

Classroom Program Options:

Birds and Mammals

Habitat Hunters

Using observational skills, students study the needs and interrelationships of organisms in a local habitat and thereby gain an understanding of habitat as a place where plants and animals can live successfully.

Mammals

Students will use study specimens and mammal field guides to identify mammals' unique characteristics, conduct investigations and present findings.

Predator and Prey

Through inquiry based research, students investigate skull adaptations and examine the unique role of such species within an ecosystem.

Animal Tracking

This investigation encourages an appreciation of wildlife in the absence of actual sightings. At the beginning of the course, students learn about animal movement and behavior. Applying this knowledge, students make inferences about animal habits as they inspect animal tracks and signs. Preserving tracks in plaster casts concludes the field study.

Birds

Utilizing bird specimens, students explore the unique features of various birds. Students investigate the structure and function of birds' body parts, as well as special adaptations for survival.

Birding Field Study

Students utilize observation skills, binoculars and field guides to identify birds in the field. Students also investigate birds' specialized adaptations to their Montana habitat.

Birding

Investigate the unique structure and function of specific birds' characteristics while applying the skills of binocular and field guides to identify birds in their local habitat.

Ecology

Mountain Ecology

Students learn about the dynamic processes that shape mountains and how mountains influence weather. Hiking extensively along transects enables students to distinguish different mountain life zones and compare and classify the soils and plant /animal life within those zones.

Water World

Through hands-on investigations, students explore the water cycle, watersheds and the importance of water both in Montana and on Earth.

Aquatic Macro-Invertebrate Study

Study a stream, identify macro-invertebrates and discover their role as stream water quality indicators.

Long Haul

Investigate the water cycle and factors that influence the amount of water on Earth through creative games and simulations.

Winter Ecology & Exploration

Students experience the wonders of winter ecology. They observe and explore the effects of weather on the environment and investigate the structure and physical properties of snow pack. Other topics include plant and animal winter survival adaptations.

Farm to School

Farm to School

Bring the farm to the classroom with MOSS! Connect your students to the foods we eat, the local farms our food comes from, Montana's agricultural history and the natural world. Students engage in hands-on farm activities on soils, animals, plants, pollinators and more!

Geology

Rocks and Minerals - Students inspect, identify and classify a variety of rocks and minerals. They also investigate rock and mineral composition, formation, and uses.

Field Geology

Examining different types of rocks, students learn how rocks change over time. Field trips to local mountains provide a framework for recognizing the patterns and dynamic processes that shape the earth's landscape – including plate tectonics, faulting and folding, and erosion.

Garnet Panning- Study the composition and formation of metamorphic rocks while panning for garnets. Students learn how rocks are used in scientific innovations and the corresponding societal impacts of this usage.

Insects

Incredible Insects

Using actual specimens, students learn about insects' basic structure, as well as various species' adaptations. Field studies involve observation, classification and collection. Additionally, students study insects' life stages and corresponding seasonal changes.

Stream Exploration & Aquatic Insects

Exploring a local stream gives students the opportunity to determine its relative health, physical attributes and plant / animal populations. During the investigation, collect and classify aquatic insects and learn how they are adapted to stream life.

Plants

Plants

Students discover how plants produce their own food, provide food and shelter for animals and change with weather patterns. Using plant specimens, students learn basic plant parts, functions and how to identify plants using field guides and dichotomous keys.

Medicinal and Edible Plants

Students will explore the use and importance of medicinal and edible plants from a scientific and historical perspective. Students also learn how medicinal and edible plants can be used and create a take home project.

Noxious Weeds

Students engage in an investigation of the environmental and economic impacts of noxious weeds in Montana. Students also learn how to identify noxious weeds in the field and as well as appropriate management techniques for lessening the effects of specific noxious weeds.

Plants & Our Planet

Discover how plants produce their own food, provide food and shelter for animals, and change with weather patterns. Studying in local forests and meadows, students identify basic plant components and their corresponding functions while learning about the resources plants need for survival and their interrelationships with other organisms.

Soil to Seeds to Trees

Students explore the interdependent relationships between soil, seeds and plants. The "classroom" is the forest and meadows where students collect and classify soils. As part of this investigation, students use a simple color key to examine soil plugs to determine layer composition and find out where seeds germinate.

Green Side

This activity introduces students to the use of the dichotomous key as a tool for conducting scientific observations in the natural world.

Reptiles and Amphibians

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Students engage in the study of herpetology through live specimen investigations. Students also learn about similarities and differences of reptiles and amphibians- including life cycles, habitats and adaptations.

Seasons

Animals In Winter

Students investigate different strategies that animals use to survive the Montana winter. Using actual specimens, students explore special winter adaptations including locomotion, camouflage, insulation and more!

Seasonal Cycles

Students conduct field investigations of plant and animal life cycles and their corresponding seasonal adaptations.

Senses

Tuning into Nature

Using their senses to tune into the natural world, students compare and contrast personal experiences with that of other creatures in the animal kingdom.

Becoming a Naturalist

Students learn the tools of a naturalist, including observation skills and sensory awareness investigations in the natural world. Students also engage in sketching, journaling, field guide use, and plant, mammal and bird studies in the field.

Snow Science

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Students conduct in-depth studies of the physical properties of snow- including snowflake composition, snowflake structures, snow pack observations and avalanche safety and prediction.

Soil Science

Soils Studies

During collection, classification and examination of soil layers, students unfold the secrets of life underground.

Journey Underground

Students engage in a study of soil, including collection of soil samples and examination of soil horizons, soil particles, and other soil properties. Students unfold the secrets of life underground, as well as the importance of soil in an ecosystem.

Survival Science

Orienteering

Learn about magnetic north, cardinal directions and how to take a bearing utilizing landmarks. Building skills in map and compass, students put newly acquired expertise to use on a treasure hunt to find a hidden prize.

Survival Skills

Students learn about what it really takes to go “into the wild.” Students develop survival skills through team building, trust, communication, orienteering and more!

Weather and Climate

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Through inquiry-based research, students investigate the differences between weather and climate. Students create weather stations and learn about making weather predictions based on observation.