A K–12 Progression for Wonder, Curiosity, Stewardship, and Legacy

Indiana Dunes National Park • Summer 2026

Curated and Inspired by STEAM in the
PARK Educators at Indiana Dunes National Park

About This Resource

The ideas shared throughout this document were generated during a collaborative brainstorming session with educators participating in **STEAM in the PARK at Indiana Dunes National Park**, hosted by **Expeditions in Education**.

Representing a wide range of grade levels, content areas, and educational settings, these educators gathered to explore a simple but powerful question:

How can nature become a meaningful part of learning at every grade level?

The result was a collection of authentic ideas, experiences, projects, and possibilities designed to connect students with the natural world while supporting academic standards, social-emotional learning, environmental stewardship, civic engagement, creativity, and community involvement.

These ideas reflect the collective wisdom, creativity, and passion of classroom teachers, specialists, administrators, informal educators, and outdoor educators who spent five days learning alongside one another at Indiana Dunes National Park. While the concepts have been organized by grade level and connected to relevant Next Generation Science Standards (NGSS), they remain true to the original brainstorming process and are intended to inspire adaptation, expansion, and local implementation.

PRE-K

Discovering Nature

SEL Focus: Noticing, feelings, calming, and caring

- **Nature Feelings Hunt** — Students find something outdoors that represents happy, calm, excited, curious, or surprised and share why they chose it.
- **Animal Breathing** — Practice breathing like different animals: slow turtle breaths, buzzing bee breaths, or stretching giraffe breaths.
- **Sit Spot** — Spend one quiet minute in a special outdoor spot noticing what can be seen, heard, and felt.
- **Caring Hands** — Talk about how we use gentle hands with plants, insects, animals, and friends.
- **Nature Gratitude Circle** — Each child shares one thing outside that makes them happy.

CASEL Connections: Self-Awareness, Self-Management, Social Awareness

NGSS Kindergarten Readiness Connections:
K-LS1-1 — Use observations to describe patterns of what plants and animals need to survive.
K-ESS3-1 — Use a model to represent relationships between the needs of plants and animals and the places they live.
K-ESS3-3 — Communicate solutions that reduce human impact on living things and the environment.

KINDERGARTEN

Plants and Animals

SEL Focus: Caring and belonging

- **My Nature Friend** — Students choose a tree, plant, or outdoor place to visit repeatedly throughout the year.
- **Everyone Needs Something** — Compare what plants and animals need to what people need to feel safe, cared for, and ready to learn.
- **Tree Breathing** — Stand like a tree, breathe slowly, and imagine roots holding you steady.
- **Helping Habitat** — Students identify one small thing they can do to make their schoolyard better for another living thing.
- **Our Outdoor Community** — Develop classroom expectations together for learning outdoors.

CASEL Connections: Social Awareness, Relationship Skills, Responsible Decision-Making

NGSS Connections:
K-LS1-1 — Describe patterns of what plants and animals need to survive.
K-ESS2-2 — Construct an argument about how plants and animals can change their environment to meet their needs.
K-ESS3-1 — Explore relationships between living things and their habitats.
K-ESS3-3 — Communicate ways humans can reduce their impact on the environment.

FIRST GRADE

Amazing Adaptations

SEL Focus: Differences, strengths, and perseverance

- **My Super Adaptation** — After studying animal adaptations, students identify something about themselves that helps them succeed.
- **Different Is Useful** — Discuss how different structures and traits can be useful in different situations.
- **Beaver Builder Challenge** — After an engineering challenge, students identify what they did when their first idea didn't work.
- **Animal Perspective Walk** — Imagine experiencing the schoolyard as a bird, squirrel, insect, or rabbit.
- **Growth Journal** — "I couldn't do it yet, but then I…"

CASEL Connections: Self-Awareness, Social Awareness, Self-Management

NGSS Connections:
1-LS1-1 — Use materials to design a solution that mimics how plants or animals use external parts to survive, grow, and meet their needs.
1-LS1-2 — Examine patterns in behaviors that help offspring survive.
1-LS3-1 — Observe that young plants and animals are similar to, but not exactly like, their parents.
K-2-ETS1-3 — Analyze data from tests of different solutions and compare strengths and weaknesses.

