

Oconto County 4-H

As you work on your project throughout the year, you may find it helpful to take pictures and keep notes. They can come in handy as you plan for ways to share what you have learned and look back on what you've done.

Suggestions for showcasing your project work:

- Tell about what you've learned at **Speaking Fest**
- Show what you've learned at **Demonstration Fest**
- Take your project to the **Oconto County Fair**
- Enter local contests **outside of 4-H** like essay contests, shows and speech contests
- Look for creative ways to share what you've learned with your **club**, your **school** and your **community**

Stay in Touch!

Here's how you can contact your key leader(s) this year:

Glori Heimke (920) 846-0195

Adult Leader

Keith Schardt (920) 590-1397

Youth Leader

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WELCOME TO THE OCONTO COUNTY 4-H

ENTOMOLOGY

PROJECT!



*The 4-H project literature **Creepy Crawlers** (available from 4-H CCS) is a great introduction to the world of entomology. You will learn many things including the parts of an insect, mouth types of insects, insect communication, and many other interesting things.*

To get you "buzzing" in the entomology project, we have outlined an activity for each month of the 4-H year.



Have fun!

Beginning of the Year

Here is what I would like to learn this year (my goal) in the Entomology project:

During the Project Year

Here are the steps I will take to meet my goal:

During the Project Year

Here's what I learned, and how I felt about my project experience:

Did you enjoy ENTOMOLOGY?

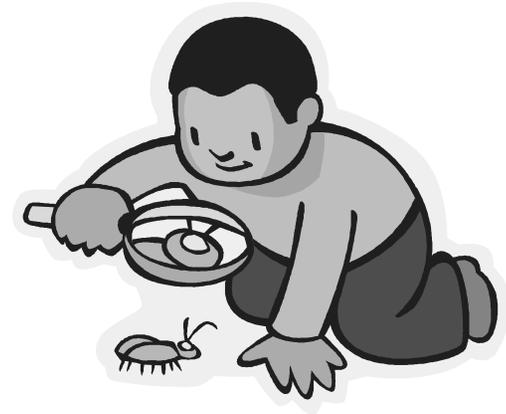
Was this project fun for you? If not, **that's okay**. You may not like every project. What's important is that you **tried something new** and that you **learned something**.

What did you learn in this project? What could you have done better? What are you really proud of? These are all good questions to think about when you finish a project.

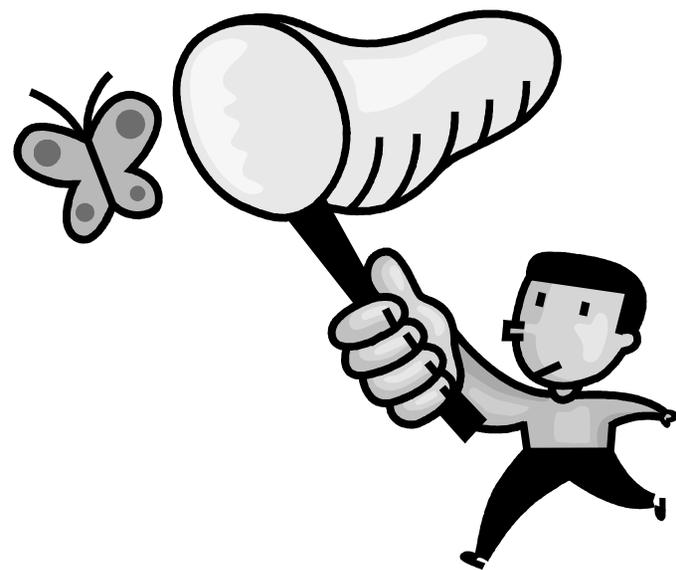
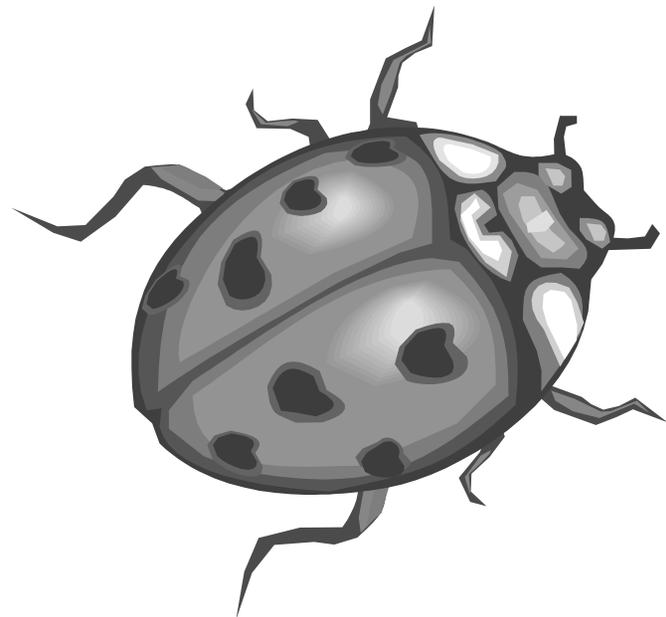
Thanks for trying out the ENTOMOLOGY PROJECT!

