



## 6th Grade - Winter Population Dynamics and Snowshoeing Classroom Teacher Information

*Programs are subject to change based on weather, temperature, road conditions, public health and safety concerns.*

### Synopsis:

In this investigation, students will explore stability and change in the local ecosystem by looking at effects of resource availability on black bear populations and predicting patterns of interactions among organisms in different environments. Students will leave being able to argue from evidence that stability of populations is affected by changes in an ecosystem and will think as a Wildlife Manager to discuss how to manage changes in a local forest. Additionally, students will explore the National Forest and practice observation skills while learning to snowshoe.

### Students will:

- **Analyze data** regarding the effects of resource availability on organisms and populations in an ecosystem
- **Construct an explanation** of patterns of interactions among organisms across multiple ecosystems
- **Construct an argument, supported by evidence**, that the stability of populations is affected by changes in an ecosystem
- Share their conclusions verbally in small and large groups
- Ambulate on snowshoes
- Make observations

**Length of Program:** 2.5 hours

**Location:** Stokes Nature Center/River Trail (subject to snow conditions)

**Season Offered:** Winter

**Program Fee:** \$9 per student (includes snowshoe rental)

### Logistics:

- Please plan time to load the bus at your school and drive to the field site.
- Confirm the location of your field experience with the driver before leaving your school.
- Please arrive 5 minutes prior to your program time. Programs will begin and end on time.
- Read over our “Winter Weather Cancellation Policy” prior to your program so you know what to expect in case of severe winter weather or sudden winter weather events.
- Students should wear comfortable clothing that may get dirty and/or wet.
- We will be outside for the entirety of this program, dressing in layers is advised.
- Students should wear snow boots. Please, **no sneakers!**
- We have a limited number of boots, coats, and gloves to loan your students if they need them. If you suspect a student may need necessary snow gear, please request these at least two days in advance of your program.
- Students should wear visible name tags at all times (packing tape over a name tag keeps them from falling off).
- Please bring one adult per five students (there is no charge for teachers or chaperones).
- Running water will not be available at the site, so please plan ahead with water bottles.
- Restrooms may not be available, depending on the field site, so plan ahead accordingly.

## Classroom Teacher Pre-Program Preparation

- If multiple classrooms from your school are participating, please ensure that all teachers on your team receive the confirmation email which contains essential information about your scheduled field experience.
- See curriculum connections below.

## Curriculum Connections

This program supports learning of **SEEd Strand 6.4 Stability and Change in Ecosystems**

**6.4.1: Analyze data** to provide evidence for the effects of resource availability on organisms and populations in an ecosystem. **Ask questions** to predict how changes in resource availability affects organisms in those ecosystems. Ex: could include water, food, or living space in Utah environments. (LS2.A)

**6.4.2: Construct an explanation** that predicts patterns of interactions among organisms across multiple ecosystems. Emphasize consistent interactions in different environments such as competition, predation, and mutualism. (LS2.A)

**6.4.4: Construct an argument supported by evidence** that the stability of populations is affected by changes to an ecosystem. Emphasize how changes to living and nonliving components in an ecosystem affect populations in the ecosystem. Examples could include Utah ecosystems such as mountains, Great Salt Lake, wetlands, or deserts. (LS2.C)

Science and Engineering Practices	Crosscutting Concepts	Disciplinary Core Ideas
Asking questions or defining problems Analyzing and interpreting data Developing and using models	Cause and Effect Patterns Stability and Change	Interdependent Relationships in Ecosystems Ecosystem Dynamics, Functioning and Resilience

## Additional Utah Core Curriculum Connections

Subject	Standard	Objective
Math	6.MP.1 6.MP.2 6.MP.3 6.MP.4 6.MP.5 6.MP.6 6.MP.7 6.MP.8	Make sense of problems and persevere in solving them. Reason abstractly and quantitatively. Construct viable arguments and critique the reasoning of others. Model with mathematics. Use appropriate tools strategically. Attend to precision. Look for and make use of structure. Look for and express regularity in repeated reasoning.
ELA	6.SL.1  6.SL.3  6.SL.4	Engage effectively in a range of collaborative discussions with diverse partners on grade 6 topics and texts, building on others' ideas and expressing their own clearly. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.

PE	Strand 2 Strand 4	Students will apply knowledge to attain efficient movement and performance. Students will develop cooperative skills and positive personal behavior through communication and respect for self and others.
SEL	CASEL competencies	Self-Awareness, Self-Management, Social-Awareness, Relationship Skills, Responsible Decision-Making