



Invent an Insect

Materials

Insect Diagram: What Makes an Insect an Insect?
Insect or Not? Arthropods Picture Sheet
Invent an Insect sheet
Pen or pencil
Colored pencils/markers (optional)

Insects occur on every continent on Earth. Almost everywhere entomologists (scientists who study insects) have looked, they have found many different types of insect species, each suited to the environment in which they live. This includes extreme environments like mountaintops, deserts, and frozen fresh water.

Scientists classify animals according to how their bodies have evolved. Animals with similar characteristics are grouped together. Insects belong to a very large group of animals called arthropods. Spiders, crabs, centipedes, ticks, scorpions, and shrimp also belong to the arthropod group, but they are not insects. All insects share these features:

Exoskeleton: Unlike humans, who have skeletons on the inside, insects wear their skeleton on the outside of their bodies. This type of skeleton is called an exoskeleton. It provides structure and protection for the insect's insides.

Three Body Segments: All insects have a body that is divided into three parts, or segments: the head, the thorax, and the abdomen. The eyes and the antennae are always located on the head. The legs are always connected to the thorax. All that remains on the body is the abdomen, located on the opposite end of the head.

Six Legs: All adult insects have six legs. By looking at an insect's legs, you can usually tell what type of environment it lives in. For example, many insects that live in the water, such as water boatmen, have flattened oar-like legs to help them paddle through the water. Other insects may have legs suited for running, climbing, or jumping great distances.

Antennae: Adult insects have a pair of sensitive antennae on their heads. These organs are used to feel, smell, and sometimes hear. Antennae come in a wide range of shapes and sizes, depending on how they are used.

Wings: Almost all insects have wings. Usually, insects have two sets of wings that move together. In beetles, the front pair of wings are hard and protect the hind wings.



Activity #1: Label an Insect

Now it's your turn to be an entomologist. On the *What Makes an Insect an Insect* diagram, fill in the blanks to label the parts of a typical insect.

Activity #2: Insect or Not?

Now that you have practiced labeling the parts of an insect, let's see how you do at figuring out what arthropods are insects or not! On the *Insect or Not?* pictures, decide for yourself if the animal pictured is an insect or another type of arthropod. The answer key is on the last page of the set of pictures.

Activity #3: Invent an Insect

Now it's your turn to invent your own insect! Before you get started, you will need to learn a couple more things about insects and how they live.

Habitat: A habitat is the place or type of place where a plant or animal naturally or normally lives and grows. Insects live in practically every habitat on Earth, from windy beaches, to the tallest mountains, to living on other creatures like dogs and cats. Habitats you might consider for your insect include a dark cave, a dry desert, a fallen log, a fruit tree, a stream, or under a rock.

Adaptation: An adaptation can be any part of an animal that helps it survive. For example, a flea has biting and sucking mouthparts and powerful back legs for jumping around the host animal—including perhaps your pet dog or cat! Get creative as you think about the kinds of food your insect will eat, the kind of life it leads, and what types of adaptations it will need to survive and thrive.

Predator and Prey: Insects can be predators, meaning they eat other animals. For example, the praying mantis is a predator that loves to eat flies, crickets, and mosquitoes. However, the praying mantis is prey for predators such as bats, spiders, and snakes. How will your insect fit into the ecosystem—as prey, as a predator, or both?

Your Turn!

Now that you have all the information you need, use your imagination to create your own insect. Remember to include the body parts that all insects have, but also think about the special adaptations that your insect has that make it special and perfect for its habit. You can record your description and draw and color a picture of your insect on the *Invent an Insect* worksheet. Have fun!



What Makes an Insect an Insect?

Use the terms below to label the parts of the insect.

All insects have:

Head

Thorax

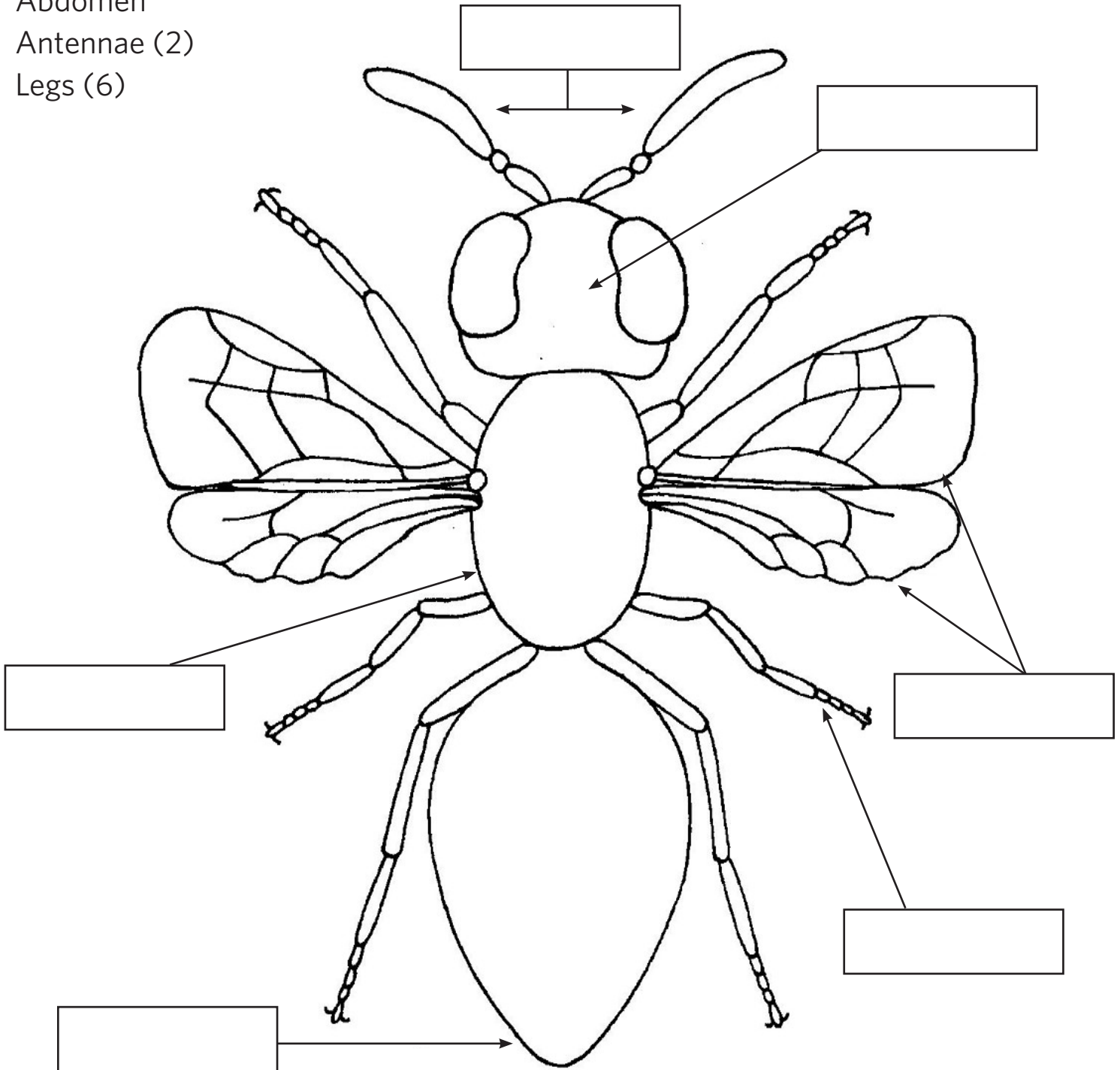
Abdomen

Antennae (2)

Legs (6)

Most insects have:

Wings



1.



©Barloventomagico

2.



3.



Photo by Isa Copyright ©

4.



5.



6.



7.



©Terry Gray

8.



9.



Answer Key:

1. Centipede - not an insect
2. Butterfly- insect
3. Scorpion- not an insect
4. Bee or wasp - insect
5. Millipede - not an insect
6. Grasshopper- insect
7. Isopod (aka: Roly Poly or Pillbug)- not an insect
8. Ladybug- insect
9. Spider - not an insect



My Name: _____ Date: _____

1) My insect's habitat: _____

2) My insect's food source: _____

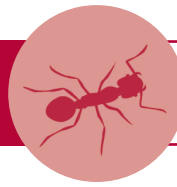
3) How it finds and eats its food: _____

4) How my insect moves: _____

5) What eats my insect: _____

6) How my insect escapes predators: _____





Draw your insect below. Be sure to label its body parts.

Name of my insect: _____

Habitat: _____

Special adaptations: _____