If you liked this project, you should consider signing up for another year!. You will get to dig deeper into the project and discover many new and exciting things!

It's never too soon to get started on next year's projects!



See you in the next project year!



December

How can you make an insect collection in December? You'll be able to stay cozy and warm inside your house, while you make *virtual* insect collection. Click on the words **BUG COLLECTOR** at the Michigan State University Extension web site:

<http://web1.msue.msu.edu/cyf/youth/eoe-games/index.htm>



January

How are you dealing with the cold weather? What do you think insects are doing now that we are in the midst of a cold Wisconsin winter?

An insect's body temperature works differently than that of **warm-blooded animals** like birds and mammals. We "make" our own heat, while insects (and things like snakes) get warmed up by the air temperature. That means that if it's cold outside, insects are going to be too cold to move. So if the insects aren't out moving around in the cold, **WHERE ARE THEY?**

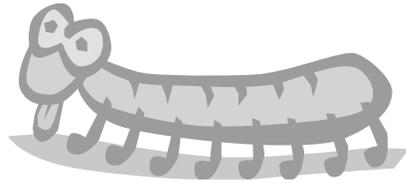
Ready for a cold-winter challenge? Bundle up in your winter clothes and go outside, and start looking for "bugs"! Here are a few places to check for starters:

- Look in the **rolled-up leaves** of trees and shrubs
- Peek in crevices behind **bark** on trees
- Lift up a **log** or a big old **rock**
- Poke around in a big pile of leaves **under the snow**

HINT: If you have chickadees around, keep an eye on them. There is nothing a chickadee likes more in the winter than a tasty treat of “chilled” insect eggs or “frosty” larvae.

NOTE: Ever see any of those funny bumps in the middle of stems or on the leaves of trees? Those are **galls**. If you find any galls, bring them in, and try the **Gall-y Gee Whiz** activity that can be found at:

www.uky.edu/Ag/Entomology/ythfacts/allyr/yf806.htm



February

Which insect has a spring-loaded tail, and can be found in the **snow** on sunny, winter days? Need another hint? This animal is so **TINY** that you would never find it if you didn't know what you were looking for! The common name for this little critter is a **snow flea**, but scientists call it the **springtail**. It's not really a flea, and it may not even be an insect. Scientists are in a bit of a discussion over whether or not **snow fleas** are insects or arthropods. While they are deciding, grab your jacket! It's time to see if you can find one of these critters!

The very best place to look for springtails is at the base of a tree or near some melting snow. You may notice lots of black specks on or near the snow. If you look closely, you'll see that those black specks are moving! Actually, they are **springing**. Snow fleas hook their tails (they have two) on their abdomen, and release them to get some height and distance. Their aim isn't good though, and they often land back where they started. It can be very entertaining to watch!

August

It's time for a jungle safari! Get on your lion-hunting gear and head out to a dry **sandy** spot with lots of **ants**.

Look carefully in the sand for small, cone-shaped depressions. When you find one, you will have succeeded in finding the “den” of an **ant lion**. If you look closely, you may be able to see its **jaws** poking out of the bottom of the pit.

WARNING: Just like with an African lion, you don't want to put your fingers anywhere near this bug's mouth. This lion should just be watched, not held! He may be tiny, but he has **HUGE** jaws, for his size.

Now for the show! Drop a piece of sand down the side of the ant lion den. As it rolls to the bottom of the pit, the ant lion will snap its jaws at the grain of sand, thinking an ant has fallen into the trap. If you are careful, you can dig the ant lion out to examine it. **Put it back in the spot you found it, so that it can re-dig its trap.**

These fierce little creatures are really the **larvae** of an insect that looks a lot like a dragonfly. They belong to the order **Neuroptera**. Sometimes the larvae are called “**doodlebugs**” because of the tracks they leave in the sand.



