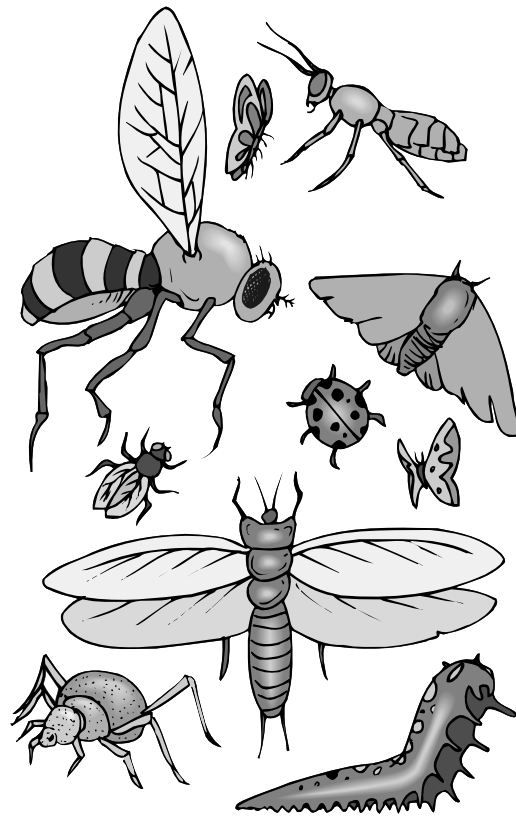


MONSANTO INSECTARIUM

Scavenger Hunt

GRADES 4-8



Saint Louis Zoo

Animals Always®

Scavenger Hunt

Monsanto Insectarium (4–8)

Teacher's Guide



Updated Summer 2011

APPROXIMATE TIME: 60-75 Minutes

Suggestions for Teachers:

1. The questions on this hunt take you through the Monsanto Insectarium building. The Insectarium is a popular exhibit and can get very crowded; allow extra time.
2. There is no admission to the Monsanto Insectarium.
3. Divide your students into groups of six or less with an adult to help each group.
4. Your students will need colored pencils and a calculator to complete this scavenger hunt.

Pre-visit activities:

1. Review these pages ahead of time with your students so they will have an idea of what they will be doing at the Zoo.
2. Be sure that your students are familiar with the terms adaptation, **camouflage** and **habitat**.
3. Review with students that an insect is characterized by six legs, three body segments: head, thorax, and abdomen and two antennae. Usually have wings and large compound eyes.

Post-visit activities:

1. Contact the Zoo's Library and Teacher Resource Center for resources including the ones listed below:

Videos:

Animal Classes: Insects

The Life Cycle of the Honeybee

Benefits of Insects

Zoocases:

Insects Zoocase

Other Resources:

Various activity books

Laminated Posters

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Answer Key

Because the animals at the Zoo are living creatures with very special needs, at certain times some of the animals referred to in this scavenger hunt may not be on public display. **Please remind your students to do their best to complete the hunt by carefully observing the animals they find and not to worry about any that are off display.** We update our scavenger hunts on an annual basis during the summer months to be able to provide you with the most accurate information about our animals.

Note to teachers:

Not all of the animals in the Insectarium are *insects*! In addition to insects, there are arthropods and other invertebrate phyla represented.

1. Three body segments (Head Thorax and Abdomen) Wings, Antennae
2. 5

Pill bug	Too many legs and body segments
Centipede	Too many legs and body segments
Red-knee Tarantula	Too many legs and only 2 body segments
Scorpion	Too many legs
Leopard Slug	No legs and only 1 body segment

3. Entomologist, other careers will vary
4. 1,500,000,000,000,000,000!!!
5. answers will vary
6. Malaria, West Nile Virus
7. Mealworm
8. Cockroaches
9. Termite Mound, African Termites, cools the air in the underground nest by heat rising into its chambers, cooling off, and sinking back down to the nest.
10. Note: The "DID YOU KNOW" sign is located on the wall next to the termite mound. $(365 \text{ days}) \times (6000 \text{ eggs a day}) \times (20 \text{ years}) = 43,800,000$
11. Yellow Jackets
12. Bird eating Tarantula

13. They are not because they have too many legs, not enough body segments, and no antennae
14. Spider web, sticky and very strong (Located on the door opposite of the Bird eating Tarantula exhibit)
15. Decomposition, competition, pollination
16. Answers will vary
17. 9 days (Located next to Hide Beetle Exhibit)
18. Frogs, fish and sometimes on humans (parasite) need blood to survive
19. As anticoagulants
20. To make vaccines
21. Answers will vary
22. Answers will vary
23. Possible answers listed in the table below

White-eyed Assassin Bug	Rhinoceros Beetle
Lady Bug Beetle	Scale Insects
Midge Larvae	Aphid
Wheel Bug	Stink Bug
Wasp Larvae	Gypsy Moth Larvae

