

**LESSON: Prairie Bug Hunt****GRADE: K TIME: 45 min.****SUMMARY:**

The students and field leader discuss the term insect and work toward a definition. Students sing a song based on the body parts of an insect. Following the discussion, students are divided into small groups go outside to observe insects. Using simple journals, students draw insects and record their discoveries. Afterwards, students come back inside and share their insect findings with one another.

**OBJECTIVES: Iowa Core****Science****From Molecules to Organisms: Structures and Processes**

- **K-LS1-1** Use observations to describe patterns of what plants and animals (including humans) need to survive.

**Literacy****Speaking and Listening**

- **SL.K.1.** Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
- **SL.K.2.** Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
- **SL.K.5.** Add drawings or other visual displays to descriptions as desired to provide additional detail.
- **SL.K.6.** Speak audibly and express thoughts, feelings, and ideas clearly.



## MATERIALS & RESOURCES:

- Blank paper or nature journals
- Colored pencils
- Clip boards
- Pictures of insects (from books or magazines)

## PRESENTATION:

In the classroom, welcome students, teachers, and chaperones to Neal Smith National Wildlife Refuge. Remind them of your name.

Explain to students that today, they will be learning about a very special type of animal that lives in the prairie. Write the words “insect” on the white board and have the students say the word with you to practice pronunciation.

## DIRECTIONS:

1. Gauge students background knowledge by asking students, “What do you already know about the insects?” If students need extra guidance ask them specific questions such as: What insects live in the prairie? What insects have you seen before? What do insects eat? Where could we find them? Are all bugs insects?
2. Tell students that today they are going to be going outside and trying to answer the question, “What insects live in the prairie?” But first, they need to learn more about prairie insects.
3. Show students pictures of prairie insects. Explain that insects do not have a backbone. Ask students to feel their own spine and explain that insects carry their skeleton on the outside. Show them an example of a grasshopper or cicada exoskeleton. Explain that insects also have three body parts and six legs. Sing the “Head, Thorax, Ab-do-men” song to the melody of “Heads, Shoulders, Knees-and-Toes” song.



4. Explain to the students that in a few minutes they will be going outside to find and explore very special prairie insects.
5. Demonstrate for students how to best look for insects in the prairie. Show them that the best way to look for insects is to watch for movement. They should crouch down, pull back some grasses with their hands, and just wait for a few minutes to see if they find insects crawling, hopping, or flying around the soil. Once they find an insect, they will need to draw it and write about it on their paper.
6. Hand out a blank sheet of paper (or nature journals), pencil, and clip-board to each student. Demonstrate how to set up their journals and draw an example of how they should describe insects. **See example at end of this lesson!**
7. Assign students to adult leaders. Depending on chaperons, try to make the adult to child ratio as small as possible. Make eye contact with the adult chaperons and teachers. Explain to them that they will each get a small group of students. When the class gets outside, they should talk to their students and ask them questions about the insects and help them make observations.
8. Once the groups are divided, have all the groups form a single file line to get ready to head outside. Make sure that the students have all of their materials. Remind students that naturalists are happy outside, explorers, adventurers, respectful, and quiet. They ask questions, use words, numbers and pictures, and share their discoveries.
9. Direct adult chaperons to split up into the prairie with their groups and see if they can find insects in the prairie. Make sure that groups are fairly close to one another. Remind students that if they find an insect they should draw it on their piece of paper. Rotate among the groups to assist in the investigation.
10. After about 10 minutes, ask students and adult chaperons to come together. Instruct students that while they are walking to go back inside, they should think about the discoveries they made and get ready to share them with the other naturalists.



11. Once inside, walk around the room and look at the students' data sheets. Ask students what insects they found. Ask students to describe the insects. Ask students to explain how and why they knew it was an insect. Which type of insect did they find the most of? Which insect surprised them? Which was their favorite?
12. Leave students with more questions rather than answers. Do insects all eat the same plants? How do insects chew their food? Do they live in groups or by themselves? Do adult insects look like baby insects? What type of insects do they have living in their yard or at their school? What do insects need to survive. How are their needs similar and different than the other plants and animals?
13. At the end of the lesson, explain to students that today they discovered how magical insects of the prairie can truly be if they just look closely at them. Tell students to keep returning to the prairie and investigating the question, "What insects live in a prairie?". Remind them that they can find insects ANYWHERE (at home, on their lawns, at school, etc.)!

### BACKGROUND INFORMATION:

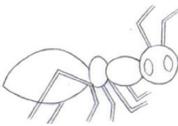
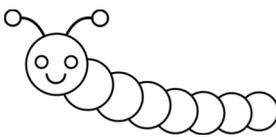
Insects and other invertebrates are vital to the life of the prairie, oak savanna, and sedge meadow ecosystems. They are the largest group of grazers in the prairie, transforming plant matter into protein (in the form of their bodies) that can be eaten by a large number of vertebrate species. However, their value goes far beyond their use as food for other species. Insects such as bees and moths pollinate many prairie flowers. Insects, worms, and other creatures decompose dead plants and return the nutrients to the soil. Ground-dwelling species like ants aerate the soil. Some insects and spiders prey on and parasitize plant-eating species, keeping their populations from devastating the plants.

**Butterflies:** Butterflies can often be seen during the warmer months of the year flying from flower to flower feeding on nectar. Some species can also be found "puddling," or visiting wet patches of sand or grit. Closer inspection of leaves may reveal larvae or eggs of butterflies. The butterfly garden (in front of the Prairie Learning Center) and the Tallgrass Trail are good places to seed butterflies on the refuge.



**Ants:** After a prescribed fire, visitors to the refuge may notice mounds of dirt scattered throughout the prairie. These are ant mounds, built by some of the many ant species on the refuge. Ants build mounds to collect the sun’s heat and regulate the temperature inside the nest chamber. Ants serve important roles in the prairie, including mixing and aerating soil, feeding on other invertebrates, and aiding in the decomposition process. Ants have symbiotic relationships with plants such as sunflowers. These plants produce nectar outside of their flowers that the ants feed on. In exchange, ants will attack plant-eating insects that approach, protecting the plant. More information about prairie ants can be found here: <http://www.npwrc.usgs.gov/resource/insects/ants/index.htm>

### Journal Example

Date
Location
Time
<p style="text-align: center;"><u>Insects</u></p> <p style="text-align: center;"></p> <p>The ant was brown. It had six legs. It was fast.</p> <p style="text-align: center;"></p> <p>I found a caterpillar. I wonder what kind of butterfly it will be when it gets bigger.</p>