GREEN SCHOOLS
NATIONAL NETWORK

GreenPrint™

A framework for becoming a healthy, equitable, and sustainable school

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GREEN SCHOOLS NATIONAL NETWORK**

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A framework for becoming a healthy, equitable, and sustainable school

Shaping healthy, equitable, and sustainable schools where children thrive as whole human beings and learn to steward the environments and communities in which they live is our mission and our passion. Since Green Schools National Network's (GSNN) founding in 2007, we've supported charter schools, school districts, district schools, organizations, and individual educators in planning for and implementing change that transforms schools from places that support and celebrate test takers into places that create changemakers. These green schools take a holistic approach to wellness, achievement, and the environment, cultivating places where all parts of the learning organism, like the systems in a living body, work together to maintain the health of the whole.

This GreenPrint provides a framework for district leaders, GSNN coaches, school leaders and staff, and community members engaged in this collaborative and complex work. As a tool for holistic transformation, it serves multiple purposes:

◊ To diagnose strengths to build on and challenges that need to be addressed
◊ To build a strategic and holistic plan that prioritizes goals and illuminates a pathway to reach them
◊ To analyze progress toward goals and make course corrections midstream
◊ To describe the vision with practical language that can onboard and inspire stakeholders

Whichever purpose you and your team are engaged in, know that we honor your unique setting, culture, aspirations, inspirations, expertise, and resource limitations. Keeping in mind that district and school personnel, along with their communities, are best situated to articulate their needs, our GreenPrint provides many pathways to begin the journey and offers a clear picture of what to look for along the way as you move your district or school toward health, equity, and sustainability.

Core Beliefs

Our GreenPrint is grounded in three principles that focus our efforts to build healthy systems within educational institutions. These beliefs are at the heart of everything we do.

Systemic change endures. We believe healthy, equitable, and sustainable schools can only be achieved through whole-district/whole-school transformation that engages the four interdependent systems that define a school: Leadership, Curriculum and Instruction, Culture and Climate, and Facilities and Operations.

Equity matters. We believe students from all backgrounds and zip codes and regardless of social identities, including gender, sexual orientation, ability, race/ethnicity, and religion/spiritual beliefs, should have an equitable opportunity for academic success and equitable access to healthy environments. When we believe and act on the principles of fairness, respect, and interdependence, we liberate ourselves and others

Everyone is a leader and a learner. While leadership is key to creating healthy, equitable, and sustainable schools, every member of the school community – staff, students, parents, and community members – has a voice and a hand in creating systems and opportunities that increase engagement, deepen learning, and build the confidence and competence needed to become agents of change for a just and sustainable future.

Impact Systems

Four key systems drive holistic transformation in schools. To achieve enduring health, equity, and sustainability, districts must attend to all four systems simultaneously, coordinating how these systems interact and support one another to optimize the health of the whole district and its schools and accelerate progress toward goals. All four systems are addressed in our GreenPrint.

Leadership is responsible for communicating the vision, creating policy, establishing budgets, and holding others accountable for implementing what is said or written. Teachers, community members, and even students can lead initiatives. In this GreenPrint, however, leaders typically refers to administrative leaders at the district or school level, or to staff who serve in an administrative capacity for a department or division.

Curriculum and instruction reflects what is taught and how. It includes the design or adoption of particular curricula, instructional philosophy and methods, professional learning, and the structures designed to sustain learning for all students over time.

Culture and Climate shapes and influences behaviors and mindsets within the school community. Culture is defined by the core beliefs of leaders, teachers, students, and other members of the school community. Climate is defined by the actions that demonstrate those beliefs.

Facilities and Operations is responsible for the practices, actions, and processes used to purchase, design, build, and maintain the physical spaces and resources needed to operate healthy, equitable, and sustainable schools. Facilities and operations also influence how buildings impact the health and well-being of members of the school community who use those spaces.

Spheres of Influence

Within each impact system, our GreenPrint outlines the most essential policies and practices in three spheres of influence. By attending to these interdependent and expanding spheres of influence, districts can take meaningful and measurable steps toward creating learning environments that educate leaders for a sustainable future.

◊ **Health:** Policies and practices that contribute to students' social, emotional, physical, and mental well-being.

◊ **Equity:** Policies and practices that dismantle systemic oppression and create a student-centered culture that leads to academic, social, and emotional success for all.

◊ **Sustainability:** Policies and practices that work to reduce the school's environmental footprint and maintain a state of balance between humans and the planetary life support systems and economic systems on which we depend.
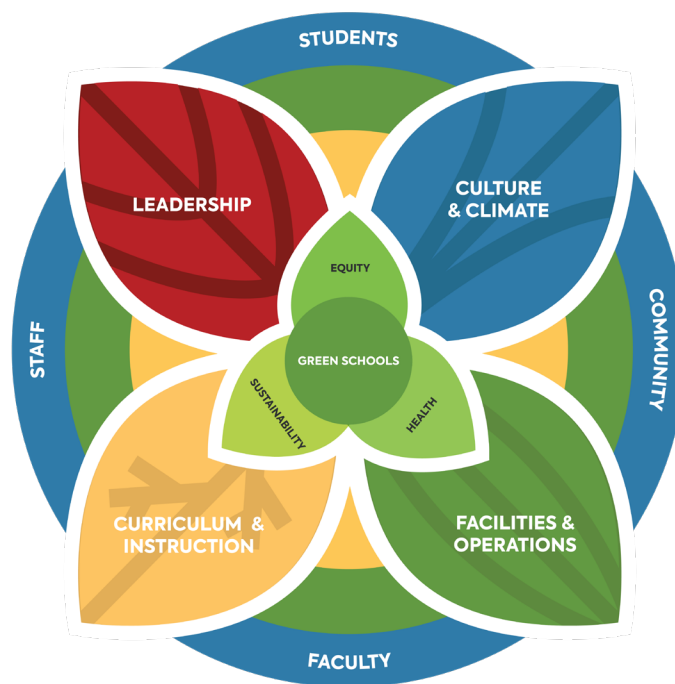
Finally, it's important to note that creating healthy, equitable, and sustainable schools is fundamentally innovative work that requires a nimble, creative, and resilient spirit. Our GreenPrint is offered in that spirit, as a guide, not a rulebook; a road map, not a cookie-cutter model. At GSNN, we learn alongside our partners, seeking the most effective, holistic solutions. Like organisms in the natural world, this means we adapt and change to meet the dynamics and contexts of the communities we work with. We know this guide will continue to improve based on the feedback and contributions of those who use it. We get better together, and we look forward to that journey!