SECOND GRADE

Habitats

SEL Focus: Belonging and empathy

- **Where Do I Thrive?** — Compare an animal's habitat with places where students feel comfortable, supported, and able to learn.
- **Habitat of Belonging** — Students design an imaginary habitat containing things that help people feel welcomed and included.
- **Walk in Their Paws** — Consider how habitat loss might affect an animal.
- **Monarch Journey** — Use monarch migration to discuss challenges, persistence, and asking for help.
- **Nature Poetry Circle** — Write and share poems about places where students feel connected.

CASEL Connections: Social Awareness, Self-Awareness, Relationship Skills

NGSS Connections:
2-LS2-1 — Plan and conduct an investigation to determine whether plants need sunlight and water to grow.
2-LS2-2 — Develop a model that mimics how animals help pollinate plants or disperse seeds.
2-LS4-1 — Compare the diversity of living things found in different habitats.
K-2-ETS1-2 — Develop drawings, sketches, or models that communicate solutions to problems.

THIRD GRADE

Biodiversity

SEL Focus: Connection and community

- **Web of Connection** — Create a human food web with string. Remove one species and observe what happens to the whole system.
- **Every Species Has a Role** — Extend the ecological idea into a conversation about everyone's contributions to a classroom.
- **Nature Appreciation Walk** — Students quietly notice things they normally overlook.
- **Stewardship Letter** — Write about something students care enough about to protect.
- **Community Circle** — “One way I can make our classroom, school, or community better is…”

CASEL Connections: Social Awareness, Relationship Skills, Responsible Decision-Making

NGSS Connections:
3-LS2-1 — Construct an argument that some animals form groups that help members survive.
3-LS4-3 — Construct an argument that some organisms survive well in particular habitats while others survive less well or cannot survive there.
3-LS4-4 — Make a claim about the merit of solutions to problems caused when environments change.
3-5-ETS1-1 — Define an environmental or engineering problem with criteria and constraints.

FOURTH GRADE

Ecosystems

SEL Focus: Interdependence and responsibility

- **Ripple Effect** — Students identify how one small action can have consequences throughout an ecosystem and a community.
- **Sit Spot Journaling** — Establish a recurring outdoor reflection practice.
- **Perspective Cards** — Examine an environmental issue from the viewpoints of a ranger, resident, scientist, visitor, animal, or business owner.
- **Restoration Reflection** — After stewardship work, students write about how helping a place made them feel.
- **Ecosystem of Support** — Students create a personal "ecosystem" identifying people and places that help them grow.

CASEL Connections: Self-Awareness, Social Awareness, Responsible Decision-Making

NGSS Connections:
4-LS1-1 — Construct an argument that plant and animal structures support survival, growth, behavior, and reproduction.
4-LS1-2 — Use a model to describe how animals receive and process information through their senses.
4-ESS2-1 — Make observations and measurements to provide evidence of weathering and erosion.
3-5-ETS1-2 — Generate and compare multiple possible solutions to a problem.

This is also a great grade to begin **bridging toward 5-LS2-1**, which introduces ecosystems as interacting systems of organisms and their environment.

FIFTH GRADE

National Parks

SEL Focus: Stewardship and leadership

- **What Would a Ranger Do?** — Students work through visitor and conservation dilemmas and make responsible decisions.
- **Leave It Better** — Extend Leave No Trace principles into everyday school and community life.
- **My Place Worth Protecting** — Students identify a place that matters to them and explain why.
- **Trail Leadership Challenge** — Rotate student leadership during an outdoor investigation.
- **National Park Reflection** — "What do we choose to protect, and what does that say about what we value?"

CASEL Connections: Responsible Decision-Making, Self-Awareness, Relationship Skills

NGSS Connections:
5-LS2-1 — Develop a model describing the movement of matter among plants, animals, decomposers, and the environment.
5-ESS2-1 — Develop a model describing interactions among Earth's major systems.
5-ESS3-1 — Obtain and combine information about ways communities use science to protect Earth's resources and environment.
3-5-ETS1-1 — Define design problems with criteria for success and constraints.

SIXTH GRADE

Ecology

SEL Focus: Relationships and systems

- **My Support Web** — Build a personal version of a food web showing people, places, interests, and experiences that provide support.
- **Change One Thing** — Examine how one change influences an ecosystem, then discuss how choices affect groups of people.
- **Nature Reset** — Use a short outdoor walk, sound map, or sit spot as a self-regulation strategy.

