparison used in class. • Challenge students to research a pollinator or seed-disperser not covered in class and build a simple model showing how it moves seeds or pollen.	designs and compare their strengths and weaknesses.	204 (Step 18), IG p. 222 (Steps 17–20); EA Performance Assessment, IG p. 250 (Step 4) • K-2-ETS1-2: FOSS Insects and Plants: EA Notebook Entry, IG p. 317 (Step 15) • K-2-ETS1-3: FOSS Insects and Plants: EA Performance Assessment, IG p. 222 (Step 18), IG p. 317 (Step 15)	