The Leadership System

The Leadership System

Whole-district/whole-school transformation takes time and sustained, collaborative effort. Effective leadership, including a school vision, plans, policies, budgets, and communication that inspires faculty, staff, students, and community partners to stay focused on the linked goals of health, equity, and sustainability, is an essential ingredient for change.

Because creating a healthy, equitable, and sustainable school or district is a multi-year effort, it takes consistent, focused, and visionary leaders to plan for and guide incremental changes that will be implemented across the entire school system. Such leaders leverage core beliefs concerning health, equity, and sustainability in their shared leadership practices. They recognize all members of the school community as learners and leaders, empowering others to join

in the effort of reducing the school's ecological footprint while simultaneously increasing opportunities for students, staff, and community members to collaborate and thrive.

Core Practice 1: Schools practice visionary leadership

A. Leaders articulate and communicate a school vision that centers health, equity, and sustainability as linked and achievable goals.

   a. Leaders engage all stakeholders in conversations related to health, equity, and sustainability.
   b. In collaboration with the school community, leaders co-create vision and mission statements that reflect a shared ethos of sustainability and a commitment to health and equity.
   c. Leaders model behaviors that demonstrate their shared values, including seeking diversity in representation, amplifying multiple voices and perspectives, and participating in and leading campus stewardship.
   d. Leaders create regular opportunities for faculty, staff, community members, and school families to envision the design of the learning environment.

B. Leaders create a comprehensive strategic plan to achieve health, equity, and sustainability.

   a. Leaders integrate all four impact systems in the strategic plan. Strategic plan goals are specific, measurable, achievable, relevant, and time-bound. Leadership team members are held accountable for goals and initiatives identified in the plan.
   b. Leaders use an inclusive, collaborative process to create the strategic plan, including input from diverse stakeholders and support from GSNN and internal and external experts in health, equity, and sustainability.
   c. Leaders manage change over time as they roll out the strategic plan, balancing needs, priorities, and the promise of health, equity, and sustainability.
   d. Leaders regularly measure progress toward strategic plan goals through agreed upon metrics and a transparent dashboard for

sharing data.

    e. Leaders regularly evaluate and analyze data for the purpose of updating strategies and metrics designed to achieve goals in the strategic plan.

C. Leaders prioritize health, equity, and sustainability in budgets, policies, programs, and schedules.

    a. Leaders design budgets that reflect investments in sustainable practices for buildings, transportation, operations and maintenance, and programs, such as health and wellness, that serve the school community.

    b. Leaders create policies that eliminate systemic barriers for historically excluded groups. These policies drive program funding, student and staff opportunities, curriculum design, instructional approaches and materials (including differentiation for special populations), and assessment.

    c. With input from staff, leaders create a master schedule that supports health, equity, and sustainability (e.g., the schedule allows for 4PBL teaching and learning, extended outdoor time, field work, and full participation of students with disabilities).

    d. Leaders review and evaluate policies and programs through lenses of diversity, equity, inclusion, and justice.

D. Leaders create a staffing model that advances health, equity, and sustainability, including:

    a. Facilities and operations managers with a commitment to research-based healthy and sustainable practices.

    b. Curriculum leaders who identify or develop aligned, research-based, high-quality curricula for sustainability literacy.

    c. Instructional coaches who facilitate ongoing professional learning that enables all teachers to transition from traditional instruction to 4PBL instruction (see Curriculum and Instruction System).

    d. Content-area, grade-level, and subject-area leaders who facilitate ongoing peer support, mentoring, and collaborative learning

    e. Physical/outdoor/adventure education, health, and nutrition teachers who teach lifelong fitness and healthy lifestyles.

f.   Social-emotional learning coaches, counselors, and social workers who facilitate culturally relevant programs that shape health, equity, and sustainability mindsets.

g.   Diversity, equity, inclusion, and justice advisors who ensure that academic and other resources and curricula are accessible and relevant to all students.

E.   Leaders invest time, money, and resources in building staff capacity to deepen implementation of health, equity, and sustainability initiatives.

a.   Leaders provide a comprehensive, job-embedded professional learning program that supports and empowers all faculty and staff to implement the vision.

b.   Leaders build their own leadership capacity by engaging in professional learning alongside faculty and staff.

c.   Leaders create opportunities for faculty and staff to learn from each other, from organizations outside the school (e.g., colleagues in professional networks, conferences) and to plan, organize, research, and experiment collaboratively.

Core Practice 2: Schools use shared leadership structures

A.   Leaders ensure all stakeholders are represented, honored, and empowered to contribute to decision-making throughout the school.

a.   Leaders establish a leadership team that includes members from across the school or district, including administrators, teachers, facilities staff, parents, and students.

b.   Leaders engage the leadership team in a strategic planning cycle that identifies concrete goals, strategies, benchmarks, and indicators for achieving the vision.

c.   The leadership team makes decisions based on data and sets a course that accommodates new circumstances, challenges, or priorities.

d.   Leaders create interdisciplinary teams across and within disciplines and grade levels to carry out initiatives identified in the strategic plan.

e.   Leaders create green teams, stewardship committees, and other

structures to allow facilities staff, teachers, and students to influence the caretaking and management of facilities and grounds..

    f. Leaders create opportunities for teachers, staff, and students to propose and lead initiatives that center health, equity, and sustainability.

B. Leaders seek multiple and diverse perspectives to deepen their thinking and guide decisions.

    a. Leaders provide multiple opportunities and channels (surveys, email, in-person convenings) for stakeholders to generate ideas, provide feedback, and comment on policies, programs, and practices.

    b. Leaders establish feedback loops (data reporting, standing meetings, surveys) among staff to monitor, evaluate, and report data and outcomes.

    c. Leaders respond to feedback in respectful, nonreactive ways and are transparent with steps taken to address community concerns.

    d. Leaders regularly communicate the why and the how of school/district decisions to stakeholders.