- **Field Team Roles** — Rotate scientist, recorder, photographer, navigator, and communicator roles.
- **Conflict in Conservation** — Practice listening to different viewpoints before proposing solutions.

CASEL Connections: Relationship Skills, Self-Management, Social Awareness

NGSS Connections:
MS-LS2-1 — Analyze data to determine how resource availability affects organisms and populations.
MS-LS2-2 — Construct explanations that predict patterns of interactions among organisms.
MS-LS2-3 — Develop a model describing cycling of matter and flow of energy in ecosystems.
MS-LS2-4 — Construct an argument about how changes to an ecosystem affect populations.
MS-LS2-5 — Evaluate competing solutions for maintaining biodiversity and ecosystem services.

SEVENTH GRADE

Human Impact

SEL Focus: Perspective and responsible choices

- **Environmental Perspectives** — Students examine the same environmental issue from multiple stakeholder viewpoints.
- **My Impact Audit** — Focus on realistic environmental choices students can control rather than guilt.
- **Walk and Talk** — Partner students for outdoor conversations around meaningful reflection questions.
- **Concern to Action** — Identify an environmental concern and turn it into one manageable action.
- **Community Voices** — Interview people about how environmental changes affect their lives.

CASEL Connections: Responsible Decision-Making, Social Awareness, Self-Management

NGSS Connections:
MS-ESS3-3 — Apply scientific principles to design methods for monitoring and minimizing human impact on the environment.
MS-ESS3-4 — Construct an argument supported by evidence about how human population and resource use affect Earth's systems.

MS-LS2-4 — Examine how physical or biological changes affect ecosystems.
MS-LS2-5 — Evaluate solutions for maintaining biodiversity and ecosystem services.

EIGHTH GRADE

Solutions

SEL Focus: Agency and problem-solving

- **Circle of Control** — Separate environmental problems into “things I control,” “things I influence,” and “things outside my control.”
- **Solution Mindset** — Pair every environmental problem students investigate with potential solutions.
- **Failure Field Notes** — Students document failed engineering designs and what those failures taught them.
- **Community Design Challenge** — Teams develop solutions while practicing listening, compromise, and consensus.
- **Future Headlines** — Write a positive environmental headline from 20 years in the future and determine what would have to happen to make it possible.

CASEL Connections: Self-Management, Responsible Decision-Making, Relationship Skills

NGSS Connections:
MS-ESS3-3 — Design methods for reducing human impacts on the environment.
MS-ESS3-5 — Ask questions about evidence related to factors influencing climate change.
MS-LS2-5 — Evaluate competing solutions for maintaining biodiversity.
MS-ETS1-1 — Define criteria and constraints for a successful design solution.
MS-ETS1-2 — Evaluate competing design solutions using a systematic process.

NINTH GRADE

Identity and Stewardship

SEL Focus: Identity, values, and place

- **Who Am I Outdoors?** — Reflect on memories, experiences, or people that shaped students' relationships with nature.

- **Values Walk** — Place environmental and value statements along a trail and allow students to quietly consider each.
- **Letter From a Place** — Write from the perspective of a meaningful landscape.
- **Solo Sit Spot** — Establish a regular practice of quiet observation and reflection.
- **Stewardship Reflection** — "What do I care enough about to take responsibility for?"

CASEL Connections: Self-Awareness, Social Awareness, Responsible Decision-Making

NGSS Connections:
HS-LS2-7 — Design, evaluate, and refine solutions for reducing human impacts on the environment and biodiversity.
HS-LS4-6 — Create or revise a simulation to test solutions for reducing adverse impacts of human activity on biodiversity.
HS-ESS3-4 — Evaluate or refine technological solutions that reduce impacts of human activities on natural systems.

The reflective SEL work provides the **"Why should I care?"** that can lead into the scientific and engineering work represented by these standards.

TENTH GRADE

Citizen Science

SEL Focus: Purpose and contribution

- **Science That Matters** — Students identify who or what benefits from the data they collect.
- **Citizen Scientist Identity** — Reflect on the idea that contributing to science is not limited to professional scientists.
- **Data With a Story** — Pair quantitative environmental data with stories about the people or species affected.
- **Field Team Agreements** — Teams establish expectations for leadership, disagreement, communication, and accountability.
- **From Evidence to Action** — Determine what responsible action should follow from scientific findings.

