

Prairie Insect Survey



In a Nutshell



Students will be introduced to common insects and insect orders. Students will use their knowledge of insect orders to survey prairie insects found in the prairies on the refuge.

Grades 2 & 3
Season Fall, Spring, Summer
Location Bloomington Education & Visitor Center
Rapids Lake Education & Visitor Center



Learning Objectives

After participating in this activity, students will be able to:

- Describe how scientists organize living things into groups based on their similar physical characteristics.
- List at least 2 physical characteristics of at least 3 insect orders presented (butterflies/moths, dragonflies, bees/ants, flies, grasshoppers, beetles, true bugs).
- Explain that the greater the variety of insect orders collected on the prairie the healthier the habitat.

Literature Connections

- ***Bugs for Lunch*** by Margery Facklam
- ***1000 Facts on Bugs*** by Barbara Taylor
- ***Butterfly Eyes and Other Secrets of the Meadow*** by Joyce Sidman
- ***Do Bees Sneeze?*** by James K. Wangberg
- ***Insects do the Strangest Things*** by Leonora and Arthur Hornblow
- ***Bugs: Look Closer*** by Sue Malyan
- ***The Bug Scientists*** by Donna M. Jackson
- ***What is the Animal Kingdom?*** by Bobbie Kalman
- ***How Do Flies Walk Upside Down?*** by Melvin & Gilda Berger
- ***Joyful Noise*** by Paul Fleischman

Pre-activity

Introduce students to the word “taxonomy” by reviewing the characteristics of animal groups. Ask students to closely compare the most common insect orders they may encounter in the prairie.



Minnesota Valley National Wildlife Refuge

On-site Activities

Students will use insect sweep nets and hand lenses on the prairie to catch, observe, and record data about the insect orders they have found.

Classroom Connection

Spend an afternoon collecting insects around the school yard. Incorporate the data in math class by comparing the insects students caught on the prairie with the insects found in the school yard. Introduce students to the concept of diversity by asking them to compare the data they collected from each site. Use bar graphs and pie charts to determine which habitat (prairie or school yard) had the greatest variety of insect families and which had a greater population of insects. Examples of graphs can be found on page 7.

Teacher Resources

- ***Pet Bugs: A Kid's Guide to Catching & Keeping Touchable Insects*** by Sally Kneidel
- ***More Pet Bugs: A Kid's Guide to Catching & Keeping Insects & Other Small Creatures*** by Sally Kneidel
- ***Milkweed, Monarchs and More: A Field Guide to the Invertebrate Community in the Milkweed Patch*** by Ba Rea
- ***The Song of Insects*** by Lange Elliot and Wil Hershberger



Prairie Insect Survey Pre-Activity

Materials

- *Tree of Life* Poster
- Animal Photographs- one from each class of vertebrates
- *Common Prairie Insect Order* sheets- one per student
- 7 Insect Order Riker Mounts
- Invertebrate group examples (11x17 pictures)
- 7 hand lenses (1 per small group)
- *Common Prairie Insect Orders* answer key

Introduction

Introduce students to the word **taxonomy**. Simple definition: *the organization of living things put into groups based on similarities*. Ask students to think about characteristics they would use when asked to sort a group of items? Students' answers should include physical characteristics that most likely will not change. What is the purpose of grouping animals into categories? It creates one name for each living organism scientist can use when categorizing organisms.

Categories: Kingdom, Phylum, Class, Order, Family, Genus, Species.

Memory helper: King Phillip Came Over For Good Soup.

To introduce the categories, begin with the largest. Explain to students that most living things can be divided into two groups, also known as **kingdoms**, which is based on how they obtain food. A living thing will either make its own food (*plants*) or it must find food to eat (*animals*). Each category after kingdoms are more specific about which characteristics the organisms have in common.

The animal kingdom can be broken into smaller groups, also known as phyla, depending on the physical characteristics of the living organism. Introduce students to the two largest **phyla**: *invertebrates* and *vertebrates*. Explain to students the different characteristics between these two groups (*backbone versus no backbone*).