C. Leaders position the school to engage in a resilient and regenerative response to crisis and change within the school and the broader community.

    a. Leaders intentionally manage change by attending to the pace, progression, barriers, and "bridges" that enable the school community to realize the vision over time.

    b. Leaders cultivate a culture in which all staff, students, and families respond when "all hands on deck" are needed.

    c. Leaders formulate policies and procedures that allow the school to pivot as needed to address emergent issues in the school community.

    d. Leaders cultivate a design-thinking approach to school and community change that encourages students, faculty, staff, families, and community members to think and act creatively and scientifically to address common challenges and opportunities.

    e. Leaders formalize procedures for the school to serve as an emergency shelter for the community.

Core Practice 3: Schools promote a culture of community and belonging

A. Leaders and teachers create practices and traditions that invite all students to feel welcomed, safe, respected, valued, and able to contribute to the school's vision.

   a. The leadership team formulates or adopts a schoolwide social-emotional learning framework that identifies sustainability mindsets, supports all students to develop them, and integrates these mindsets into daily classroom experiences for all students.

   b. Administrators, faculty, and staff implement restorative practices, such as restorative circles and conferences, in place of punitive disciplinary action or reliance on school resource officers.

   c. Leaders establish safe spaces and programs designed to enhance the health of all members of the school community, including stress management, self-regulation, personal wellness, and mental health.

   d. bLeaders and staff create and implement classroom and schoolwide celebrations and traditions that make visible the school's values, honor students who champion sustainability, and create opportunities for students to lead school and community initiatives.

B. Leaders prioritize diversity, equity, and inclusion to disrupt structures of systemic racism endemic to American culture and education.

   a. Leaders establish an interdepartmental team or committee tasked with fostering a student-centered culture grounded in principles and practices related to diversity, equity, inclusion, and justice.

   b. Leaders use qualitative and quantitative data to identify, evaluate, and disrupt biases in discipline, the over-representation of historically excluded students in special education, and the under-representation of these students in gifted programs.

   c. Leaders provide teachers and staff with ongoing professional development and resources that equip them to acknowledge and unlearn practices that reflect implicit biases, to become anti-racist allies, and to use teaching strategies that are culturally affirming, especially of communities that are disproportionately impacted by environmental injustice.

d. Leaders create after-school and weekend programs that provide tutoring and enrichment activities to supplement in-school learni

C. Leaders provide integral health services that support students' physical, mental, social, and emotional well-being.

   a. Leaders ensure that school health services are available on-site or through community partners to provide access to first aid, routine health care, and health education for students and their families.
   b. Leaders ensure students have access to in-school mental health counseling.
   c. Leaders enlist weekend and summer meal programs and food pantries to support students and families experiencing food insecurity.

Core Practice 4: Schools cultivate strong school-family-community partnerships

A. Leaders engage caregivers and families as critical partners for reaching and celebrating milestones in health, equity, and sustainability.

   a. Leaders solicit input from families on new initiatives and goals related to the school's strategic plan.
   b. Family volunteers sometimes lead school initiatives and serve as contributing members of school committees or organizing efforts.
   c. Leaders communicate information to families on a regular basis using a variety of communication channels; accommodations are made for families who speak languages other than English, such as written materials in their native languages or translation services.
   d. Educators organize family-friendly events and encourage families to contribute to the school throughout the school year on days and at times that best accommodate families' schedules. (Events include open houses, communal dinners, game nights, family field work and workdays, volunteering in the school garden, and taking part in a walking school bus.)
   e. Students frequently present their learning and work products to an authentic audience of families and community members.

B. Members of the school community and the community-at-large see themselves as members of the same ecosystem who support and benefit from one another.

    a. The leadership team regularly assesses health, equity, and sustainability goals and initiatives to determine gaps and/or needs that community partners can fulfill.

    b. Leaders strategically seek out, connect with, and build relationships with local businesses and organizations that possess knowledge, skills, and capacity to advance the school's goals and initiatives (e.g., through field work, training, and internships).

    c. Leaders nurture relationships with community leaders, businesses, and organizations to leverage financial resources to support school programs and initiatives.

    d. Leaders and staff forge strong relationships with neighborhoods and use neighborhood assets (e.g., parks, recreation centers) for community-building events.

    e. Leaders and staff empower students to serve the community through service-learning and place-based projects.

    f. Leaders regularly communicate progress on goals and initiatives to community partners and celebrate successes by acknowledging partners in communications with the public.

C. Leaders promote the school's role in shaping the long-term health and well-being of the community.

    a. Leaders consider the impact of school decisions (such as those related to construction and renovation) on the community's environment, health, and well-being.

    b. Leaders address community needs (e.g., food access, health care, environmental and social justice concerns).

    c. Leaders implement a community school model that offers on-site health care, employment, nutrition, tutoring, and adult learning services.

    d. The school community regularly engages in community revitalization and restoration projects (e.g., service days).

Core Practice 5: Leaders create and maintain a communication system that engages the whole community in support of healthy, equitable, and sustainable schools

A. Leaders are courageous in their commitment to promoting healthy, equitable, and sustainable schools.
    a. Leaders build a community of allies who are experts and respected community members to support programs and initiatives.
    b. Leaders engage with and listen to community members who resist programs and initiatives that support health, equity, and sustainability and seek to bridge gaps to find common ground. Re: Interest in reworking our website
    c. Leaders engage with educational professionals, community members, and thought leaders to share expertise and garner support for whole-school/whole-district transformation for a sustainable and just future.
    d. Leaders build their brand by advocating for and sharing their work at local, state, regional, and national levels to advance education for a just and sustainable future.
    e. Leaders encourage faculty, staff, and students to attend local, state, and regional conferences and connect with partners and allies doing similar work around the country.

B. Leaders are courageous in their commitment to promoting healthy, equitable, and sustainable schools.

    a. Leaders ensure the internal communication system supports the vision and values of their strategic plan to create a healthy, equitable, and sustainable learning community.
    b. Leaders clearly articulate the ways in which faculty, staff, and community members can engage in conversations related to health, equity, and sustainability.
    c. Leaders provide quarterly and annual reports to the Board of Education, faculty, staff, students, and families on progress made in meeting the strategic plan's goals.

C. The school/district has an external communication system that supports its vision and values for health, equity, and sustainability.

    a. The communications team develops and leads a strategy to promote the vision, values, and progress made on health, equity, and sustainability initiatives.

    b. Faculty, staff, and students have access to multiple channels to report and share work related to advancing health, equity, and sustainability.

    c. The external affairs team manages a calendar of events that promotes and celebrates the work that faculty, staff, and students do to advance health, equity, and sustainability.

    d. Students regularly speak at school board and community events about their work and learning related to creating a just and sustainable community.

    e. Faculty, staff, and students are encouraged to document and speak about their work at local, state, and national conferences.

