

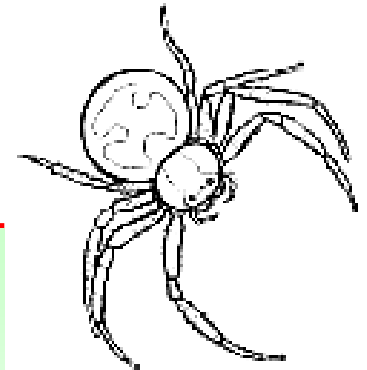
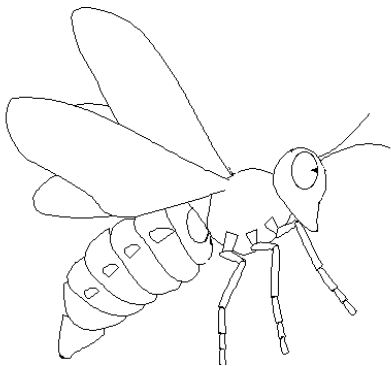
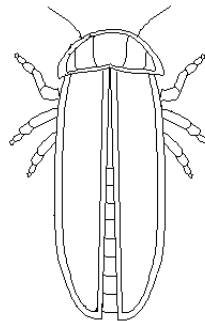
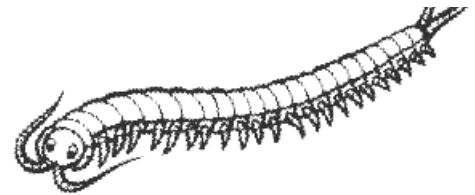
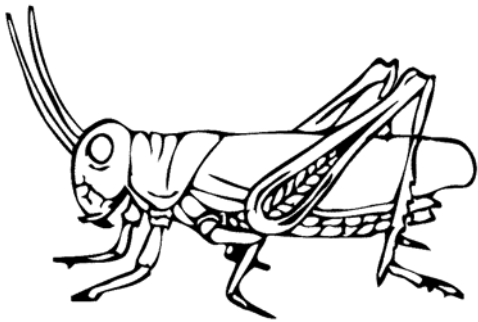
Clover Corner



ENTOMOLOGY

Going to the Bugs

Entomology is a 4-H project where you can learn all about insects. Insects live everywhere: forests, jungles, grasslands, deserts, swamps, ponds and streams - even inside the bodies of other animals! The most common groups of insects are the beetles, butterflies and moths, ants, bees and wasps, flies, grasshoppers and crickets and true bugs



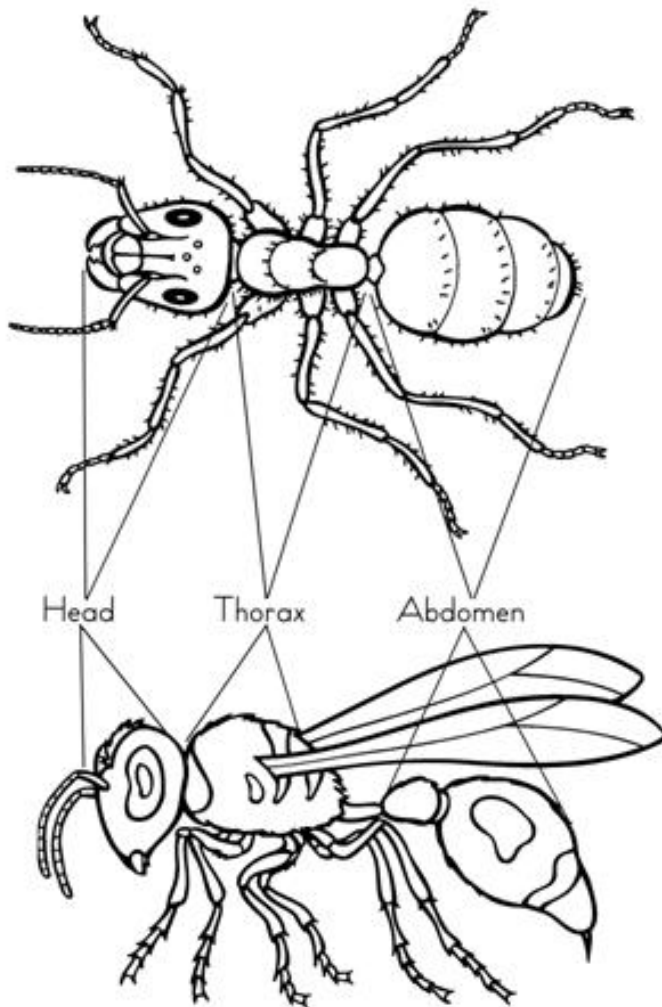
Why did the worm decide to sleep late?

