



Intro To Insects



UNL Clover Kid Team

Clover Kid Corner Website (<http://child.unl.edu/cloverkid>)

Before You Get Started:

Information for Parents

The primary objective of the 4-H Entomology project is to provide the 4-H member with an awareness of the world of insects. Insects are the most abundant group of animals on the earth and our daily lives are affected by their presence. Insects are both beneficial and harmful. Identifying the difference is of great importance. The 4-H members can appreciate the beauty as well as knowing how to control pests safely, effectively and economically.

When You Finish This You Will Have Helped Your Child:

- ◆ Learn About Insect Characteristics
- ◆ Parts of an Insect
- ◆ About Insect Metamorphosis
- ◆ About Insect Habitats



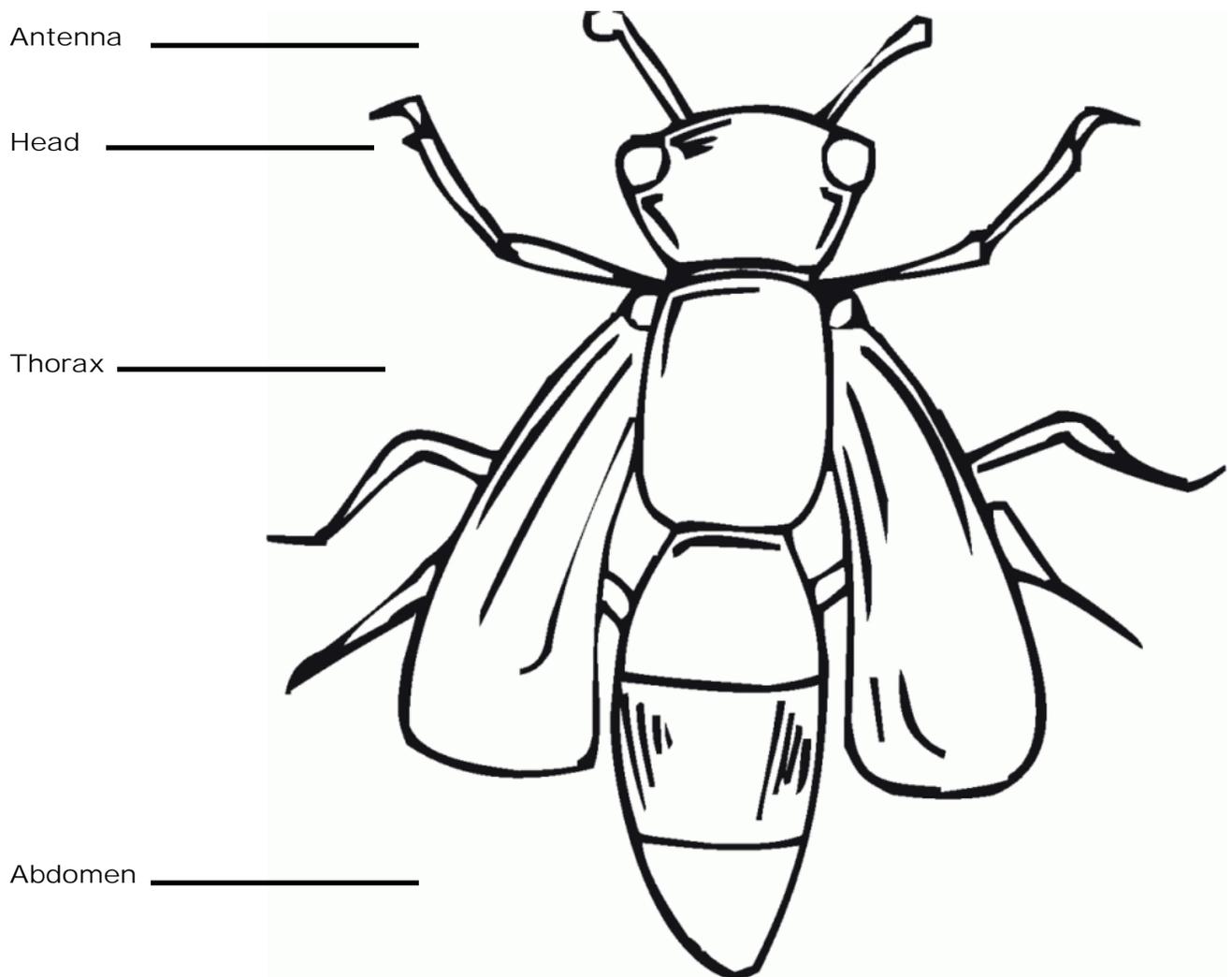
State Standards

- SC2.1.1.b Conduct simple investigations
- SC2.1.1.d Describe objects, organisms, or events using pictures, words, and numbers
- SC2.1.1.e Collect and record observations
- SC2.3.1.b Identify the basic needs of living things (food, water, air, space, shelter)
- SC2.3.1.c Identify external parts of plants and animals
- SC2.3.1.d Observe and match plants and animals to their distinct habitat
- SC2.3.2.b Describe how living things change as they grow

Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln cooperating with the Counties and the United States Department of Agriculture.

What Is An Insect?

Insects are animals that have several special features. Like all animals, insects need food, water, shelter, and air. However, insects are different from other animals in many ways. First, insects have a hard outer covering called an **exoskeleton** instead of bones. Second, all insects have **six jointed legs** and three body segments. These three body segments are the **head**, the **thorax**, and the **abdomen**. Insects also have two antennae (sometimes called “feelers”) attached to their head that help them sense their environment. In addition, some insects have wings, but others do not. Color the picture below to learn more.



Number the legs on this insect. How many do you count?