The Curriculum and Instruction System

The Curriculum and Instruction System

The curriculum and instruction system includes what and how students are taught, as well as how teachers are prepared to instruct for sustainability literacy. To achieve health, equity, and sustainability goals, curricula must be relevant to the challenges and issues students are and will be facing in their lives. It must also be culturally relevant to engage and meet the needs of students from historically excluded groups. Instruction that supports such curricula must be engaging, experiential, interdisciplinary, and purposeful. It must build students' confidence along with their competence as agents of change for social and environmental justice. Teachers and leaders can make this possible by bundling, mapping, and assessing content and skills standards so that students learn about the past, present, and future and the physical and biological world in ways that are coherent and contextualized.

Curriculum and instructional practices focused on health, equity, and sustainability enable schools to prepare all students to become sustainability champions. Curriculum and instruction in green schools use phenomena-, place-, project-, and problem-based learning (which we call 4PBL) to increase student engagement,

deep learning, and breathe life into standards. This cross-curricular approach may or may not happen all day, every day, but should happen at least once a year to allow students to build knowledge, skills, and mindsets for taking action in their school, communities, and the world.

Core Practice 6: Schools plan strategically for curriculum and instruction that promote health, equity, and sustainability

A. Leaders create and implement a health, equity, and sustainability literacy curriculum and instruction plan that is integrated into their strategic plan.

   a. A curriculum audit is used to identify strengths and gaps in existing curriculum and instruction, with particular attention to providing developmentally appropriate experiences at each grade level.
   b. The plan identifies goals and a timeline for incorporating professional learning and teacher planning to implement (and/or design) desired curriculum and instruction.
   c. The plan includes goals and strategies for engaging all students in specialized and elective programs..

B. Leaders practice data-informed decision-making that shapes curriculum and instruction.

   a. Leaders choose metrics that will yield reliable and accurate data on student achievement and sustainability literacy.
   b. Leaders design systems for regularly gathering data that will track progress toward curriculum and instruction goals.
   c. Leaders identify specific individuals who are accountable for gathering and presenting data in a dashboard that facilitates meaningful analysis by stakeholders.
   d. Leaders create a system for analyzing and archiving data over time.
   e. Leaders periodically assess progress and course correct to adjust strategies as needed to accommodate new conditions or priorities..

Core Practice 7: Schools create the conditions for leaders, teachers, and students to plan and implement high-quality curriculum and instruction for health, equity, and sustainability

A. Curriculum and instruction leaders establish and refine professional learning structures that enable high-quality instruction for health, equity, and sustainability.

   a. Leaders establish laboratory schools or identify early adopter classrooms that can serve as examples or models to accelerate curriculum and instruction for health, equity, and sustainability.
   b. All teachers engage in ongoing professional learning relevant for their grade-level, subject-area, and professional goals, including professional learning on 4PBL pedagogy.
   c. Teachers have opportunities to receive one-on-one or group coaching to strengthen their instructional skills.
   d. All teachers regularly participate in consultancies, problem-solving, and peer learning with grade-level or interdisciplinary teams who teach the same group of students.

B. Curriculum and Instruction leaders compile and systematically update curriculum maps that document and contextualize health, equity, and sustainability units.

   a. Leaders establish class assignment systems that support a block schedule allowing for robust field work, team teaching, and a fully integrated approach to curriculum.
   b. Instructional leaders and teachers design lessons and units that give all students regular opportunities to engage in extended inquiry focused on developmentally appropriate topics related to health, equity, and sustainability.
   c. Instructional leaders and teachers work in teams to develop cross-disciplinary curriculum and map standards, topics, texts, and assessments for health, equity, and sustainability content.
   d. Teachers and leaders document, review, and regularly update curriculum maps so they can be improved over time and repeated when adapted by a different instructor.
   e. Teachers collect and analyze data to track progress toward learning targets and identify gaps between results and goals, including opportunity or achievement gaps between disaggregated subgroups.

C. Curriculum and instruction leaders foster learning beyond the classroom and in   the community.
   a. Students frequently learn from or conduct investigations alongside community partners.
   b. Teachers and leaders invite community experts and elders to teach lessons, lead demonstrations, and provide students with critique and feedback.
   c. Teachers design curriculum and teach about topics that invite students to build cultural knowledge about and develop empathy for multiple and diverse cultural groups, histories, and sustainability aspirations.
   d. Teachers design curriculum and teach about topics that invite students to acknowledge socially-constructed biases (e.g., against people of color, nonhuman creatures, nature itself).
   e. Teachers frequently foreground cultures that are historically excluded, giving students opportunities to explore and understand their own and others' cultural backgrounds, including how those cultures relate to the environment and the natural world.
   f. Teachers design curricula and teach topics that invite students to repair inequities. Such units build action competence, or the desire and ability to solve problems effectively in the world outside the classroom.

Core Practice 8: Schools use an integrated approach to curriculum design that reflects the interdisciplinary nature of understanding the world around us

A. Leaders choose or design sustainability curricula and instructional approaches that are developmentally appropriate and designed to help students at all levels understand the interdependence of natural, human, and global systems.[1]
   a. Integrated units for pre-K students focus on developing **empathy** for the natural world, other living organisms, and humans through

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[1] The progression of topics and skills from primary to secondary—teaching students to love the Earth first, and then to save it—is based on research by David Sobel in Beyond Ecophobia: Reclaiming the Heart in Nature Education (Orion Society, 1999). An article length version is published in Community Works Journal.

imaginary and creative outdoor play (e.g., making forts, pretending to be animals or insects) and opportunities to care for and relate to animals, plants, and each other.

b. Integrated units for K–4 emphasize **exploration** of the natural world and the local community. Units create opportunities for students to investigate, map, and feel comfortable in their surroundings (creeks, woods, gardens, parks, and neighborhoods) and learn how they are connected to and are consumers of resources that come from the physical world in which they live.

c. Integrated units for middle school students create opportunities to **identify with and respond to** the natural world and the human community through art, writing, and learning about the interdependence of humans with the flora, fauna, and ecosystems in their rural or urban landscapes. Such lessons may lead to opportunities to address ecological, social, and environmental justice concerns by understanding energy cycles, watersheds, resource distribution, and human impacts on ecosystems and human systems.

d. Integrated units for high school students expand their understanding and appreciation of their place in the world to **build action competence** in authentic ways. Students may contribute to national or global initiatives that address climate justice, environmental justice, environmental racism, genocide, the generational impacts of unequal resource distribution, and caste systems.

