

Grasshoppers

Written and Photographed by Sandie Lee



It's a summer-time singer. Its body has several legs, wings, and eyes. Farmers either love it or hate it. What is it? A grasshopper of course.

There's between 11,000 and 18,000 species of grasshoppers worldwide and they're found everywhere except the North and South Poles. And even though they're common, they're also quite fascinating.

The Body

Grasshoppers have an exoskeleton [ek-soh-**skel**-i-tŋ] which means the skeleton is on the outside of their body. They have two sets of wings for flying – a front pair that is tough and rigid and a hind pair that is soft and flexible. The grasshopper also has three pairs of very strong legs. They use these to walk and to jump 20 times their own body length. Imagine if you could do that!

Have you ever tried to catch a grasshopper? Chances are it bounced away before you had a chance. That's because this insect has five eyes. Two eyes are on the front of the head. These are made up of thousands of single lenses that can see forward, backward, and sideways. Two more eyes are located on the end of each antenna. The final eye is between the antennae. It's no wonder they're so quick!

Grasshoppers don't have ears, but that doesn't mean they're deaf. They actually hear through their knees. The tympanum [**tim**-puh-nuhm], a drum-like organ, can pick up vibrations from the air and on the ground.



Music Makers

If you hear a *chirp chirp chirp* on a summer's night, it could be a male grasshopper trying to attract a mate, or warn off other males. They do this by rubbing their back leg against their forewing - A row of pegs along the inside of the grasshopper's leg acts like a file. When this is rubbed on the wing it causes a vibration which produces the sound.

Other grasshoppers like the **Band-Winged Grasshopper** will *snap* their hind wings rapidly when in flight. This makes a weird *crackling* sound.

Friend or Foe?

Grasshoppers like to eat most plants, but some favor the flavor of wheat, oats, corn, barley, rye, clover, alfalfa, and cotton – all things we use and farmers hate to lose. In fact, a large group of grasshoppers called *locusts* can quickly and easily devour a farmer's crop in a matter of minutes.

However, some grasshoppers are actually a help to farmers. The **Turnbull** is a type of grasshopper that will dine on the weeds that kill crops. Other grasshoppers like the **Two-Striped** grasshopper will eat plants that are toxic to cattle.

Now that you know some interesting facts about grasshoppers, be sure to be on the look out for this summer-time favorite. You can learn more about the great grasshopper by visiting your local library or the internet.

Fascinating Grasshopper Facts

- The smallest grasshopper is the **Pygmy Grasshopper**. It's only 20 mm long!
- The largest grasshopper is called the **Giant Grasshopper** and measures in at 60-90 mm for females and 45-55mm for males.
- If you grab a grasshopper you may get "spit" on. This strong, brown, gooey, liquid is called *tobacco juice* and is used to deter predators.

Name: _____

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1. Circle the best answers to these questions.

- | | | | | | |
|---|------|------|------|---|----|
| a. How many wings does a grasshopper have? | 2 | 4 | 6 | 8 | 10 |
| b. How many eyes does a grasshopper have? | 1 | 3 | 5 | 7 | 9 |
| c. About how long are the world's largest grasshoppers? | 20mm | 55mm | 90mm | | |

2. Grasshoppers do not have ears, yet they can hear. Explain.

3. How does a grasshopper make a chirping sound?

- a. It rubs two legs together.
- b. It rubs one of its legs along one of its wings.
- c. It rubs its wings together.
- d. It rubs its back leg against one of its antennae.

4. Why do farmers sometimes dislike grasshoppers?

5. Why do farmers sometimes like grasshoppers?

Name: _____

Grasshoppers

Vocabulary Activity



Step 1: Re-read the article, "Grasshoppers." As you read, use a highlighter or yellow crayon to highlight each of the vocabulary words from the box.

exoskeleton	organ	vibration
foe	barley	toxic

Step 2: Match each vocabulary word with its definition.

- | | |
|----------------------|--|
| 1. _____ exoskeleton | a. enemy |
| 2. _____ organ | b. poisonous; dangerous to eat or drink |
| 3. _____ vibration | c. movement of molecules that makes a sound |
| 4. _____ foe | d. body part made of cell tissue |
| 5. _____ barley | e. hard covering on the outside of an animal's body |
| 6. _____ toxic | f. type of grain used to make cereal and other food products |

Step 3: Complete each sentences with the correct vocabulary word.

- You shouldn't eat those berries because they might be _____.
- After the storm, the farmer's _____ field was flooded.
- When his brother turned up the music in the car, Joey could feel _____ in the seat.
- The liver is the heaviest _____ in the human body.

ANSWER KEY

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2. Grasshoppers do not have ears, yet they can hear. Explain.

Grasshoppers have a tympanum, a drum-like organ, in their knees that senses vibrations.

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4. Why do farmers sometimes dislike grasshoppers?

Grasshoppers eat their crops.

5. Why do farmers sometimes like grasshoppers?

Some types of grasshoppers eat the weeds that kill crops.

Name: _____

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- You shouldn't eat those berries because they might be **toxic**.
- After the storm, the farmer's **barley** field was flooded.
- When his brother turned up the music in the car, Joey could feel **vibrations** in the seat.
- The liver is the heaviest **organ** in the human body.