After phylum, the groups further break down into **classes**. Show students the classes of vertebrate pictures one by one and ask them to name the 5 major classes (*mammals, fish, birds, reptiles, amphibians*). Use the *Tree of Life* poster as a clue if they need help. Tape each picture on the board as students name them and title each category ("mammals," "birds," "reptiles," "amphibians," and "fish"). Ask students to name a few of the major characteristics common among each of the classes. See below for a couple characteristics of each if they are having trouble:

- **Reptiles:** have lungs to breath on land; part/all of body covered in scales; cold-blooded
- **Fish:** breath with gills underwater; some of scales; cold-blooded
- **Mammals:** hair/fur; produce milk for young; have live young; warm-blooded
- **Birds:** feathers; warm-blooded; wings (although not all able to fly); hard shelled eggs
- **Amphibians:** cold-blooded; skin is a permeable membrane w/ no scales; unshelled eggs; live at least part of their life in water

Discuss with students that all other organisms in the animal Kingdom are invertebrates (*no backbone*). Using the invertebrate group example pictures, show students some of the different phyla and classes and what types of organisms are included with each one, leaving the insect class pictures for last.

Insect Order Activity

Before looking more closely at the 7 common prairie insect orders, discuss briefly with the class the 5 basic physical characteristics of insects. Ask students if they can name any of them first and then make a list on the board together as a class. Insects have:

- * what we call an **exoskeleton** or a hard, shell-like covering on the outside of its body
- * three main body parts: **head, thorax, and abdomen**
- * a pair of **antennae** on top of their heads
- * **three pairs of legs** used for walking, but some insects may have a pair of legs that are specially designed for jumping
- * two pairs of **wings**

Next, explain to students they will be taking a closer look at the insect class by looking at the seven common prairie insect **orders**, which is the next, more specific taxonomic group. Hand out a copy of the ***Common Prairie Insect Orders: How They Look Different*** observation sheet to each student and divide the class into 7 groups. Inform students that there are many more orders than the 7 on their sheet, but these are the most common ones found in the prairie.

Hand out a riker mount and a hand lens to each group. Once they have their riker mounts, instruct students to look closely at each riker mount as it rotates to their group. They should make observations and record, in words and/or sketches, at least 3 characteristics of each order found on their observation sheet.

After each group has seen all 7 riker mounts, have them discuss in their small groups the differences they noticed between each insect order adding to their observation sheet if needed. As a class, briefly review what characteristics the groups noticed about each insect order. Use the Common Prairie Insect Orders answer key for help as needed.

Looking closely at the differences will help them with identification when they go to the refuge and catch insects on the prairie. Teachers should keep the students' sheets and bring them to the on-site field trip.

Field Trip Information: Explain to students that during their refuge fieldtrip they will be using nets to catch insects in the prairie. Remind them what it means to be a naturalist, because when we collect insects we must be respectful and gentle with them while we make observations about them. Students should wear old clothes and shoes in case they get wet or dirty. **Long pants and close-toed shoes are highly recommended.** Shorts and flip flops are not appropriate. Encourage students to apply sunscreen and insect repellent if they choose **BEFORE** traveling to the refuge.

Naturalist: _____ Date: _____ Location: _____



Prairie Insect Guide

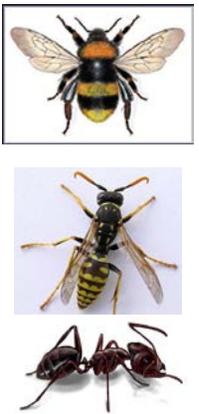
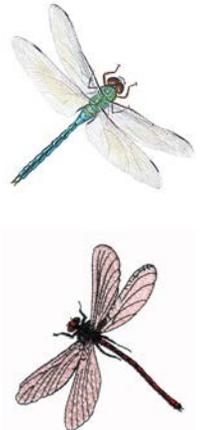


Use words, drawings, and color to describe the differences between each insect order.