B. Curriculum and instruction leaders, content area specialists, and teachers adopt or design curricula that bolster sustainability literacy and support students to meet standards derived from reputable national, state, and international frameworks (The Appendix suggests several reputable frameworks).

a. Sustainability curriculum is integrated into learning targets and objectives across core subject areas and grades (it is not an add-on or enrichment topic).

b. Curriculum adoption or design is interdisciplinary in nature. Sustainability topics are integrated into curricula that address

required standards for math, art, technology, and other subjects and are particularly helpful in developing cross-disciplinary projects and criteria for high-quality student work products.

    c. Curriculum adoption prioritizes programs that are research-based and incorporate education for sustainability topics and content.

    d. Curriculum adoption or design empowers students to succeed as readers, writers, problem-solvers, and global citizens.

    e. Curriculum adoption or design enables students at every grade level to study and address local and regional education for sustainability issues or topics.

    f. Curriculum adoption or design encourages an experiential, hands-on, minds-on approach to learning.

Core Practice 9: Schools use instructional practices that include phenomena-, place-, project-, and problem-based learning

A. Students investigate phenomena that are observable with their senses and expand their understanding of health, equity, and sustainability issues.

    a. Teachers serve as primary investigators who advise and coach students as scientists and social scientists to learn about and from the world around them.

    b. Students think and act like scientists and social scientists by asking questions, solving problems, and communicating findings.

    c. Teachers use science and social studies content standards to choose relevant phenomena for investigation.

B. Students become experts on their landscapes, community, and place.

    a. Teachers and students identify topics that are relevant to students' lives and can be studied within students' own environment or community.

    b. Teachers design open-ended assignments that students can personalize and connect to their interests and values related to a person, place, thing, or event in their community.

    c. Teachers work to identify and build on each student's strengths. Students' voices, choices, and actions meaningfully shape learning outcomes.

C. Students conduct projects and create products that involve meaningful, hands-on, creative, and cognitive work..

    a. Students plan, research, create, critique, revise, and polish products through a process of sustained inquiry, design, and improvement.

    b. Student projects demonstrate understanding and skills that meet identified grade-level standards and allow them to explore multiple career pathways.

    c. Students share their work with an authentic audience.

    d. Shared projects often provide an educational service to the community.

D. Students practice skills and apply knowledge by solving authentic problems related to health, equity, and sustainability in their communities.

    a. Students often work collaboratively in diverse teams of complementary strengths.

    b. Students balance leading, supporting others, and working independently.

    c. Teachers design curriculum around generative problems that demand critical thinking, research, creativity, persistence, and resilience.

    d. Teachers explicitly teach design-thinking and problem-solving methodologies.

Core Practice 10: Curriculum and instruction leaders build a comprehensive and coherent system of assessment that measures sustainability literacy and promotes health and equity

A. Teachers measure sustainability literacy.

    a. Teachers use performance assessments and traditional tests to evaluate knowledge and skills aligned with the school's sustainability curriculum framework.

    b. Teachers evaluate projects, products, and collaborative service-learning initiatives for sustainability mindsets such as global and ecological citizenship, bridging cultural differences, resilience,

perspective taking, and teamwork.

    c. Teachers create performance- or project-based assessments that allow students to apply and demonstrate the skills and understandings of real-world practitioners (scientists, artists, historians, engineers, writers, etc.). Such projects may require students to work with local professionals as interns, partners, or mentees.

B. Teachers embed formative assessment in lessons and units related to health, equity, and sustainability issues.

    a. Teachers can identify and students can explain how learning targets related to specific lessons or units connect to the topics they are studying and the content they are required to know and understand.

    b. Teachers use check-for-understanding techniques that enable students to track progress toward targets.

    c. Teachers provide feedback to students that help them set goals and implement strategies to accelerate progress toward learning targets.

C. Teachers use assessments that provide opportunities for students to demonstrate systems thinking and the dynamic interplay of multiple variables and change over time.

    a. Students often combine verbal, written, visual, and other modes of sharing ideas and understandings (e.g., informational graphics, writing, models, or oral presentations).

    b. Students present their learning publicly and engage in peer critique and dialogue with experts to build critical-thinking and presentation skills.

Appendix

Many states now incorporate environmental literacy plans into their academic standards. These plans integrate sustainability education into the curriculum and create opportunities for students to "take learning outside; explore their communities; analyze issues; learn about connections between our economy,

society, and environment; support economic growth; and become engaged citizens."[2] When creating integrated units or a sustainability curriculum map, please consult your state department of education to see if environmental literacy standards can guide your work.

The [Education for a Sustainable Future Benchmarks](#), published by the Cloud Institute, provide a comprehensive schema of Big Ideas, Skills, Content Standards, Applications, Dispositions, Community Connections, Policies, and Practices that support sustainability education across grade levels and subject areas.

The Sustainable Schools Project at Shelburne Farms has created a plethora of tools and resources for educators to understand and implement education for sustainability, including a [PreK–12 scope and sequence.](#)

The North American Association for [Environmental Education provides a research–based definition of and framework](#) for assessing environmental literacy that includes evaluating students' awareness, knowledge, attitudes, skills, and participation related to solving environmental problems.[3]

The [Next Generation Science Standards,](#) developed by the National Academy of Sciences in 2012, provide a framework for K–12 science education that includes practices, cross-cutting concepts, and core ideas related to sustainability.

The US Partnership for Education for Sustainable Development provides [K–12 Student Learning Standards](#) that identify concepts and skills for each grade band.

The National Governors Association Center for Best Practices' Common Core State Standards for reading, writing, and speaking provide a framework for

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[2] *North American Association for Environmental Education. (2014). State environmental literacy plans: 2014 status report. Retrieved from: https://cdn.naaee.org/sites/default/files/2014-selp.2.25.15.pdf*

[3] *See the [English Language Arts Standards for Science and Technical Subjects.](#) The Wisconsin Department of Public Instruction provides an [excellent summary of resources](#) for appropriately complex texts related to science.*

the selection of appropriately complex texts, especially high-quality, authentic nonfiction related to environmental topics. [3]

The United Nations Sustainable Development Goals and Project Drawdown offer high-level overviews of the issues and solutions that might be leveraged to identify phenomena for interdisciplinary phenomenon-based learning.