July



Remember when we talked about insects and their body temperatures in January? Now is your chance to see the connection between temperature and insect activity. In July, there should be plenty of heat to keep **crickets** and other insects warm and active. What do you think happens to insect activity as it gets warmer?

My grandpa used to tell me that you could tell the air temperature by **counting the number of cricket chirps in 15 seconds and adding 37**. Try it for a week and see if it works for you by filling in the chart below!

Cricket Chirps and Temperature			
Date	Air Temperature	Number of Chirps	"Cricket Temperature" Chirps + 37 = ?

- What do you think of your observational study?
- What did you learn?
- In what way did the "cricket" temperature match the actual temperature? Can you **explain** your results?
- If you're wondering **WHY** that cricket is singing, consider using the resources you have at home or local library to find out!

March

People all over the world eat insects as a source of protein in their diet. I'm not going to suggest that **YOU** eat bugs this month, but I do think it might be fun to try making snacks.

Have you ever made **Ants on a Log** (peanut butter stuffed in celery and topped with raisins)? Try using your imagination to see what kind of snacks you can design!



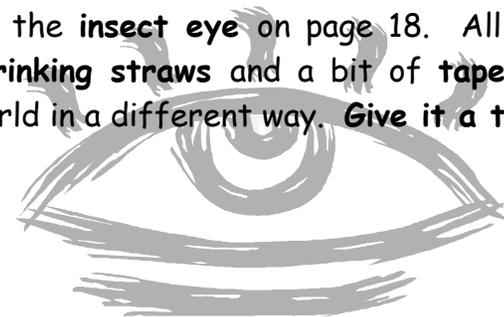
You may want to check out the insect-themed recipes available at the **University of Kentucky's** website:

www.uky.edu/Ag/Entomology/ythfacts/bugfood/bugfood1.htm

Wouldn't your 4-H club just **LOVE** to try Butterfly Snacks or Bee Bread? **Mmmm..... GOOD!**

April

Have you been enjoying your project literature book, *Creepy Crawlers*? One of the favorite activities of many 4-H'ers is the model of the **insect eye** on page 18. All you need is a handful of **drinking straws** and a bit of **tape**, and you'll be seeing the world in a different way. **Give it a try!**

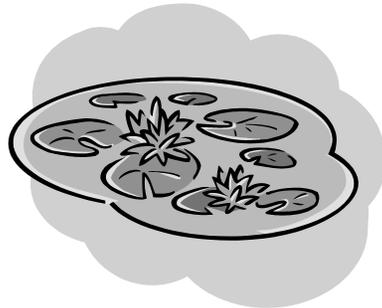


May

Do you have an old **pond** or **stream** that you can visit with an adult? If you do, you can learn how to “**fiddle**” for water striders. A **water strider** is a common “bug” that skates along the surface of water looking for prey to eat.

You can bring a water strider right to you, if you know how to “fiddle.” Find two pencil-sized or smaller **twigs**. Hold one of them so its end is just below the surface of the water. Use the other twig like a fiddler’s bow and draw it back and forth across the first twig. This action mimics a **distressed insect**, and that hungry water strider is sure to head your way. Here are some questions to think about as you watch a water strider “skating”:

- How many legs does the water strider have?
- What parts of the insect touch the water’s surface?
- How does the water strider move?
- Do all the legs do the same thing?
- Front legs work as **sensory** instruments. How does a water strider “know” which way to go to find its prey. (**HINT**: think about the ripples...)
- Water striders aren’t the only things that are attracted by distressed insects in the water! What else might your fiddling attract?



June

All those twinkling lights in the summer night sky may not be stars! If you’re lucky enough to be away from lots of artificial lights, you may find your yard lit-up by a **firefly** display. These tiny beetles are full of a special chemical that produces a spectacular glow.

Fireflies wink their lights back and forth at each other in a courtship display. You can play along with the fireflies if you have a **penlight** and a bit of **patience**. The males fly and blink to attract the females, who are waiting on the ground. Here’s what to do:

Hold your light on the ground and blink it on and off. Try to blink it in the same pattern as the real fireflies are using. You may get one of the males to fly into your light. He may even land on your hand!

NOTE: Fireflies don’t like lawn chemicals. If your lawn is treated, you may have to find some place else to see the firefly show.