Insect Order	Description of Order (use words and sketches)
Flies	
Bees/Ants/Wasps	
Dragonflies	
Butterflies/Moths	
Beetles	
True Bugs	
Grasshoppers/ Crickets	

Common Prairie Insect Orders

How they Look Different (Answer Key)

True Bugs	Butterflies & Moths	Bees, Ants & Wasps	Flies	Grasshoppers	Dragonflies & Damselflies	Beetles
<ul style="list-style-type: none"> wings fold to make an X flattened body biting mouth 	<ul style="list-style-type: none"> wings: large and wide, many are colorful, covered in scales thick body two antennae proboscis mouth 	<ul style="list-style-type: none"> black yellow warning patterns wasps thin waist bees "furry" and have enlarged an abdomen 	<ul style="list-style-type: none"> two pointed wings mostly black large eyes 	<ul style="list-style-type: none"> large hind legs green, brown, gray accordion looking wings 	<ul style="list-style-type: none"> wings: elongated, no scales, transparent, less colorful long thin bodies no antennae 	<ul style="list-style-type: none"> wings: form hard outer "shell", fold in straight line down the back shell may also be wings long or short antennae variety of colors 

Prairie Insect Survey On-site Activity

Materials

- *Classification of Animals* poster
- Prairie Insect Survey Tally sheet w/ Journal Page (1 copy per student)
- Clipboards/Pencils (1 per student)
- Per group of 4-6 students:
 - 2 insect sweep nets
 - 1 aerial net
 - 2 large insect collecting jars
 - 1 bug box with a magnifying top (yellow and green)
 - 2 hand lenses
 - 1 *Insects* guide book
 - 1 quick reference laminated insect booklet
 - 1 *Common Prairie Insect Guide* answer key sheets
 - 3-4 small, clear magnified bug boxes (for adult chaperones)
- A large insect enclosure for butterflies, dragonflies, and damselflies (teacher or staff will put insects into this enclosure if caught)

Introduction

(20 minutes)

Using the *Classification of Animals* poster, review with students how animals are classified as either *invertebrates* or *vertebrates* and what this means. What are the 5 vertebrate classes? Next, review the main characteristics of insects that students learned from the pre-activity. Then make a list of the 7 common prairie insect orders and discuss what they learned about each in their pre-activity. Explain to students that for this activity they will conduct a prairie insect survey like real *entomologists* (insect scientists).

Students will use the insect sweep nets to collect a variety of prairie insects which they will examine and count on their Prairie Insect Survey Tally datasheet. If the weather is nice, groups will tally their insects outside. If not, they will bring their jars back into the classroom to observe and tally the insects. **Do not open any of the jars inside the Visitor Center.** Groups can continue to release their insects back into the prairie and do more sweep netting as time allows making sure to tally what they find each time before releasing them! Do your best as a group to identify into one of the 7 orders what type of insect you find – do not worry if you can't figure it out or have to take an educated guess.

Insect Survey

(50 minutes)

Outside, demonstrate for the students the correct way to use a sweep net and an aerial net. Stress the importance of using each net correctly. Aerial nets are used only for large insects (butterflies, moths, large dragonflies) flying through the air, not in the prairie grass because it will rip the net. Sweep nets are used only for sweeping through the prairie grass, because the larger flying insects' fragile wings could be damaged while trying to move the insects into the jar. Students should take turns using the nets and holding being the insect jar keeper.

Minnesota Valley National Wildlife Refuge

Demonstrate with a student helper, show the other students an example of placing insects into their jar without injuring the insect:

- With a sweep net, put hand around net near the opening and gently shake net so insects drop to the bottom. Have a student with a jar be ready with the jar lid off. Gently cup the bottom of the net and turn it over the top of the jar, turning the net inside out and getting as many insects into jar as possible without injuring them. Jar keeper quickly puts the lid back on
- With an aerial net, the netting is clear so it is easier to see where the insect is in their net. These insects with fragile wings will fly higher in the net when caught so it is important for the person with the net to hold the net opening towards the ground while holding the netting up towards the sky (creating a cone). The student with the open jar can reach into the net and gently place jar over insect.
- If a large butterfly or dragonfly is caught, please have adult chaperone or refuge staff assist students in putting it into the large insect enclosure
- **BE AWARE:** Be sure not to catch its legs on the side of the jar or lid. Once the insect is in the jar, lightly tap the jar with your finger to ensure the insect's legs will not be caught on the closing lid.
- Students **should avoid catching bees and wasps**, as these insects will sometimes sting, although they are more focused on trying to fly away than stinging their captor. If a student accidentally catches a bee or wasp, they should hold the net far away from their body with the opening facing the sky until the bee or wasp fly away.
- Refuge staff will try to catch bumble bees, dragonflies, and butterflies to add to the large insect enclosure for students to see up close

Show each group the proper way to carry their equipment (handle pointing down) to prevent injury and to protect the equipment. Ask groups to spread apart to conduct their insect surveys-there is a lot of prairie space to use!