Because he didn't want the early bird to catch the worm.

DID YOU KNOW...?

- A cockroach can live for nine days without its head
- Dragonflies can fly at speeds up to 30 miles per hour
- There are between 10 million and 30 million species of insects in the world, of which only one million are known to science
- The metallic-colored wing covers of some beetles are used for jewelry
- The atlas moth, one of the largest silk moths, can be mistaken for a medium-sized bat when flying
- There are more than 300,000 species of beetles, making them the largest order of insects in the world
- The Jungle Nymph Stick is one of the heaviest insects. In Malaysia they are often kept by people who feed them guava leaves and use the droppings to make tea
- Flies can "taste" with their feet
- The fastest known insect is a dragon fly that has been clocked at 30 miles an hour
- A flea can jump 130 times its own height
- Of the 35,000 species of spiders, only 27 species are known to have caused human fatalities
- Some mosquitoes can beat their wings 600 times a second? A midge fly holds the record, with a wing beat of 1046 times a second
- Ants are the "super weightlifters". Some ants can carry objects up to fifty times their weight. And many can haul these objects long distances and even climb trees with them! If humans could match this amazing strength, a 100-pound person would be able to pick up a small car, carry it seven or eight miles on his back, and then climb up the tallest mountain in the world still carrying the car!

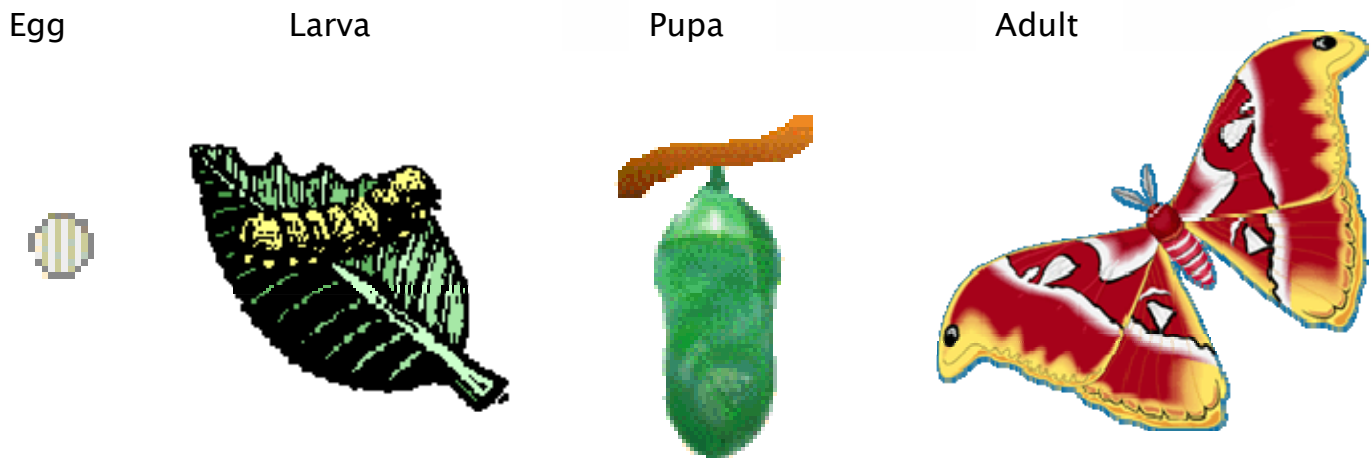
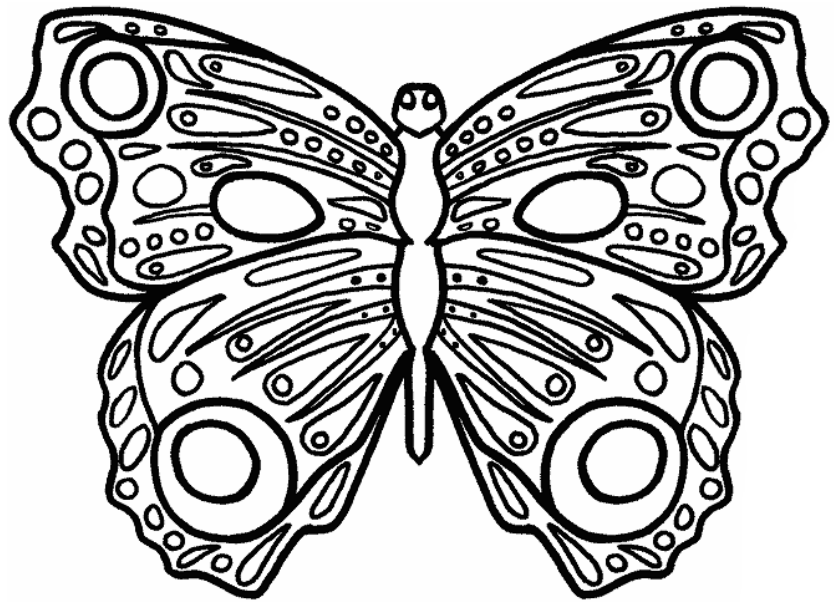
Insect Bodies