How Do Insects Grow?

Insects grow through a process called **metamorphosis**. Metamorphosis is series of stages that an insect goes through to become an adult. Some insects, like butterflies and beetles, have four stages of metamorphosis, known as complete metamorphosis. Other insects, like grasshoppers, undergo gradual metamorphosis, which only has three stages.

Complete Metamorphosis

Adults can now mate and lay eggs to start the cycle all over again.



Insect eggs hatch into larva, which have undeveloped, soft bodies.



Larva eat LOTS of food so they can have enough energy to last them through the pupal stage.



Insects in the pupal stage don't move or eat—their bodies are focused on developing into adults!

Gradual Metamorphosis

Adults can now mate and lay eggs to start the cycle over again.



Egg

Insect eggs hatch into nymphs, which look like small, undeveloped adults.



Nymph

Nymphs often have wing buds that will develop into wings when they reach adulthood. A nymph will shed its exoskeleton several times as it grows into an adult.

Where Can We Find Insects?

Insects are almost everywhere! Under rocks, on flowers, up trees, in water—insects can be found in many different habitats. Insects are well-adapted to their habitat and have special features that help them fit in with their environment.



Bees have wings so they can fly from flower to flower and fuzzy bodies so they can collect pollen to feed their growing young.



Butterflies have long tongues for lapping up nectar from flowers.

Grasshoppers have strong back legs for jumping through thick grass and escaping from predators like birds.



Water striders have long, thin legs so they can walk on top water in search of prey.

Insect Scavenger Hunt



Materials:

- Clear plastic or glass jar with lid
- Notebook and pencil for observations
- (optional) Insect collecting net

Activity 1: Is a roly poly an insect?

1. Flip over a rock or piece of wood in the shade and look for a roly poly, an Isopod.
2. Try to pick up the roly poly. What does it do?
3. Count the number of legs and body segments on the roly poly. How many are there? Are roly polys actually insects?
4. Record your observations in your notebook and continue to Activity 2!



Activity 2: How many places can we find insects?

1. Look for insects in the following places:
 - ▶ In a flower bed
 - ▶ Next to a pond
 - ▶ In tall grass
 - ▶ Under a rock
2. In your notebook, draw a picture of each type of insect that you find. Write down how many of each type of insect that you found and which habitat you found them in.
3. Make a poster of your search! Draw a picture of each habitat and the insects you found in it on the poster.

Activity 3: Collect an insect!

1. Go back to one of the habitats from Activity 2 and take along a clear jar with a lid. *Carefully* collect an insect by putting the jar next to the one you want and gently brushing it in. (For flying or jumping insects, you may need a net.)
2. Make your insect feel at home by adding sticks, leaves, rocks, etc. from its habitat. Make sure to put a few drops of water in jar as well so your insect doesn't get thirsty or dry out.

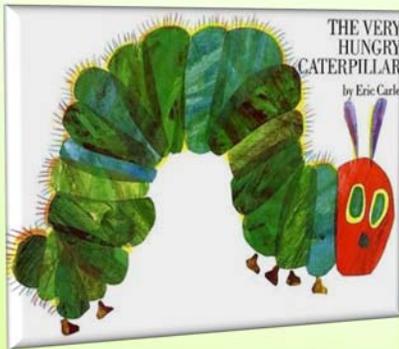
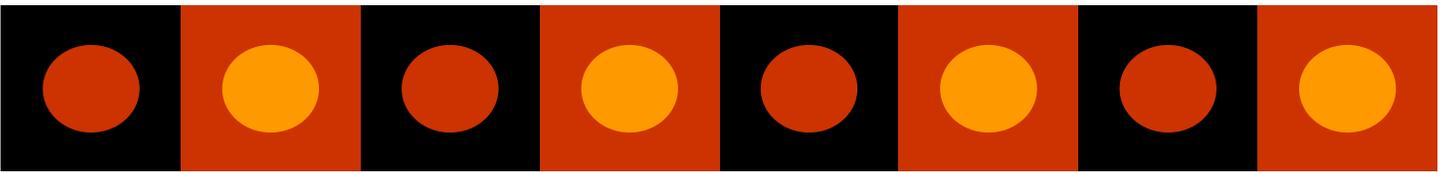


3. Observe your insect for three days and record your observations, then release your insect back into the habitat you found it in.

To Exhibit Your Clover Kid Projects at the Fair

Check your county's fairbook for availability, specific county rules and class number.

- ◆ Enter your poster from Activity 2 of the Insect Scavenger Hunt
- ◆ Enter your insect in a jar from Activity 3



*Read “The Very Hungry Caterpillar”
by Eric Carle!*

Can you name the stages of metamorphosis that the very hungry caterpillar goes through?

Fun Fact

The study of insects is called entomology and people who study insects are called entomologists!

Insect Vocabulary Word Search

WORD BANK

INSECT

ANTENNAE

LARVA

ABDOMEN

EGG

METAMORPHOSIS

ADULT

HEAD

PUPA

M E T A M O R P H O S I S J J
T Q O W V S G D H B F Y U M X
S D Z J J G M K F F M J Y R V
U D A K E L D J F G D B R P A
E F P H H F P L W L H M F V S
F Y I O V V U W B B G D A E H
Q U N E P L P T O R Y B D N F
A R S H K I A X V T C C U M C
S C E O T B B R P F L J L Y Z
S S C O T H D P V Z S Y T W D
X H T H Q P O Y D A A N D J P
T B T H K Z M R M Q D C B J V
U C L D R T E O A F W I Q K P
S A N T E N N A E X Y E F J Y
G A N J D F U V A N E I K O J