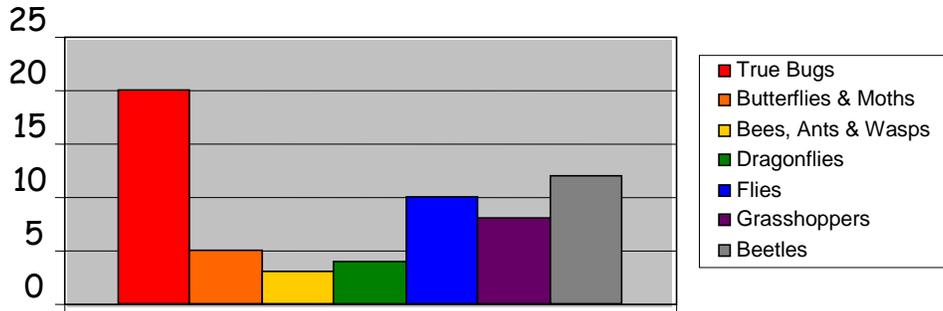
Investigation **(25 min)**

Gather students back either outside the Visitor Center or inside in the classroom to allow them the opportunity to examine their collection more closely. Students can bring in their jar of most recent catches if they want, but need to remember not to open the lid in the building! Students should tally their totals for each of the orders if they haven't already.

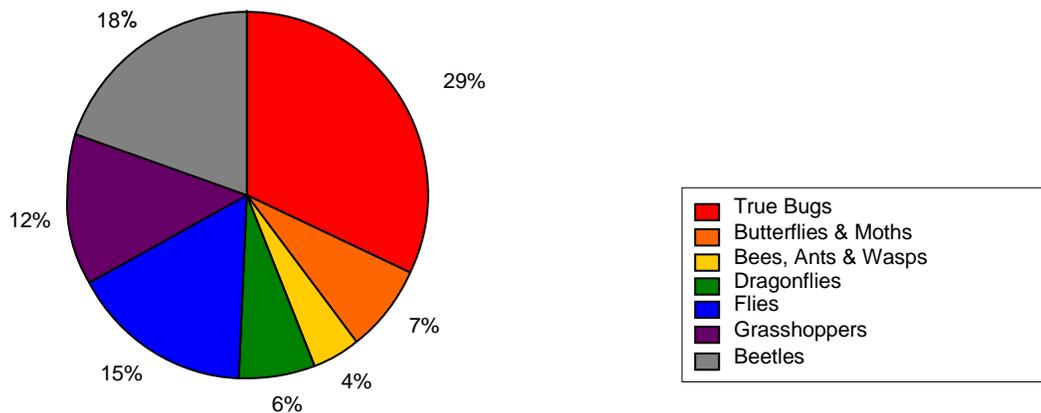
Gather and record each group's data on the board for a class total of each of the insect orders. Create a bar graph for the class data to show the insect number caught from each insect order. Another option is to figure out percentages of total insects in each order and create a pie graph with that data. See examples on the next page.

Number of Insects Caught (Organized by Order)

Number of Individuals



Percentages of Insect Orders Caught (Organized by Order)



Management Connection

The health of a natural habitat can be determined in a number of ways: the presence (or absence) of certain plants or animals, physical or chemical parameters, or the variety of species present. This biological variety, called *biodiversity*, is often used by biologists as a measure of health in native and restored prairies. Biodiversity of species is usually measured within one animal or plant group. For example, the biodiversity value is a simple calculation: $(\# \text{ of insect orders collected}) / (\text{total } \# \text{ of insects})$

See the example graphs on page 7, which demonstrate this management connection.

