Saint John's Outdoor University Field Trip Overview

Insects

Objective: Students will observe insects while exploring in three different habitats (prairie, wetland, and forest). Student will compare the insect's different appearances to understand how they are adapted to their specific environments. Using scientific tools to make observations, students will also closely examine insect body parts and will be able to answer the question 'How do you know is something is an insect?'.

Field Activities

Sweep Netting: Students will use sweep nets to collect and identify insects found in prairies.

Pond Dipping: Students will observe water samples to identify insects found in ponds and wetlands.

Leaf Litter: Students will search through leaves on the forest floor and under logs to identify insects and understand the role of decaying plant matter in the ecosystem.

Draw an Insect: Students will sketch one of their finds at each activity and compare the appearance of insects at each habitat.

Nature Explorer Connections

All students have the ability to be nature explorers. Nature explorers respect the natural world, observe using their senses, and wonder by asking questions about their observations.

Respect – Ways we will demonstrate respect:

- What lives in nature stays in nature. We will not take anything home with us unless it is allowed on the field trip.
- We will understand the delicate nature of insects and be careful when handling or observing them.

Observe - Observational activities included throughout the field trip:

- Student observation will be recorded throughout the field trip and brought back to the classroom for further study.
- Observation games will be included throughout the field trip.

Wonder – Sample questions that may be discussed:

- What are insects' basic needs?
- How do you know if something you found is an insect?
- How would you compare the insects we found?
- Are the same or different insects found in each habitat? Why?
- How are an insect's basic needs connected to its habitat?

Minnesota K-12 Academic Standards addressed in activities:

Grade	Strand	Substrand	Standard	Content Area	Benchmark
2	1 Exploring phenomena or engineering problems	1.1 Asking questions and defining problems	1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each	Physical Science	2P.1.1.1.1 Ask questions about an object's motion based on observation that can be answered by an

			other's ideas, and the information they read.		investigation. (P: 1, CC: 1, CI: PS2)
2	2 Looking at data and empirical evidence to understand phenomena or solve problems	2.1 Analyzing And interpreting data	2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Earth and Space Science	2E.2.1.1.1 Represent data to describe typical weather conditions expected during a particular season. (P: 4, CC: 1, CI: ESS2)
2	Developing possible explanations of phenomena or designing solutions to engineering problems	3.1 Developing and using models	3.1.1 Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others.	Physical Science	2P.3.1.1.1 Develop a simple diagram or physical model to illustrate how some changes caused by heating or cooling can be reversed and some cannot.** (P: 2, CC: 2, CI: PS3)
2	4 Communicating reasons, arguments and ideas to others	4.1 Engaging in argument from evidence	4.1.1 Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counterarguments.	Life Science	2L.4.1.1.1 Construct an argument with evidence that evaluates how in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. (P: 7, CC: 2, CI: LS4, ETS2)