Insects do not have bones inside their bodies. Instead, they have a hard outside shell called an Ecoskeleton. Insects have 6 legs and most adult insects have wings. Insects have 3 main body parts.

Betty the Butterfly

Butterflies get their name from the yellow brimstone butterfly of Europe that is first seen in the early spring or "butter" season.



Complete Metamorphosis

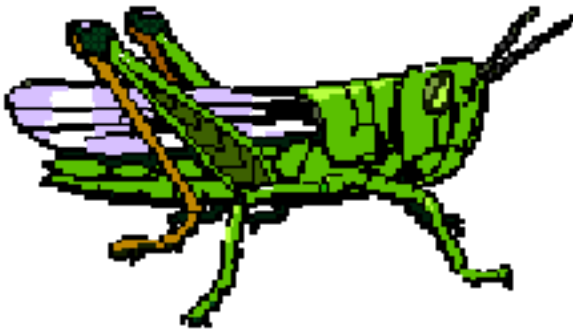
Betty undergoes complete metamorphosis where she will go through four different life stages and change the shape of her body.

- Egg – Betty starts her life in an egg. After about 3 to 5 days, Betty turns into Larva.
- Larva – Betty is born a caterpillar, and is also known as Larva. She eats leaves or flowers almost constantly for about 5 to 10 days. Betty molts (loses her old skin) many times as she grows.
- Pupa – Betty will then attach herself upside-down to a twig or leaf and form a hard outer shell. Betty then turns into a pupa (chrysalis); this is a resting stage where she will begin to change her shape and look like a butterfly. Betty will be in the pupa for about 7 to 10 days.
- Adult – A beautiful adult Betty emerges. Betty will not live long. She cannot eat, but can drink through her straw-like spiral proboscis. Now that Betty has grown-up she can fly and lay eggs.

Gabby the Grasshopper

Can Gabby Smell?

The sense of smell is located in the antennae of insects. Insects use smell to locate food and to find their way about and to locate places to lay their eggs.

