



GUIDELINES

BOULDER COUNTY ENVIRONMENTAL EDUCATION GUIDELINES
DEVELOPED BY THE BOULDER COUNTY E MOVEMENT

5TH GRADE

5th Grade Learning Objectives

We want our students to be inspired to understand, and have knowledge of, their local ecosystems. We want to facilitate opportunities for them to be stewards of their local communities and competent investigating their own questions so that they may practice forming solutions to problems.



5th Grade Environmental Education Guidelines

Progression of place: The appropriate scale is regional community and environment placed in national context.

NATURAL CONCEPT

Earth and Sun provide diverse renewable and nonrenewable resources.

SOCIAL CONCEPT

People choose to move to new regions for different reasons, and their movement has a variety of benefits and consequences.

The Guidelines

Head

ACADEMIC SKILLS AND KNOWLEDGE

- Structure, function, and relationships exist among human systems and the environment.
- Sustainability includes the health and wellness of people, the environment, and the economy.
- Explore the use of renewable/nonrenewable resources and their impacts.
- Explore why people choose to move from one area to another and the consequences that movement has for social and natural environments.
- Production, consumption and consumer choices affect the economy.
- Systems may interact with other systems; they may have sub-systems and be a part of larger complex systems. (MS-LS1-3)
- Human activities can deliberately or inadvertently alter ecosystems and their resiliency.
- Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space; and individuals and communities are doing things to help protect Earth's resources and environments. (5-ESS3-1)



The Guidelines *(continued)*



Heart

SOCIAL-EMOTIONAL LEARNING, AFFECTIVE NEEDS, SENSITIVITY, ATTITUDES AND SELF-EFFICACY

- Nurture care and respect for living things and natural areas.
- Ask and record questions about what draws the students' attention, and create space for students to find their own answers.
- Make time for and model awareness and observation during time outdoors including play, quiet, and reflection (goal: make this part of your routine with consistency and increased frequency).
- Model and identify empathy and humility.
- Build community and shared purpose within the classroom, school, and community.
- Work effectively as a group and respect differences in opinion while working toward common solutions.
- Discuss feelings and connections students have and make when they are outside. Model self-reflection.
- Help students learn to rely on themselves and on each other.



Hands

ACTION AND SERVICE

- Provide unstructured time outdoors, ideally in a natural setting.
- Support students in defining more complex problems, based on evidence, in the school. Take action to make a positive impact or solve a problem in the school.
- Provide opportunities for shared leadership in which students identify, research, and propose a solution to an issue within the classroom or the school.
- Allow for place-making opportunities for students to design and have a voice in the school community.
- Design and evaluate solutions for reducing the impacts of community environmental hazards and issues (for example, creating a "No Idle Zone" in the school's drop-off/pick-up area, encouraging parents to turn off their car engine while waiting.)
- With student input, take action to promote positive change in the schoolyard.



Feet

CONNECTION TO PLACE

- Build appreciation for the connections of natural and built aspects of the community and region by naming them, observing them, and asking questions.
- Promote understanding that our natural and cultural communities extend to the regional and national scale.
- Organize field trips that get students outside the classroom to see something from a new perspective.
- Provide multiple encounters with an expanded place over time.
- Experience a variety of natural environments.
- Facilitate opportunities for students to choose outdoor recreation experiences including backpacking, hiking, rafting, kayaking, paddleboarding and/or opportunities for students to choose outdoor experiences in ecology, botany, entomology, ornithology, etc.



Recommended Activities

Activities listed are intended to provide inspiration for how to connect to a local natural area, or plan a field trip with a partner organization.

- Provide self-guided time outside regularly - make this a regular part of your schedule.
- Walks through the schoolyard or neighboring areas (naturalized or not) to record changes over time and questions about observations.
- Research resources in Colorado and causes and consequences of resource use and human movement. SS09-GR.5-S.2-GLE.2
- Take a real or virtual fieldtrip to a mine, managed forest, agricultural facility, energy facility, water treatment plant. SC09-GR.5-S.3-GLE.1
- Conduct a water or energy audit.
- Provide opportunities for leadership of school's composting program including student leaders to help school's students discard lunch waste. SS09-GR.5-S.4-GLE.1
- Conduct investigations using stream tables to document changes in landforms. SC09-GR.5-S.3-GLE.2
- Lead a school clean-up day or gardening day. Investigate native plants, irrigation, and soil conditions to design and build a small xeric flower garden.
- Engage in Citizen Science. (see resources for grade-appropriate examples) MA10-GR.5-S.3-GLE.1, RWC09-GR.5-S.4-GLE.1
- Provide opportunities to transfer skills learned in one context to new lessons or investigations (ex. use of tools like the hand lens - practice use indoors, then take outside to investigate).
- Create a terrarium in a bottle – set up experiments to test fertilizers, water amounts, soil types, etc.
- Investigate the natural and human history of Rocky Flats. SC09-GR.5-S.3-GLE.2, SS09-GR.5-S.2-GLE.1

E Guidelines Adoption Form

ECE-5th Grade

INTENTIONS AT THIS GRADE LEVEL:

Each teacher, grade-level team or department adopting these guidelines should complete the following with their intended activities for the year. Your actual activities may shift or expand as the year progresses. These activities may be field-based or classroom-based as appropriate. The recommended activities and resources may be used to complete this intended plan.

We will spend _____ minutes outside each week.

We will visit the following natural outdoor space(s):

As a result of adopting these guidelines, one thing we intend to change about our practice is:

Initial thoughts about opportunities to integrate heart, hands, feet and head (see recommended activities at the end of your grade level chapter). Please list one or more thoughts in each space.

Opportunities to focus on Heart: _____

Opportunities to focus on Hands: _____

Opportunities to focus on Feet: _____

Opportunities to focus on Head: _____

Continuum of the E Guidelines

ECE/Kindergarten

We nurture our students' curiosity while fostering respect for the natural world and for each other. We help improve their basic understandings of nature and their relationships to it. We teach our students that they can influence their environments and their communities by the way they choose to care for themselves, for others and for natural places.

NATURAL CONCEPTS

The natural world is made up of living and non-living things that can be described and categorized.

SOCIAL CONCEPTS

Sequences of events and places or locations can be documented and described.

PROGRESSION OF PLACE

The appropriate scale is classroom community and home, school or schoolyard settings.

1st Grade

We nurture our students' curiosity while fostering respect for the natural world and for each other. We help improve their basic understandings of nature and their relationships to it. We teach our students that they can influence their environments and their communities by the way they choose to care for themselves, for others and for natural places. Describe and categorize; Cause and effect; Empathy

NATURAL CONCEPTS

The natural world is made up of living and non-living things that can be described and categorized.

SOCIAL CONCEPTS

Sequences of events and places or locations can be documented and described.

PROGRESSION OF PLACE

The appropriate scale is classroom community and home, school or schoolyard settings.

2nd Grade

We nurture our students' curiosity while fostering respect for the natural world and for each other. We help improve their basic understandings of nature and their relationships to it. We teach our students that they can influence their environments and their communities by the way they choose to care for themselves, for others and for natural places. All living things, plants, animals (including humans) meet needs from the environment and humans must make choices about how needs are met.

NATURAL CONCEPTS

Living things, including humans, meet their needs from their environments.

SOCIAL CONCEPTS

Communities depend upon and make choices about resources.

PROGRESSION OF PLACE

The appropriate scale is the school community and its local environment, with a focus on immediate surroundings.

3rd Grade

We want our students to be inspired to understand that there is interdependence among animals, humans, and their environments. We want to facilitate opportunities for them to identify how problems sometimes arise when environments change and to work with their peers to solve problems and answer questions.

NATURAL CONCEPTS

Cycles and change are important processes in nature—examples include life cycles, the rock cycle, and the water cycle.

SOCIAL CONCEPTS

Geographic tools can be used to understand our region's watershed, for example, with mapping.

PROGRESSION OF PLACE

The appropriate scale includes the neighborhood, the local community, the watershed, and the regional environment.

4th Grade

We want our students to be inspired to understand and have knowledge of their local ecosystems. We want to facilitate opportunities for them to be stewards of their local communities and competent investigating their own questions so that they may practice forming solutions to problems.

NATURAL CONCEPTS

There is interaction and interdependence among living and nonliving components of systems.

SOCIAL CONCEPTS

There is interaction and interdependence among human and natural systems.

PROGRESSION OF PLACE

The appropriate scale includes the neighborhood, the local community, the watershed, and the regional environment.

5th Grade

We want our students to be inspired to understand and have knowledge of their local ecosystems. We want to facilitate opportunities for them to be stewards of their local communities and competent investigating their own questions so that they may practice

forming solutions to problems. How needs are met with renewable and nonrenewable resources; Humans manipulate conditions to make them livable, which is dependent on resources and energy

NATURAL CONCEPTS

Earth and sun provide diverse renewable and nonrenewable resources.

SOCIAL CONCEPTS

People choose to move to new regions for different reasons, and their movement has a variety of benefits and consequences.

PROGRESSION OF PLACE

The appropriate scale is the regional community and environment, placed in a national context.

Middle School

We want our students to be inspired and gain a sense of self in their natural and human communities, including their impacts on others in those systems. We want to facilitate opportunities for them to discuss ideas, take in multiple perspectives, back up personal opinions with evidence, and distinguish between opinion and fact.

NATURAL CONCEPTS

Matter cycles within ecosystems and energy flows through them. These processes happen at both a local and a global scale, and humans can impact these processes.

SOCIAL CONCEPTS

Human and physical systems vary and interact, and human systems at different scales (community, region, nation, etc.) are interconnected.

PROGRESSION OF PLACE

The appropriate scale continues to expand from the schoolyard into a local natural area (greenbelt, stream, field or BCEE partner field trip) and into larger contexts (regional, state, national, global), including multiple encounters with an expanded place over time. Students explore the local community to watershed to regional environment within global community.

High School

We want our students to be inspired to be life-long learners, stewards, and enthusiasts of the natural world. We want to prepare them to make informed decisions that consider the economic, social, and environmental impacts of issues using credible evidence.

NATURAL CONCEPTS

Sustainability involves a complex interaction of social, economic, ecological, and political systems.

SOCIAL CONCEPTS

Individual and collective action can have implications for sustainability at both the local and global scale.

GUIDELINES

PROGRESSION OF PLACE

The appropriate scale continues to expand from the schoolyard into a local natural area (greenbelt, stream, field or BCEE partner field trip) and into larger contexts (regional, state, national, global), with multiple encounters in an expanded place over time.