CACS Curriculum Map — Kindergarten Science (FOSS Kit-Based)

Built around the three FOSS Next Generation kits used for Kindergarten — Trees and Weather, Animals Two by Two, and Materials and Motion — 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 Trees and Weather	Weather and Climate
Mid-October – October	— *gap* —	Reinforcement / reteaching / other instruction, not detailed in this map
November – Mid-December (Weeks 1–6)	FOSS Animals Two by Two	Interdependent Relationships in Ecosystems
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 Materials and Motion	Forces and Interactions · 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). Kindergarten Performance Expectations span K-PS2, K-PS3 (Physical Science), K-LS1 (Life Science), K-ESS2, K-ESS3 (Earth and Space Sciences), and K-2-ETS1 (Engineering Design).
FOSS Kindergarten Kits	FOSS Trees and Weather, FOSS Animals Two by Two, and FOSS Materials and Motion — 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., “Roller Coaster Builder,” “Once There Was a Tree”).

Kindergarten Science Curriculum Map

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
September – Mid-October (Weeks 1–6) **FOSS Trees and Weather** *Weather and Climate*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • K-ESS2-1 — Use and share observations of local weather conditions to describe patterns over time. • K-ESS3-2 — Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. ***Learning Objectives*** • K-ESS2-1: I can observe and talk about the weather and notice patterns over time. • K-ESS3-2: I can ask questions about how weather forecasts help people get ready for severe weather.	***Areas of Focus*** • Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. • People measure and record weather conditions to describe them and to notice patterns over time. • Some kinds of severe weather are more likely than others in a given region; weather scientists forecast severe weather so communities can prepare for and respond to it. • Patterns in the natural world can be observed, described, and used as evidence. ***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 daily weather and forecasting severe weather). • Use the WIDA Key Language Use of Inform and Explain as the language focus: provide sentence frames (e.g., "I notice ___." "This 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 keep an extended weather journal comparing patterns across two or more weeks and present one pattern they noticed to the class.	***Investigations*** • K-ESS2-1: Record daily weather observations (sunny, cloudy, rainy, warm, windy) on a class weather chart, then use the chart to describe patterns over time. • K-ESS3-2: Read grade-appropriate texts and use media to ask questions about how weather scientists forecast severe weather; explore the FOSSweb digital resource "Come a Tide." • Begin informal observations of a tree near the school (leaves, color, growth) to notice seasonal change, previewing Unit 2's focus on plant and animal needs.	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • K-ESS2-1: EA Performance Assessment — FOSS Trees and Weather: IG p. 178 (Step 9), IG pp. 180–181 (Steps 8–9), IG p. 202 (Steps 20–21), IG p. 222 (Step 8) • K-ESS3-2: EA Performance Assessment — FOSS Trees and Weather: IG p. 198 (Step 10), IG p. 200 (Step 14), IG p. 202 (Steps 20–21)	• FOSS Trees and Weather Investigations Guide (Investigations 1–2: Weather, Trees) • FOSSweb (fossweb.com) digital resources: "Come a Tide," "Who Lives Here?," "Summer" • Class weather chart; local weather report • Scijinks — It's All About the Weather (https://scijinks.gov)

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		• Challenge students to design a simple tool (e.g., a windsock or rain gauge) that could help answer one of their own weather questions.			
November – Mid-December (Weeks 1–6) **FOSS Animals Two by Two** *Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • K-LS1-1 — Use observations to describe patterns of what plants and animals (including humans) need to survive. • K-ESS3-1 — Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. • K-ESS2-2 — Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. ***Learning Objectives*** • K-LS1-1: I can describe what plants and animals need to live and grow. • K-ESS3-1: I can use a model to show how a living thing's needs connect to where it lives. • K-ESS2-2: I can use evidence to explain how living things change their environment to meet their needs.	***Areas of Focus*** • All animals need food, water, and air to live and grow; they obtain food from plants or other animals. • Plants need water and light to live and grow. • Living things live in places that have the resources they need; a plant's or animal's needs relate to where it lives. • Plants and animals can change their environment to meet their needs. ***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 (comparing what plants, animals, and humans need to survive). • Use the WIDA Key Language Use of Inform and Argue as the language focus: provide sentence frames (e.g., “I notice ___.” “This happens because ___.”) to scaffold inform and argue 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 and present (with a drawing or model) how a plant or animal of their choice meets its needs in a specific habitat.	***Investigations*** • K-LS1-1: Observe and care for live organisms (guppies, land snails, crickets, and/or isopods) in the classroom, recording what each animal needs to live and grow. • K-ESS3-1: Use a model or drawing to represent the relationship between an animal's needs and its habitat, comparing at least two animals studied in class. • K-ESS2-2: Construct an argument, with evidence from classroom observations, for how an animal or plant changes its environment to meet its needs; explore the FOSSweb digital resource “Once There Was a Tree.”	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • K-LS1-1: EA Performance Assessment — FOSS Animals Two by Two: IG p. 87 (Step 6), IG p. 90 (Step 11), IG p. 189 (Step 14); FOSS Trees and Weather: IG p. 116 (Step 11), IG p. 121 (Step 9) • K-ESS3-1: EA Performance Assessment — FOSS Animals Two by Two: IG p. 92 (Step 4), IG p. 95 (Step 8), IG p. 97 (Step 5), IG p. 103 (Step 14), IG p. 176 (Step 7), IG p. 180 (Step 18); FOSS Trees and Weather: IG p. 107 (Step 8), IG p. 116 (Step 11), IG p. 121 (Step 9), IG p. 240 (Step 5), IG p. 243 (Step 8) • K-ESS2-2: EA Performance Assessment — FOSS Animals Two by Two: IG p. 87 (Step 6), IG p. 144 (Step 12), IG p. 151 (Steps 22–23), IG p. 183 (Step 5), IG p. 189 (Step 14); FOSS Trees and Weather: IG p. 85 (Step 14), IG p. 91 (Step 16)	• FOSS Animals Two by Two Investigations Guide • FOSSweb (fossweb.com) digital resources: “Seashore Surprise,” “Who Lives Here?,” “Once There Was a Tree,” “Summer” • Live organism care materials (guppies, land snails, crickets, isopods) • Appropriate literature on animal and plant needs

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
		• Challenge students to construct a written or oral argument, with evidence, for how a specific human activity changes the local environment to meet a need.			
March – Mid-April (Weeks 1–6, extending into Week 7 as needed) **FOSS Materials and Motion** *Forces and Interactions: Pushes and Pulls · Engineering Design*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • K-PS2-1 — Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. • K-PS2-2 — Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull. • K-2-ETS1-3 — Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. • K-PS3-1 — Make observations to determine the effect of sunlight on Earth's surface. • K-PS3-2 — Use tools and materials provided to design and build a structure that will reduce the warming effect of sunlight on an area. • 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-ESS3-3 — Communicate solutions that will reduce the impact of humans on the land,	***Areas of Focus*** • Pushes and pulls have different strengths and directions and can change an object's speed, direction, or motion; when objects touch or collide, they push on one another. • Sunlight warms Earth's surface; the amount of warming on an area can be reduced with a designed structure. • A situation people want to change or create 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. • People's choices can reduce their impact on the land, water, air, and other living things. ***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 (explaining how forces and structures work and arguing for a design solution). • 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 materials (photos, charts, FOSS kit materials) so multilingual learners	***Investigation Set A — Forces and Motion*** • K-PS2-1: Plan and conduct an investigation, in collaboration with peers, comparing how different strengths and directions of pushes and pulls change the motion of an object on a ramp. • K-PS2-2: Test a design (e.g., a ramp or structure) and analyze data to determine whether it changes an object's speed or direction as intended; explore the FOSSweb digital resource "Roller Coaster Builder." • K-2-ETS1-3: Test two different object designs solving the same problem (e.g., two ramp shapes) and compare the strengths and weaknesses of each. ***Investigation Set B — Sunlight, Structures, and Engineering Design*** • K-PS3-1: Make observations of different surfaces (sand/soil, rocks/water) placed in sunlight to determine the effect of sunlight on Earth's surface. • K-PS3-2: Design and build a structure (e.g., an umbrella, canopy, or tent) that reduces the warming effect of sunlight on an area, using tools and materials provided. • K-2-ETS1-1: Ask questions, make observations, and gather information about a problem the class wants to solve, defining it as a simple engineering problem. • K-2-ETS1-2: Develop a simple sketch, drawing, or physical model showing how an object's shape	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • K-PS2-1: EA Performance Assessment — FOSS Materials and Motion: IG pp. 275–276 (Step 7), IG p. 278 (Step 8), IG p. 280 (Step 15), IG p. 285 (Step 8), IG pp. 286–287 (Step 5), IG p. 290 (Step 15), IG p. 295 (Step 11), IG p. 298 (Step 7) • K-PS2-2: EA Performance Assessment — FOSS Materials and Motion: IG p. 285 (Step 8), IG p. 289 (Step 12), IG p. 290 (Step 15), IG p. 295 (Step 11), IG p. 298 (Step 7), IG p. 302 (Step 5), IG p. 304 (Step 5), IG p. 305 (Steps 11–12) • K-2-ETS1-3: EA Performance Assessment — FOSS Materials and Motion: IG p. 253 (Step 9), IG p. 259 (Steps 23–24), IG p. 260 (Step 26) • K-PS3-1: EA Performance Assessment — FOSS Materials and Motion: IG p. 256 (Steps 10–12); FOSS Trees and Weather: IG p. 185	• FOSS Materials and Motion Investigations Guide • FOSSweb (fossweb.com) digital resources: "Roller Coaster Builder," "What Is Agriculture?," "Recycling Center" • Ramps, marbles/balls, and building materials for sun-blocking structures • Appropriate literature on forces, structures, and environmental stewardship

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	water, air, and/or other living things in the local environment. ***Learning Objectives*** • K-PS2-1: I can investigate how different pushes and pulls change how an object moves. • K-PS2-2: I can use data to tell whether my design changes an object's speed or direction as planned. • K-2-ETS1-3: I can compare data from two tested objects to see which one works better. • K-PS3-1: I can make observations about how sunlight affects different surfaces. • K-PS3-2: I can design and build a structure that reduces the warming effect of sunlight. • 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-ESS3-3: I can communicate a solution that helps reduce human impact on the environment.	can access content independent of English proficiency level. ***Enrichment*** • Have students design and test two different ramps or structures, then compare and explain in writing which design moved the object farther or faster and why. • Challenge students to sketch and build an improved version of their sun-blocking structure, then explain in writing what they changed and why they think it will work better.	helps it function to solve the defined problem. • K-ESS3-3: Communicate, with a model or drawing, a solution that reduces human impact on the land, water, air, or other living things; explore the FOSSweb digital resources "What Is Agriculture?" and "Recycling Center."	(Step 7), IG p. 188 (Steps 9–11) • K-PS3-2: EA Performance Assessment — FOSS Materials and Motion: IG p. 253 (Step 9), IG p. 257 (Steps 17–18), IG p. 260 (Step 26) • K-2-ETS1-1: EA Performance Assessment — FOSS Materials and Motion: IG p. 143 (Step 6), IG p. 147 (Step 12), IG p. 175 (Step 6), IG p. 176 (Steps 1 and 5) • K-2-ETS1-2: EA Performance Assessment — FOSS Materials and Motion: IG p. 198 (Step 8), IG p. 200 (Steps 5–6), IG p. 201 (Step 11), IG p. 202 (Step 14), IG p. 253 (Step 9), IG p. 257 (Step 13); FOSS Trees and Weather: IG p. 193 (Step 13), IG p. 197 (Step 8) • K-ESS3-3: EA Performance Assessment — FOSS Materials and Motion: IG p. 93 (Step 17), IG p. 103 (Step 23), IG p. 137 (Step 7), IG p. 141 (Steps 15–16), IG p. 171 (Step 13), IG p. 190 (Step 8), IG p. 195 (Step 11), IG p. 250 (Step 14)	