



GUIDELINES

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

4TH GRADE

4th 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.



4th Grade Environmental Education Guidelines

Progression of place: The appropriate scale is neighborhood community within the watershed and regional environment.

NATURAL CONCEPT

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

SOCIAL CONCEPT

There is interaction and interdependence among human and natural systems.

The Guidelines

Head

ACADEMIC SKILLS AND KNOWLEDGE

- Ecology and the connection between the shape of the land and availability of resources affect human settlement in Colorado. [CAS: SS.4.2.2.a.-c.]
- Relationships exist among ecosystems, human systems, weather and climate in Colorado. [NGSS: Systems and System Models]
- A system can be described in terms of its components and their interactions. [NGSS: Systems and System Models]
- Sustainability includes the health and wellness of people, the environment, and the economy. [NGSS: 4-ESS3-2]
- Structure, function, interaction, and change are major themes in living and non-living systems. [CAS: SC.4.2.1.a.] [NGSS: 4-LS1-1]
- Over time, people's needs and wants change, as do their demands for new and improved technologies, and engineers improve existing technologies or develop new ones. [NGSS: Influence of Science, Engineering, and Technology on Society and the Natural World]
- Patterns can be used as evidence to support an explanation; Science assumes consistent patterns in natural systems. [NGSS: Patterns]





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).
- Build community and interpersonal skills like active listening within the classroom.
- 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.
- Learn to rely on ourselves and on each other.
- Model and identify empathy and humility.



Hands

ACTION AND SERVICE

- Provide for unstructured time outdoors, ideally in a natural setting.
- With student input, take action to promote positive change in the schoolyard.
- Define 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.



Feet

CONNECTION TO PLACE

- Build appreciation for the connections of natural and built aspects of the community by naming them, observing them, and asking questions.
- Understand how our natural and cultural communities extend to the local and regional (including statewide) scale.
- Organize field trips that get students outside the classroom to see something from a new perspective.
- Provide for multiple encounters with an expanded place over time.
- Experience a variety of natural environments—including each major life zone of Colorado.
- 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 naturalizing, botany, entomology, ornithology, etc.
- Explore nature in connected green spaces, open spaces, and parks in both wilderness areas AND in urban areas.
- Begin to expand from the schoolyard into a local natural area (greenbelt, stream, field or BCEE partner field trip).



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 for self-guided time outside daily - make this a regular part of your daily schedule.
- Take walks through the schoolyard or neighboring areas (naturalized or not) to record changes over time and questions about observations.
- Explore a local natural habitat to identify flora, fauna, and signs of wildlife. [CAS: SC.4.LS.1]
- Engage in gardening and habitat improvement.
- Compare/contrast regional animal/ecosystems communities to human communities.
- Conduct seasonal comparisons of local natural/human environments and the activities of wildlife and people in the community.
- Follow the life cycle of a common product (i.e., paper, plastic, aluminum) from manufacturing to use to recycling and visit a recycling/waste management facility.
- Observe the life cycles of classroom animals and plants including ladybugs, painted lady butterflies, silk moths, meal worms, and Wisconsin Fast Plants (rapid radish/brassica).
- Participate in a Citizen Science program.
- 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).