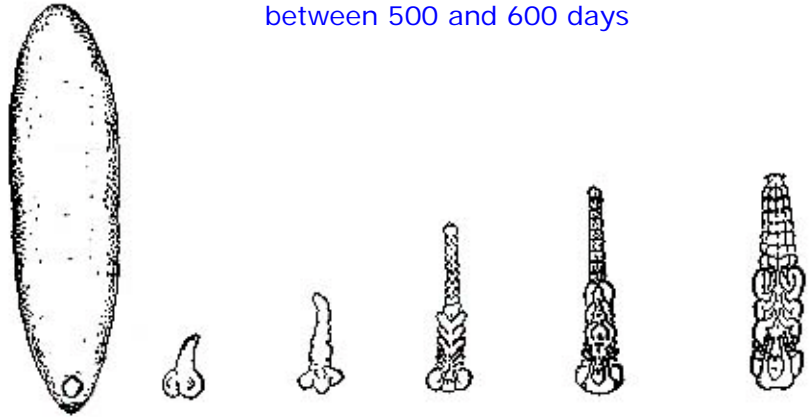


Gabby stays a baby grasshopper, or, Nymph, for 25 to 29 days

After hatching, Gabby must stand up and jump away before an ant eats her

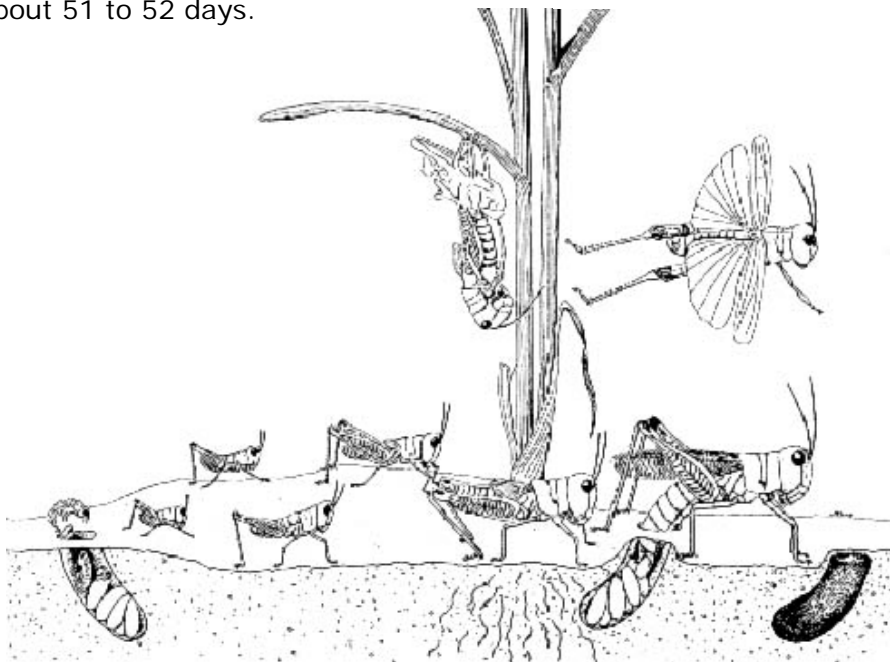
Gabby is now a grown-up grasshopper and will live for about 51 to 52 days.

Gabby grows in her egg between 500 and 600 days



Incomplete Metamorphosis

About 4 days after Gabby was hatched, she began to go through a process called "molting." When Gabby molts, she wiggles out of her hard shell and a few hours later, a new bigger shell grows around her. This is the same as you taking off your coat and putting on a bigger new one. Gabby started eating and quickly grew into her new shell. Gabby molted 6 times in her first month! After Gabby was finished molting, she became an adult grasshopper. All insects molt so they can grow. Some insects will molt 40 times during their life. This process of growing and not changing shape is called incomplete metamorphosis.



How Does Gabby Hear?

Grasshoppers are able to hear by means of "ears" (which consist of thin, flat membranes that vibrate when sound waves strike them).

Morgan County Extension

914 E. Railroad
P.O. Box 517
Fort Morgan, CO 80701
Phone: 970-542-3540
Fax: 970-542-3541
Email: morgan@ext.colostate.edu



Extension

Morgan County Extension staff provides educational outreach from Colorado State University. Extension was created by Congress in 1914 to extend the knowledge and resources of the land grant university system to citizens through a variety of programs, materials and services. We provide ongoing educational programs and services while remaining flexible to address emerging issues with innovative technology.

Morgan County Extension brings education to residents through:

- workshops
- telephone and office consultations
- home and field visits
- community meetings
- newsletters
- radio and newspapers
- programs
- school enrichment
- youth outreach
- volunteer opportunities



Issued in furtherance of Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Milan A. Rewerts, Director of Extension, Colorado State University, Fort Collins, Colorado. Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned