CACS Curriculum Map — Grade 1 Science (FOSS Kit-Based)

Built around the three FOSS Next Generation kits used for Grade 1 — Air and Weather, Sound and Light, and Plants and Animals — 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 Air and Weather	Space Systems: Patterns and Cycles · Engineering Design
Mid-October – October	— *gap* —	Reinforcement / reteaching / other instruction, not detailed in this map
November – Mid-December (Weeks 1–6)	FOSS Sound and Light	Waves: Light and Sound
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)	FOSS Plants and Animals	Structure, Function, and Information Processing
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 1 Performance Expectations span 1-PS4 (Physical Science), 1-LS1, 1-LS3 (Life Science), 1-ESS1 (Earth and Space Sciences), and the shared K-2-ETS1 (Engineering Design).
FOSS Grade 1 Kits	FOSS Air and Weather, FOSS Sound and Light, and FOSS Plants and Animals — 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 Sound,” “Animal Structure Sort”).

Grade 1 Science Curriculum Map

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
September – Mid-October (Weeks 1–6) **FOSS Air and Weather** *Space Systems: Patterns and Cycles · Engineering Design*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 1-ESS1-1 — Use observations of the sun, moon, and stars to describe patterns that can be predicted. • 1-ESS1-2 — Make observations at different times of year to relate the amount of daylight to the time of year. • 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 the strengths and weaknesses of how each performs. ***Learning Objectives*** • 1-ESS1-1: I can use my observations of the sun, moon, and stars to describe patterns I can predict. • 1-ESS1-2: I can make observations across the year to relate how much daylight there is to the time of year. • 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.	***Areas of Focus*** • Patterns of the sun, moon, and stars in the sky can be observed, described, and predicted. • The amount of daylight changes with the time of year; seasonal patterns of sunrise and sunset can be observed and described. • A situation people want to change can be approached as a problem to be solved through engineering. • Because there is always more than one possible solution to a problem, 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 patterns in the sky and how daylight changes across the year). • Use the WIDA Key Language Use of Narrate and Explain as the language focus: provide sentence frames (e.g., “I notice ___.” “This happens because ___.”) to scaffold narrate 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 sky journal recording sun position, moon shape, or visible stars across two or more weeks and present one pattern they noticed to the class. • Challenge students to design and test a simple tool or structure that	***Investigations*** • 1-ESS1-1: Use observations (firsthand or from media) to describe patterns in the sky and answer scientific questions about the sun, moon, and stars. • 1-ESS1-2: Make observations at different times of year to collect data comparing the amount of daylight in each season. • 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 designs and compare their strengths and weaknesses; explore the FOSSweb digital resource “Friction and Air Resistance.”	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 1-ESS1-1: FOSS Air and Weather: EA Notebook Entry, IG p. 183 (Step 16), IG p. 185 (Step 20), IG p. 251 (Step 11); EA Performance Assessment, IG p. 183 (Step 14), IG p. 250 (Steps 10 and 12) • 1-ESS1-2: FOSS Air and Weather: EA Notebook Entry, IG p. 256 (Step 10); EA Performance Assessment, IG p. 256 (Step 6), IG p. 266 (Step 13) • K-2-ETS1-1: FOSS Air and Weather: EA Notebook Entry, IG p. 109 (Step 27); EA Performance Assessment, IG p. 108 (Step 23), IG p. 109 (Step 25) • K-2-ETS1-2: FOSS Air and Weather: EA Notebook Entry, IG p. 109 (Step 26); EA Performance Assessment, IG p. 109 (Steps 24–25) • K-2-ETS1-3: FOSS Air and Weather: EA Notebook Entry, IG p. 109 (Step 27); EA Performance Assessment, IG p. 109 (Step 25)	• FOSS Air and Weather Investigations Guide • FOSSweb (fossweb.com) digital resource: “Friction and Air Resistance” • Sky observation journal; sun/moon/star charts • Appropriate literature on sky patterns and seasons

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		responds to air (e.g., a pinwheel or parachute), connecting to the engineering standards.			
November – Mid-December (Weeks 1–6) **FOSS Sound and Light** *Waves: Light and Sound*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 1-PS4-1 — Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. • 1-PS4-2 — Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated. • 1-PS4-3 — Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light. • 1-PS4-4 — Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. ***Learning Objectives*** • 1-PS4-1: I can investigate to show that vibrating materials make sound and sound can make materials vibrate. • 1-PS4-2: I can explain, using evidence, that objects in darkness can only be seen when light shines on them. • 1-PS4-3: I can investigate what happens when light passes through different materials. • 1-PS4-4: I can design and build a device that uses light or sound to send a message over a distance.	***Areas of Focus*** • Sound is caused by vibrating materials, and vibrating materials can make sound. • Objects can be seen only when light is available to illuminate them or if they give off their own light. • Some materials allow light to pass through them, others allow only some light through, and others block all the light and create a dark shadow. • People use a variety of devices to communicate — to send and receive information — over long distances. ***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 sound and light behave and arguing from evidence about materials tested). • 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 can access content independent of English proficiency level. ***Enrichment***	***Investigations*** • 1-PS4-1: Plan and conduct investigations — using tuning forks and a stretched string — to provide evidence that vibrating materials make sound and sound can make materials vibrate; explore the FOSSweb digital resource “All About Sound.” • 1-PS4-2: Make observations in a darkened space to construct an evidence-based account that objects can be seen only when illuminated; explore the FOSSweb digital resource “Light and Darkness.” • 1-PS4-3: Plan and conduct an investigation testing transparent, translucent, opaque, and reflective materials in the path of a beam of light; explore the FOSSweb digital resources “Light and Shadows” and “All About Light My Shadow.” • 1-PS4-4: Use tools and materials to design and build a device (e.g., a light signal or a paper-cup-and-string “telephone”) that uses light or sound to communicate over a distance.	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 1-PS4-1: FOSS Sound and Light: EA Notebook Entry, IG p. 97 (Step 18), IG p. 111 (Step 25), IG p. 156 (Step 14), IG p. 164 (Step 15); EA Performance Assessment, IG p. 106 (Step 10), IG p. 137 (Step 10), IG p. 164 (Step 11) • 1-PS4-2: FOSS Sound and Light: EA Notebook Entry, IG p. 240 (Step 17); EA Performance Assessment, IG p. 236 (Step 10), IG p. 240 (Step 18) • 1-PS4-3: FOSS Sound and Light: EA Notebook Entry, IG p. 182 (Step 14), IG p. 183 (Step 15), IG p. 200 (Step 14); EA Performance Assessment, IG p. 188 (Step 8) • 1-PS4-4: FOSS Sound and Light: EA Notebook Entry, IG p. 164 (Step 15), IG p. 247 (Step 19); EA Performance Assessment, IG p. 164 (Step 11), IG p. 246 (Step 8)	• FOSS Sound and Light Investigations Guide • FOSSweb (fossweb.com) digital resources: “All About Sound,” “Light and Darkness,” “Light and Shadows,” “All About Light My Shadow” • Tuning forks, stretched string, flashlights, mirrors, and materials of varying transparency • Appropriate literature on sound and light

Month / FOSS Kit	Content Standards & Objectives	Instructional Concepts / Areas of Focus	Activities	Assessment	Resources
		• Have students test three additional materials (beyond those used in class) in the path of a beam of light, sort them as transparent, translucent, or opaque, and explain their reasoning in writing. • Challenge students to design and build an improved version of their light-or-sound communication device, then explain in writing what they changed and why they think it will work better.			
March – Mid-April (Weeks 1–6) **FOSS Plants and Animals** *Structure, Function, and Information Processing*	***NGSS Performance Expectations — 2026 NJSLS-Science*** • 1-LS1-1 — Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs. • 1-LS1-2 — Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. • 1-LS3-1 — Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. ***Learning Objectives*** • 1-LS1-1: I can design a solution to a human problem by copying how a plant or animal part works. • 1-LS1-2: I can use texts and media to find patterns in how parents and their offspring behave. • 1-LS3-1: I can use evidence to show that young plants and animals are like, but not exactly like, their parents.	***Areas of Focus*** • All organisms have external parts that they use in different ways to survive, grow, and meet their needs. • Parents and offspring often engage in behaviors that help the offspring survive. • Young plants and animals are like, but not exactly like, their parents. • Every human-made product is designed by applying knowledge of the natural world. ***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 plant and animal parts and explaining patterns in behavior). • 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	***Investigations*** • 1-LS1-1: Use materials to design a solution to a human problem by mimicking how a plant or animal uses an external part to survive, grow, or meet its needs; explore the FOSSweb digital resource “Animal Structure Sort.” • 1-LS1-2: Read texts and use media to determine patterns in the behaviors of parents and offspring that help offspring survive; explore the FOSSweb digital resources “Find the Parent” and “Animal Offspring and Caring for Animals.” • 1-LS3-1: Make observations comparing young plants and animals to their parents to construct an evidence-based account of how they are alike and different; explore the FOSSweb digital resource “Animal Growth.”	***Assessment Components (FOSS Next Generation embedded Performance Assessments)*** • 1-LS1-1: FOSS Plants and Animals: EA Performance Assessment, IG p. 215 (Step 17), IG p. 217 (Step 19) • 1-LS1-2: FOSS Plants and Animals: EA Notebook Entry, IG p. 255 (Step 19); EA Performance Assessment, IG p. 254 (Step 16) • 1-LS3-1: FOSS Plants and Animals: EA Notebook Entry, IG p. 124 (Step 16); EA Performance Assessment, IG p. 122 (Step 10), IG p. 125 (Step 17), IG p. 245 (Steps 17–18)	• FOSS Plants and Animals Investigations Guide • FOSSweb (fossweb.com) digital resources: “Animal Structure Sort,” “Watch It Grow,” “Animal Growth,” “Find the Parent,” “Animal Offspring and Caring for Animals” • Live plant and animal materials for classroom observation • Appropriate literature on plant/animal structures and offspring

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		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 uses an external part to survive, then design a human tool that mimics it. • Challenge students to compare a young animal and its parent from a second species (beyond the class example) and record at least three ways they are alike and different.			