The Culture and Climate System

The Culture and Climate System

The school culture and climate system is the invisible but essential "air in the room" that determines how it feels to lead, teach, and learn; this system underpins and overlays the others. School culture reflects the values and beliefs of the school community. School climate is defined by the practices that demonstrate those values and beliefs. These practices include the daily ways in which adults in the school interact with students; structured activities, lessons, and events that foster healthy and positive mindsets, self-care, and fitness; the food provided at school and the ways students are encouraged to participate in growing food; and opportunities for students to engage with the natural world beyond the school building. Practices designed to create a healthy, equitable, and sustainable school climate for all children are a priority in green schools, meant to ensure that all students, including those from historically excluded communities, have access to educational practices that support self-care, fitness, healthy food, and exploration of the natural world.

Intentional focus on indicators of and practices that produce a healthy, equitable, and sustainable school climate is critical work for all members of the school community, yet it is uncommon for schools to have a recognized culture and climate leader. For this reason, the word "leaders" in the practices below refers to both administrative and staff members, often working collaboratively in teams, engaged in building a positive school climate.

Core Practice 11: Schools plan strategically for a school culture and climate that promotes health, equity, and sustainability mindsets

A. Leaders create and implement culture and climate goals that are integrated into the school's strategic plan.

   a. Culture and climate goals are derived from strengths and gaps in the school's existing culture and climate and identify policies and practices that impact faculty, staff, and students on a regular basis.
   b. Culture and climate goals advance health, equity, and sustainability, with particular attention given to bolstering belonging and agency among staff and students from historically excluded groups.
   c. Strategies and timelines for achieving culture and climate goals are included in the strategic plan..

B. Leaders practice data-informed decision-making that shapes culture and climate.

   a. Leaders choose metrics that will yield reliable and accurate data on culture and climate.
   b. Leaders design systems for regularly gathering data that will track progress toward goals.
   c. Leaders identify specific individuals who are accountable for gathering and presenting data in a dashboard that facilitates meaningful analysis by stakeholders.
   d. Leaders create a system for analyzing and archiving data over time.
   e. Leaders periodically assess progress and course correct to adjust strategies as needed to accommodate new conditions or priorities.

Core Practice 12: Schools promote healthy relationships between peers, adults, the local community, and the natural world

A. Leaders design lessons, experiences, and programs that foster sustainability mindsets and healthy relationships with humans and nature.

   a. Students participate in regular structured classroom communities and morning meetings where they learn about and practice sustainability mindsets and social-emotional skills that align with the school's social-emotional learning framework.
   b. Students serve as role models for peers and younger students through mentoring, tutoring, and opportunities to lead lessons in the classroom.Teachers, staff, and community members mentor students and model caring and trusting relationships.
   c. Students engage in teamwork and problem-solving through initiatives that develop character traits and skills such as collaboration, critical thinking, tenacity, self-efficacy, perseverance, and a sense of place.
   d. Students engage in programs that allow them to interact with the natural world through play, care-taking, advocacy, and learning.

B. Leaders develop a service-learning program that creates more just and healthy natural and human ecosystems.

   a. In collaboration with community experts, students conduct service-learning projects that help them learn to care about, understand, and positively influence natural and human ecosystems.
   b. Students regularly volunteer with local organizations and agencies to serve their community and care for the environment.
   c. Students assume caretaking responsibilities for outdoor classroom spaces and engage in ecosystem restoration of land on school grounds or in the community.
   d. Students demonstrate an understanding of the benefits and consequences of their actions, and how those actions can help or harm the community and the environment.

C. Leaders, staff, and students acknowledge and celebrate the diverse cultures, traditions, experiences, and perspectives that make up the school community.
   a. Leaders seek multiple perspectives to create an inclusive school community and culture that reflects community values.
   b. Teachers invite families and community members to share their cultures and traditions in their classrooms.
   c. Leaders and staff actively work to empower members of the school community whose voices are often overlooked or silenced.
   d. Leaders and staff honor the school community's diverse religions and beliefs and accommodate those partaking in religious/spiritual celebrations and rituals.
   e. Students learn to empathize with and respect people from different cultural and religious backgrounds, abilities, and perspectives through reflection and active engagement in the community.

Core Practice 13: Schools create a healthy, equitable, and sustainable food culture

A. Food-service leaders establish policies and structures to support and sustain a healthy, equitable, and sustainable school meal program.

   a. Leaders prioritize the sourcing of local food and food products, organic when possible, at prices affordable for all students.
   b. Leaders establish a scratch-cooking program that trains kitchen staff, provides necessary tools and equipment, and sources ingredients for scratch-cooked meals from the school garden.
   c. Food-service staff make healthy food choices fun and attractive, such as offering salad bars at lunch and spotlighting a new fruit or vegetable as a healthy snack.
   d. Leaders create composting and recycling programs that include ongoing education and training for students, teachers, and staff.
   e. Leaders establish structures and programs to reduce food waste, including sustainable purchasing practices, share tables, and food waste tracking systems..

B. Leaders involve the school community in creating a healthy, equitable, and sustainable food culture.

    a. Leaders work with local agencies and organizations to implement programs and initiatives that provide culturally relevant, healthy, and sustainable food options.

    b. Students and staff provide feedback to food-service staff on menu preferences, new foods, and potential menu items.

    c. Teachers design authentic learning experiences that explore food systems and promote sustainable food choices.

    d. Students participate in developmentally appropriate learning experiences that allow them to make healthy and sustainable food and nutrition choices.

Core Practice 14: Schools have programs that promote fitness, recreation, and nature exploration for students and staff

A. Teachers integrate physical activity throughout the school day.

    a. Teachers have access to tools, training, and resources that help them incorporate movement and physical activity into their curriculum and lessons, including flexible and dynamic furniture, walkabouts, and standing circles.

    b. Students engage in regular movement breaks and physical activity during lessons throughout the school day.

    c. Teachers, staff, and students are encouraged to take movement breaks in between classes in common spaces and outdoor learning spaces.

    d. Teachers leverage a variety of indoor (conference rooms, hallways, reading nooks) and outdoor (school gardens, nature playgrounds) learning spaces for individual and group work and to keep students moving during and between classes.

    e. Students in grades K–8 have at least 30 minutes of daily unstructured recess time.

    f. Students experience a variety of team and individual activities during physical education classes.