Wrap-up

(25 minutes)

Give students enough time to complete their journal page for this trip to the refuge and then discuss the following questions:

- Which insects seem to be most common on the prairie? Which group was least common? Why do you think this is the case?
- Which prairie insects were hardest to catch? Why?
- Why do you think there are so many bees and wasps on the prairie?
- Did you catch anything other than insects in your net? Why might spiders like to live in the prairie?

If they brought jars with insects in them inside, have students bring their jars with them to release their insects back into the prairie before getting back on the bus. Depending on the class and time, this can also be done by refuge staff.

Minnesota Valley National Wildlife Refuge

Naturalist: _____ Date: _____ Location: _____

Weather: _____

Prairie Insect Survey



Insect Order	Tally	Totals
Flies		
Bees/Ants/Wasps		
Dragonflies		
Butterflies/Moths		
Beetles		
True Bugs		
Grasshoppers/ Crickets		
Other		

Prairie Insect Survey Rainy Day Alternatives

Materials

- Riker mounts
- *Prairie Insect Guide* sheet (1 per student)
- “All about Bugs” DVD
- Insect Jeopardy game and board (questions and answers in curriculum)
- Insect Clever Catch Ball (answer key in curriculum)
- Plastic insects
- Insect jars (one per group)
- *Prairie Insect Survey* tally data sheet (1 per student)

Insect Order Activity

Students will be taking an even closer look at 7 orders of the insect class. Divide the class into 7 groups. Hand out a copy of the *Prairie Insect Guide* observation sheet to each student. Instruct students to compare insect orders and record in words or drawings at least 3 characteristics of each order found on the paper. Remind students to focus on the differences between the orders, as this will help them tell the orders apart when they catch insects on the prairie.

If students have already done this activity in the classroom, review. As a class, have them compare the different orders of insects. Write comparisons on the board, or have the students write the comparisons down in columns you have created on the board.

Insect “Sweep Up”

(30 min)

Students will be doing a simulated insect sweeping activity. Before the students arrive, scatter the plastic insects throughout the visitor center; in easy and hard to see locations. The students will be going on a scavenger hunt to collect the insects. They should collect their insects in their jar, and they have had 15-20 minutes of searching, gather them back in the classroom. Pass out the *Prairie Insect Survey* tally data sheet to each team and ask students to tally the number of insects they caught in each order listed.

Wrap-up

(30 min)

Ask students how they might represent their data visually. Help them illustrate their class totals using a bar graph, a pictograph, and/or a pie chart. Use the examples on page 6 for reference.

Video

(23 min)

Show the video “All About Bugs” in the auditorium or in the classroom.

Insect Jeopardy

(30 min)

Play insect jeopardy using the game board. The directions and questions are attached.

Insects Clever Catch Ball

(~30 min)

Divide the class into two teams. Line up the teams facing each other in a large space of the visitor center or outside. Instruct the students, beginning at one end of the line, to toss the Insects Clever Catch Ball to the student directly opposite them. If the student can correctly answer the question closest to where his/her right thumb lands when they catch the ball, they collect 1 point for their team. If the student answers incorrectly, the group will not receive a point and the ball must be tossed to the next player in line on the opposite team.

Keep track of each team's points and play until all 39 questions have been answered or you run out of time. Remind students to listen carefully because questions might be repeated making it easier to gain points for their team. Questions and answers that will be on the ball are found starting on page 12. If you prefer not to let students repeat questions, create a set of your own questions to ask. .

Minnesota Valley National Wildlife Refuge

Insects Clever Catch® Question and Answer Sheet...