CASEL Connections: Responsible Decision-Making, Relationship Skills, Self-Awareness

NGSS Connections:
HS-LS2-6 — Evaluate claims and evidence about how ecosystem interactions maintain or

change populations.
HS-LS2-7 — Design and evaluate solutions for reducing human impacts on biodiversity.
HS-ESS3-3 — Use computational representations to examine relationships among resource management, sustainability, and biodiversity.
HS-ESS3-4 — Evaluate technological solutions that reduce human impacts on natural systems.
HS-ETS1-3 — Evaluate solutions using prioritized criteria and trade-offs.

ELEVENTH GRADE

Environmental Leadership

SEL Focus: Leadership and perspective-taking

- **What's Your Leadership Style?** — Students identify strengths as listeners, organizers, communicators, researchers, creators, or advocates.
- **Stakeholder Roundtable** — Represent competing perspectives around a conservation issue and work toward common ground.
- **Mentor Younger Students** — High school students lead outdoor experiences for elementary students.
- **Leadership Reflection Journal** — What happened? What did I do? What worked? What would I change?
- **Listen First** — Interview community members before proposing an environmental solution.

CASEL Connections: Relationship Skills, Social Awareness, Self-Awareness, Responsible Decision-Making

NGSS Connections:
HS-LS2-7 — Design, evaluate, and refine solutions to reduce human impacts on the environment.
HS-LS4-6 — Test solutions intended to mitigate adverse impacts on biodiversity.
HS-ESS3-3 — Examine relationships among natural-resource management, sustainability, and biodiversity.
HS-ETS1-1 — Analyze a major global challenge to specify criteria and constraints for solutions.
HS-ETS1-3 — Evaluate solutions based on criteria, constraints, costs, benefits, and trade-offs.

TWELFTH GRADE

Legacy

SEL Focus: Purpose, contribution, and legacy

- **What Will You Leave Behind?** — Students consider the impact they hope to have on their school, community, and environment.
- **Letter to My Future Self** — Write about the values students hope to carry beyond graduation.
- **Mentorship** — Seniors work with younger students on nature and stewardship experiences.
- **Legacy Interview** — Interview someone who has spent years caring for a place, organization, community, or cause.
- **Pass It On** — Each senior teaches someone younger a skill or idea they believe is worth continuing.
- **Stewardship Portfolio Reflection** — Students answer: “What did I learn? What do I care about? What will I do with what I know?”

CASEL Connections: Self-Awareness, Social Awareness, Relationship Skills, Responsible Decision-Making

NGSS Connections:
HS-LS2-7 — Design, evaluate, and refine solutions for reducing impacts of human activity on the environment and biodiversity.
HS-LS4-6 — Develop or revise solutions aimed at mitigating adverse impacts on biodiversity.
HS-ESS3-4 — Evaluate or refine solutions for reducing human impacts on Earth's natural systems.
HS-ETS1-2 — Design solutions to complex real-world problems by breaking them into manageable parts.
HS-ETS1-3 — Evaluate solutions based on real-world priorities and trade-offs.

Final Reflection

The ideas contained in this resource remind us that meaningful learning does not always begin with a textbook. Sometimes it begins with a question, a walk outside, a conversation, a community project, a sound in the marsh, a seed planted in a garden, or a moment of wonder.

Nature provides an endless classroom. These educators demonstrated that when students are given opportunities to observe, investigate, create, serve, and connect, learning becomes deeper, more relevant, and more memorable.

May these ideas inspire educators everywhere to help students learn not only about the world around them, but also about their place within it.

At its heart, the Framework of Nature is built on a simple belief:

Every child deserves opportunities to wonder.

From wonder comes curiosity.

From curiosity comes understanding.

From understanding comes stewardship.

And from stewardship comes the possibility of leaving a lasting legacy.

Find all of our Ideas & Immersions files here.

STEAM in the PARK

Curated from a collaborative brainstorming session by STEAM in the PARK educators during the 2026 Indiana Dunes National Park adventure, an initiative hosted by Expeditions in Education.

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