B. Physical education and extracurricular activities include nature exploration, outdoor fitness, and outdoor adventure.

    a. Leaders adopt policies and protocols to encourage and support outdoor fitness and recreation programs.

    b. Leaders and teachers organize and promote year-round, after-school outdoor fitness activities and clubs for the school community. Similar activities are integrated into the physical education curriculum so all students can develop the knowledge and skills for lifelong fitness.

    c. The school partners with local and state parks, nature centers, and other outdoor organizations to offer outdoor skills training and excursions for the school community.

    d. Multi-day camping and hiking trips are integrated into the curriculum at every grade level.

    e. Students engage in daily nature play and unstructured outdoor experiences.

    f. Teachers incorporate natural materials (e.g., found nature items, large rocks and sticks, "tree cookies") and risky play during recess and physical education classes.

C. Leaders prioritize active transportation options for students, families, and staff.

    a. Transportation programs include a Safe Routes to School plan to support walking, biking, and rolling to and from school.

    b. Leaders organize walk and bike to school days and encourage parents and caregivers to lead daily walking school buses and bike trains.

    c. Teachers incorporate pedestrian and bike safety education into physical education classes.

Core Practice 15: Schools embrace a holistic approach to wellness for teachers, staff, and students that includes physical, mental, and social-emotional health

A. Leaders promote schoolwide wellness programming and practices for teachers, staff, and students that foster resilience, mental wellness, and a safe, supportive environment.

    a. Students have access to extracurricular and classroom-based wellness activities such as yoga, exercise, and self-regulation, meditation, and mindfulness practices.
    b. Teachers and staff are supported in balancing work, play, and life and are encouraged to participate in school-provided wellness programming.

B. Teachers, staff and students engage in restorative justice practices to develop skills needed for resilience and self-regulation in response to trauma and stress.

C. Leaders provide professional development opportunities that equip teachers with tools, knowledge, and resources to teach and model wellness practices.

The Facilities and Operations System

The Facilities and Operations System

A school's facilities—including its physical plant infrastructure, buildings, and grounds—and how those facilities are operated and maintained visibly demonstrates the school community's values and priorities. A healthy, equitable, and sustainable school district strives to achieve, over time, the highest industry standards for energy efficiency, healthy learning environments, and minimal environmental impact. District and school leaders in charge of resource allocation, purchasing, design, maintenance, and operation of the physical plant impact health, equity, and sustainability with each decision they make. To transition to healthy, equitable, and sustainable practices, decision-makers collaborate and consistently communicate the how and why of their decisions with instructional staff, students, and community members.

Creating, improving, maintaining, and learning from green school buildings and grounds is also a means to sustainability literacy and an opportunity for all members of the school community to learn from where they live and practice responsible stewardship. Facilities and operations staff are often experts in how buildings enhance individual and collective health and reduce environmental impacts and should see themselves as valued resources for classroom teachers and the community.

Core Practice 16: Schools plan strategically for building, renovating/replacing, and operating and maintaining sustainable facilities

A. Leaders create and implement a facilities master plan that is integrated into the school's strategic plan.

    a. The facilities master plan assesses strengths and needs aligned with healthy, equitable, and sustainable buildings and grounds.

    b. The facilities master plan ensures that students from historically excluded communities have access to learning environments that are equivalent to schools in more resourced neighborhoods.

    c. The facilities master plan identifies goals for facility design, upgrades, energy use, waste streams, food systems, procurement, air quality, green cleaning, efficient transportation, and accessibility.

    d. The facilities master plan identifies strategies for achieving these goals, along with measures and indicators for each goal.

B. Leaders practice data-informed decision-making that shapes maintenance and operations routines.

    a. Leaders choose metrics that will yield reliable and accurate data on operational costs, healthy learning environments, and environmental impact aligned with the school's strategic plan.

    b. Leaders design systems to regularly gather data that can be used to track progress toward goals.

    c. Leaders identify specific individuals who are accountable for gathering and presenting data that facilitates meaningful analysis by stakeholders.

    d. Leaders create a system for analyzing and archiving data over time.

    e. Leaders periodically assess progress and course correct to adjust strategies as needed to accommodate new conditions or priorities..

C. Leaders effectively communicate sustainability goals, strategies, and progress to the school community.

    a. Leaders compile an annual report that details progress made toward achieving identified goals (including operational costs and savings and environmental impacts).

    b. Leaders provide an employee handbook that articulates protocols,

procedures, requirements, and recommendations for employees related to sustainable operation of facilities.

    c. Leaders and/or the school or district's sustainability team communicate highlights and progress related to sustainability through events, newsletters, websites, or social media channels accessible to the school community.

Core Practice 17: Schools build leadership capacity among all stakeholders to create and operate healthy, equitable, and sustainable facilities

A. Leaders use hiring protocols and priorities that are driven by the school's vision.

    a. Leaders prioritize hiring candidates with a successful track record and commitment to sustainability or environmental service sectors.

    b. Leaders give preference to candidates with certifications in fields such as Sustainability Studies, Environmental Engineering, Green Building, and Sustainability Project Management..

B. Leaders provide initial and ongoing professional learning opportunities for facilities managers and maintenance staff centered on sustainability.

    a. Leaders identify and provide professional learning opportunities (internal or external) that fill general skills and knowledge gaps related to goals identified in the facilities master plan.

    b. Leaders identify and provide ongoing professional learning opportunities that strengthen skills and knowledge related to targeted sustainability goals.

    c. Leaders advocate for resources and funding to support ongoing professional learning related to sustainability.

D. Facilities management staff view school staff, students, and community members as team members and work to educate and collaborate with the school community to implement sustainability strategies.

    a. Facilities managers provide ongoing, scaffolded, and targeted training to staff and students on sustainability systems and

procedures they may encounter in the course of a typical school day (e.g., recycling, energy use, school gardens).

    b. Facilities managers sometimes partner with staff, student crews, or community members to accomplish tasks that require more hands, building commitment and a sense of service among team members as well as skills and knowledge.