Question	Answer
1. How many legs do insects have?	six
2. What are the three body parts of an insect?	head, thorax, abdomen
3. Is a bumblebee an insect?	Yes
4. Is a spider an insect?	No
5. What do we call the process in which eggs or larvae turn into adult insects?	metamorphosis
6. If an insect sheds its exoskeleton, but doesn't change into a different form, we call it a _____.	nymph
7. What are the four stages of complete metamorphosis?	egg, larva, pupa, adult
8. What are the three stages of incomplete metamorphosis?	egg, nymph, adult
9. The hard, outer part of an insect's body is called its _____.	exoskeleton
10. Insects have two _____ on their heads that help them smell.	antennae
11. Some insects have _____ to help them fly.	wings
12. Spiracles are openings in the insect's body that help it _____.	breathe air
13. To which body part are an insect's legs connected?	thorax
14. Which is the largest group of insects?	beetles
15. Is a grasshopper an insect?	Yes
16. What is your favorite kind of insect?	open answer
17. Is a tadpole an insect?	No
18. Some butterflies _____ to a warmer climate in winter.	migrate
19. What 3 things do all insects need to live?	1. air 2. a place to live 3. food and water
20. The environment that an insect lives in is called its _____.	habitat
21. Name an insect that is green?	grasshopper, praying mantis, etc.

Insects Clever Catch® Question and Answer Sheet...

Question	Answer
22. Name an insect that is yellow and black?	bumble bee, wasp, etc.
23. Name an insect that makes noise?	cricket, bee, etc.
24. What are some good things that insects do for us?	pollinate flowers, eat other insects ...
25. Why are some insects different colors?	open answer
26. What would the world look like if you were the size of an insect?	open answer
27. How long do insects live?	Some live for many years; some live for only a few hours
28. What are some habitats for insects?	water, trees, grass, soil, etc.
29. Insects that live together in large groups live in a _____.	colony, hive
30. True or False: Ants can pull 52 times their own weight.	True
31. Name an insect that is a pest.	cockroach, carpenter ant, termite, etc.
32. Is a worm an insect?	No
33. TRUE OR FALSE: All insects have wings	False
34. Do some insects eat other insects?	Yes
35. Name a poisonous insect.	scorpion, bee, mosquito, etc.
36. Caterpillars wrap themselves in a _____ where they change into butterflies.	chrysalis or cocoon
37. Fly larvae are called _____.	maggots
38. Name an insect with a stinger.	scorpion, bee, wasp, yellow jacket, etc.
39. Which insect makes a food that we like to eat?	bees - they make honey

INSECT JEOPARDY

Use the game board provided at the refuge or set up as described below.

HOW TO SET UP:

- Using a dry-erase board, write the categories at the top, with the point amounts listed underneath. Then, as the game is played, you can erase each number that is chosen. Example:

BUTTERFLIES	BEES & ANTS	BEETLES	DRAGONFLIES	WILD!
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400
500	500	500	500	500

- Split the students into two teams.
- Have them choose a team name (preferably a MN animal name).
- Each team needs to choose a captain who will speak for the group.
- Have an adult keep tally of the points for each team.

HOW TO PLAY:

- Flip a coin to see which team goes first.
- Explain that the points indicate the difficulty of the question.
- An individual from the first team chooses a category and point value. Take turns asking each student to choose.
- Decide how you want each team to answer: As a group (the team can decide what to answer, but ONLY the captain can give the answer, after everyone has agreed) OR individually (with no help from their teammates).
- If they get it right, they get the points.
- If they get it wrong, there is no penalty. However, the other team can now try and answer the question. The other team can discuss the question as a group but then ONLY the captain can give the answer, after everyone has agreed.
- If the other team gives the wrong answer as well, the question is dropped and the answer is given. The team who was next to pick a question is now able to take their turn.
- Clarify wrong answers!

HOW TO END:

The game ends when either all the clues are chosen, or each student has had a turn to choose a question.

Butterflies

100 points

- Name one species of butterfly found in MN Monarch, Swallowtail, Painted Lady, Fritillary, Viceroy, etc
- What do butterflies eat? Nectar
- What do butterflies start out their life as? Caterpillar

200 points

- All butterflies have six legs and feet. True or False? True
- Are butterflies cold blooded or warm blooded? Cold Blooded
- What do butterflies use to smell? Antennae

300 points

- Butterflies use what body part to taste food. Feet
- What is another name for a butterfly larva? Caterpillar
- How do butterflies survive the winter? Migrate or hibernate

400 points

- Name the three body parts of the butterfly Head, thorax, abdomen
- What is a butterfly's mouthpart called? Proboscis
- What are the four stages of a butterfly's life called? Metamorphosis