24. Flowering Plants or animals
25. Beetle
26. Hissing Cockroach
27. Hears sound through its legs
28. ¼ mile
29. American Burying beetle, endangered
30. Help decompose dead animals
31. Life cycle should contain: egg, caterpillar (larval), chrysalis (cocoon), adult (butterfly)
32. Answers will vary
33. Picture will vary

Name _____

Scavenger Hunt

Monsanto Insectarium 4-8

Student Activity Pages

There are more species of insects than any other animal. Their diversity is due to the length of time they have roamed the earth. Their individual adaptations have allowed insects to inhabit and thrive in almost any area on the globe! Although many insects are considered pests, they can be very beneficial to humans, as well as other animals. As you walk through the Insectarium, note all the facts about insects that make them so fun to learn about!

START YOUR HUNT AT THE MONSANTO INSECTARIUM

AM I AN INSECT?

1. What are the characteristics of an insect?
2. Complete the Am I an Insect activity. How many were not insects? _____ How do you know? List the names of two organisms and say why they weren't insects.
3. What kind of scientist studies insects? Can you think of another career where insects are the focus?
4. **DID YOU KNOW**-- An aphid will produce 1.5 heptillion offspring in one summer! Write out the number _____

THEY'RE EVERYWHERE! DESIGNED FOR SUCCESS

5. Select one habitat that you might find in Missouri and describe an insect that lives in that habitat. Have you seen this insect before?
6. **DID YOU KNOW--** Mosquitoes are the most dangerous insects to humans! What diseases do they spread? (Hint: one is in the news a lot)

DUNE BUGGIES- EXTREME SURVIVAL

7. Find and investigate the Darkling Beetle exhibit. Now find the Darkling Beetles information plaque on the wall. What is the larval form of the beetle called?



NOT HOME ALONE- WHO'S HOME?

8. What insect shares its home with us and eats our food? (Hint: Hey mom! What's there to eat in the refrigerator?)

ARCHITECTS WITHOUT BLUEPRINTS- MASTER BUILDERS

9. Turn around and look at the huge brown structure behind you. (Hint: It's taller than you are!) What is this giant structure, what made it, and what purpose does it serve?
10. ****Optional** DID YOU KNOW--** A queen termite lays approximately 6000 eggs a day. How many eggs will she lay in her lifetime if she lives 20 years? (Hint: there are 365 days in a year)

11. What stinging creature "invented paper"? (Hint look for a **DID YOU KNOW** sign)

WHAT A TANGLED WEB WE WEAVE

12. What spider is not afraid to be seen? It spends most of its time on the forest floor.
(Hint: don't look for something small!)

13. Are spiders insects? Why or why not?

14. **DID YOU KNOW**-- What do hummingbirds use to make their nests? Give two reasons why this is a good building material.

WHO NEEDS INSECTS? WE DO! THE ROTTEN TRUTH

15. List three reasons why we need insects.

16. Which insect do you feel is most beneficial to humans? Why?

17. **DID YOU KNOW**-- How long can a cockroach live without its head? _____

IT'S OFF TO WORK WE GO

18. Have you ever seen leeches before? Where do they live, and what food do they need to survive?

19. How are leeches used by humans?

20. **Drugstore or BugStore** -- What is honeybee venom used for?

THANK A BUG FOR YOUR FOOD/ YOU GONNA EAT THIS?

21. A long time before Fear Factor, many people were eating insects as part of their daily diet. Which of the delicacies would you like to try? (Look for a display in the middle of the room)

22. Can you think of other ways insects help to provide food for us?

NATURE'S PEST CONTROL

23. Complete the following chart with information from the display.

Name of predatory insect	Name of prey insect

CAN'T LIVE WITHOUT 'EM

24. Watch the short video clip. Describe what you see or rather what you don't see in the last frame of the video.

25. **DID YOU KNOW**-- 1 out of every 4 animals is a(n)_____.

BLINK, BUZZ, CHIRP, HISS, SNIFF- INSECT COMMUNICATION

26. Visit the Insect Communication room. Listen to the different insect sounds. What insect creates a sound like someone telling you to be quiet?

27. Where (on its body) does this animal hear sounds?

28. **DID YOU KNOW**-- From how far away can a male cicada's love song be heard?

INVESTIGATING INSECTS- BUG U- A LEARNING ZONE

29. What type of native beetle is the St. Louis Zoo trying to help conserve and what is its status in the wild?

30. What do these beetles do that is beneficial for the environment?

Quick Change Artist From Eggs To Butterfly

31. Draw a diagram of a butterfly's life cycle. Be sure to label all of the stages! What is the process called when it changes from one form to a new one?

MARY ANN LEE BUTTERFLY WING

32. Using one of the available identification cards, find as many different butterflies as you can. List them below.

33. Choose your favorite butterfly and create a drawing of it using your colored pencils.