Core Practice 18: Schools design, build, and upgrade existing facilities with systems that embrace healthy, equitable, and sustainable building principles and practices

A. Design and build teams plan new buildings and additions to meet well-respected sustainability standards such as Leadership in Energy and Environmental Design (LEED) standards for schools, new construction, and major retrofits; Collaborative for High Performance Schools (CHPS) standards; WELL Building Standards for New and Existing Buildings; and EnergyStar certification standards.

    a. Buildings follow best practices for sustainable water use.

    b. Buildings follow best practices for reducing energy use.

    c. Buildings follow best practices for reducing, reusing, and recycling waste.

    d. Buildings follow best practices for improving outdoor air quality and reducing CO_2 pollution.

    e. Buildings prioritize access for mass transportation and walking and biking.

    f. Buildings are integrated with outdoor environments and natural features based on a site plan that allows for gardens, bioswales, natural management methods, water conservation, outdoor recreation, and outdoor classrooms.

    g. Buildings follow best practices for improving indoor air quality and comfort.

    h. Buildings follow best practices for natural light and indoor lighting to enhance learning.

    i. Purchasing decisions follow an environmentally responsible procurement plan and best practices for sustainable materials and appliances.

B. Facilities leaders upgrade existing facilities when possible to meet well-respected health and sustainability standards such as LEED standards for schools, new construction, and major retrofits; CHPS standards; WELL Building Standards for New and Existing Buildings; and EnergyStar certification standards.

   a. Building upgrades implement strategies for water conservation.
   b. Building upgrades implement strategies for low energy use and energy sources that rely on renewables rather than traditional energy sources.
   c. Building upgrades implement strategies for reducing, reusing, and recycling waste.
   d. Building upgrades implement strategies for improving outdoor air quality and reducing CO2 emissions.
   e. Building upgrades prioritize access for mass transportation and walking and biking.
   f. Building and site upgrades incorporate sustainable practices that accommodate outdoor learning environments and natural features, such as school gardens, rain gardens, bioswales, and permeable pavement.
   g. Building upgrades prioritize strategies for improving indoor air quality and comfort.
   h. Building upgrades prioritize natural light and indoor lighting options that enhance learning.

Core Practice 19: Schools manage and operate facilities with internal systems that reduce environmental impacts, enhance health, and promote equity

A. Leaders design maintenance routines and schedules to reduce environmental impacts and enhance resource efficiency.

   a. Maintenance and cleaning routines use materials and equipment that are non-toxic, durable, repairable, reusable, or recyclable.
   b. Maintenance and cleaning routines preserve, conserve, and enhance outdoor environments and natural features (e.g., use of native vegetation, bioswales, rain gardens, and porous pavers in landscape design).
   c. Maintenance and cleaning routines reinforce strategies for reducing

water and energy use (e.g., low-flow, water-conserving plumbing fixtures; adjustable irrigation schedules; occupancy sensors in classrooms).

B. Leaders design maintenance routines and schedules to promote healthy learning environments.

   a. Maintenance and cleaning routines reinforce strategies for environmentally friendly waste flow (e.g., recycle unused cleaning supplies, minimize food waste).
   b. Maintenance and cleaning routines reinforce strategies for good indoor air quality (e.g., using low VOC paints and cleaners; installing high-quality air filters; scheduling deep cleaning when school buildings are unoccupied).
   c. Maintenance and cleaning routines incorporate green cleaning practices (e.g., using microfiber cleaning cloths, purchasing cleaning products as concentrates and diluting on-site).

Core Practice 20: Schools involve the entire school community in working toward a healthy, equitable, and sustainable learning environment

A. Facilities leaders leverage the capacity of all stakeholders to innovate, educate, and implement the school's strategic goals related to facilities.

   a. Facilities leaders solicit ideas from staff, students, and community members about how to make facilities-related practices and procedures more sustainable.
   b. Facilities leaders invite staff, students, and community members to contribute to and critique new building design or building upgrade initiatives.
   c. Facilities leaders engage community partners, especially those owned and operated by historically excluded individuals and groups, to support building design and upgrade initiatives.

B. Facilities leaders promote school facilities and grounds as teaching tools.

   a. Facilities managers sometimes collaborate with teachers and

students to incorporate building and grounds design and operations into classroom lessons.

b. Facilities managers involve staff and students in the ongoing maintenance of buildings and grounds (e.g., training student leaders to run the cafeteria recycling program, assigning playground cleanup crews, or scheduling school workdays).

c. Facilities managers and staff facilitate student and community involvement in gathering and analyzing data concerning the physical plant's health and sustainability (e.g., conducting water or energy audits).

d. Staff use the school buildings and grounds as a laboratory for learning about environmental health, justice, and sustainability.

Glossary

Culturally Relevant – Understanding and being responsive to diverse backgrounds, knowledge, perspectives, and experiences.

Equity – Equal access and opportunity, taking into account differing needs and circumstances.

Historically Excluded Group – Any group of people that has been historically excluded from full rights, privileges, and opportunities in a society or organization. (Source: Diversity Officer Magazine)

4PBL – Phenomena-, place-, project-, and problem-based learning (i.e., using current events, linked to local circumstances, to teach the knowledge and skills required by standards and facilitate student-driven inquiries that require application of new knowledge and skills in resolving problems in their local community or creating a project that documents how a phenomenon affects their community (Source: Lieberman, J. and Seydel, J. (2019). P4BL: Linking phenomena-based, place-based, project-based, and problem-based pedagogy to deepen learning. Green Schools Catalyst Quarterly, 6(2), 34–45.)

Social-Emotional Learning – The acquisition and application of knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions. (Source: Collaborative for Academic, Social, and Emotional Learning)

Sustainability – The 1987 Brundtland Commission defined sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." (Source: Report of the World Commission on Environment and Development: Our Common Future) This definition has evolved to incorporate a triple bottom line framework that emphasizes the interconnectivity of society, the economy, and the environment as the foundation of sustainability, which serves as the basis for the United Nations Sustainable Development Goals.

Sustainability Literacy – The knowledge, skills, and mindsets that allow individuals to become deeply committed to building a sustainable future and assisting in making informed and effective decisions to this end. (Source: United Nations Division for Sustainable Development Goals)

Sustainability Mindset – Applying a lens of sustainability in conjunction with a growth mindset to encourage stronger connections with the natural world and a deeper understanding of global and ecological citizenship.

Whole-School / Whole-District Transformation – engaging the four interdependent systems that define a school/district (i.e., leadership, curriculum and instruction, culture and climate, and facilities and operations) to create systemic change in how a school/district operates.

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