500 points

- What body part do butterflies use to breathe? Spiracles on the abdomen
- What color flower do butterflies prefer? Red, yellow, pink, or purple
- Name the four stages of metamorphosis. Egg, larva (caterpillar), pupa (chrysalis), and adult

Bees, Ants and Wasps

100 points

- Name the two colors on a bee Black and yellow
- What do honeybees eat in the winter? Honey!
- True or False: Bees have a tongue True

200 points

- True or false: Ants are very clean animals True
- What do ants use their antennae for? Touch and smell
- What body part do ants use to hear? Use feet to sense vibrations

300 points

- True or false: Bees fly 14 miles per hour True
- Name the only insect that produces food that humans eat honeybees
- Do ants live alone or in groups? Group

400 points

- How many stomachs do ants have? 2
- What is an ant's mouthpart called? Mandible
- How do bees tell other bees where and how far away food is? "dancing"

500 points

- What color can bees not see? Red
- What is the queen bee's job? She only lays eggs
- How many mother ants are in any one colony? 1

Beetles

100 points

- Name one species of beetle Ladybird, Tiger, Click, Japanese, Diving, Bark, Ground, Water, etc.
- Beetles live on land and in water, Y or N Yes
- All beetles have claws on each foot, Y or N Yes

200 points

- Beetles are the largest order of insects True or False? True
- What do beetles eat? Each species eats its own food, but altogether eat everything
- A firefly is a type of beetle, T or F True

300 points

- What is the hard outer shell of a beetle called? Exoskeleton
- What is the name of a beetle larva? Grub
- Name a beetle predator Birds, ants, wasps, snakes, toads, Fish, frogs, salamanders

400 points

- What body part do beetle wings attach to? Thorax
- How many wings do beetles have? 4
- Name one way beetles communicate sound, vibrations, chemical release

500 points

- Name the only continent where beetles do not live? Antarctica
- How do beetles eat their food? By chewing it
- How do you tell beetles from other insects? Their wings meet in a straight line down their back

Dragonflies

100 points

- How many wings do dragonflies have? 4
- What do dragonflies eat? Mosquitoes and tiny insects
- How many legs do dragonflies have? 6

200 points

- Do dragonflies bite people? No
- Can dragonflies fly backwards? Yes
- A green darner is a type of dragonfly, True or False? True

300 points

- What is a dragonfly nymph? A young dragonfly
- Where do young dragonflies live? In a lake or wetland
- Where do female dragonflies lay their eggs? in still water-not rivers!

400 points

- What body part do dragonfly wings attach to? Thorax
- Name a dragonfly predator? Birds, snakes, frogs, fish
- How fast do dragonflies fly? Around 30 miles per hour

500 points

- How long have dragonflies been on the Earth? Since the time of dinosaurs
- Dragonflies are also called “mosquito hawks” True or False? True – they eat a lot of mosquitoes!
- All dragonflies die as the weather cools down in True or False? False! Green Darner dragonflies late fall. migrate south like monarchs

WILD!

100 points

- Name an insect with stripes Bees, caterpillars, butterflies
- Name one characteristic of a grasshopper Large legs, jaws for chewing, wings
- Name an insect that lives in the ground Ants, yellow jackets, beetles

200 points

- Name one characteristic of a butterfly Four wings, colorful, proboscis, wings have scales
- Name an insect that is poisonous when eaten Monarch Butterfly
- Name an insect that is camouflaged Many-grasshopper, leafhopper, Most beetles, ants

300 points

- What is another name for a butterfly larva? Caterpillar
- Name an insect that spends the first life in the water Dragonfly, mosquito, damselfly, part of its midge, mayfly
- Where do butterflies lay their eggs? On the undersides of leaves

400 points

- Name the order of insects that have an X marking on their back True Bugs
- Name an insect that migrates Monarch, Green darner dragonfly
- Name an insect that hibernates Ladybug, wooly bear, mourning cloak butterfly

500 points

- Name an insect that communicates with sound Cicadas, crickets, grasshoppers
- Name an insect that communicates with light Firefly
- Name an insect that communicates by dancing Bees