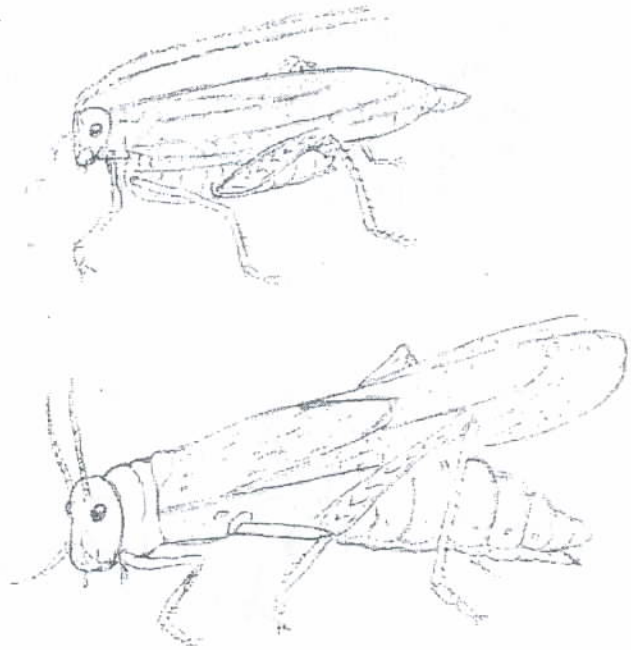


## 18. Short-horned Grasshoppers

There are more than 10,000 different kinds of grasshoppers jumping and flying in every part of the world where there are any plants growing. Look at the length of feelers or antennae (horns) to divide them into two large groups: (1) Long-horned grasshoppers, which include the Mormon crickets and katydids, and (2) short-horned grasshoppers, which have heavier, shorter antennae and are also called locusts. The bodies and habits of long- and short-horned 'hoppers are a lot alike, so we will concentrate on the locusts or shorter-horned 'hoppers.



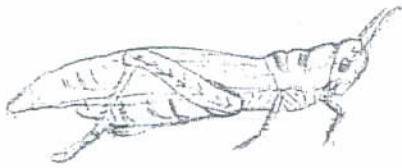
Grasshoppers (or locusts) don't always live in grassy areas. Some kinds live in deserts and others live in tropical forests. "Hoppers" may not be the best way to name them. A hop is a short jump. These insects can use their powerful hind legs to leap more than twenty times their own body length! To equal that jump, you would need to jump a length of a gymnasium or a full basketball court. Even if you could do that, can you guess what the landing would be like? Maybe we should call them grassleapers instead of grasshoppers.

Many of the grasshoppers or locusts do have two pairs of wings, but they didn't even use them to make that huge leap. Sometimes when they hop they do spread their wings and fly if they want to travel farther. They have front wings that are strong and cover their larger, thinner flying wings. Many 'hoppers' flying wings have bright red, yellow, blue, or green colors that show only when they fly. Locusts sometimes get together in large bunches called swarms and migrate to other areas. Swarms eat so much that they destroy farmers' crops. Scientists aren't sure why some locusts swarm.

You can use the diagram shown on the next page to understand the body of the locust or grasshopper better. They actually have five eyes. They have a compound eye on each side of their head with over 1,000 lenses that helps them see in every direction. There is a tiny eye at the base of each antenna and one in between them, but nobody knows what

## Short-horned Grasshoppers

**Vocabulary Checkup** Write the words from the box on the correct blanks.



chemicals	compounds	concentrate	diagram	
manure	molt	swarm	thigh	tropical

1. To shed skin or feathers in a growing process is to \_\_\_\_\_.
2. Having to do with the warm area near the tropics is \_\_\_\_\_.
3. Substances used or produced in chemistry are \_\_\_\_\_.
4. A drawing, chart, or plan that explains a thing is a \_\_\_\_\_.
5. The big part of the leg above the knee is called the \_\_\_\_\_.
6. A waste product from animals used to fertilize soil is \_\_\_\_\_.
7. Things made of many parts working together are \_\_\_\_\_.
8. A large number of flying insects together is a \_\_\_\_\_.

**Comprehension** You may need to look back at the story to answer the questions correctly.

1. What are the names of the two groups all grasshoppers are divided into?  
\_\_\_\_\_ and \_\_\_\_\_.
2. Why are swarms of locusts such a bad thing for people living in the area?  
\_\_\_\_\_.
3. Grasshoppers that have just hatched from eggs need to molt because \_\_\_\_\_.
4. Two ways that humans get rid of grasshoppers are \_\_\_\_\_ and \_\_\_\_\_.

Name \_\_\_\_\_ Date \_\_\_\_\_



## 2. The Shy American Bear

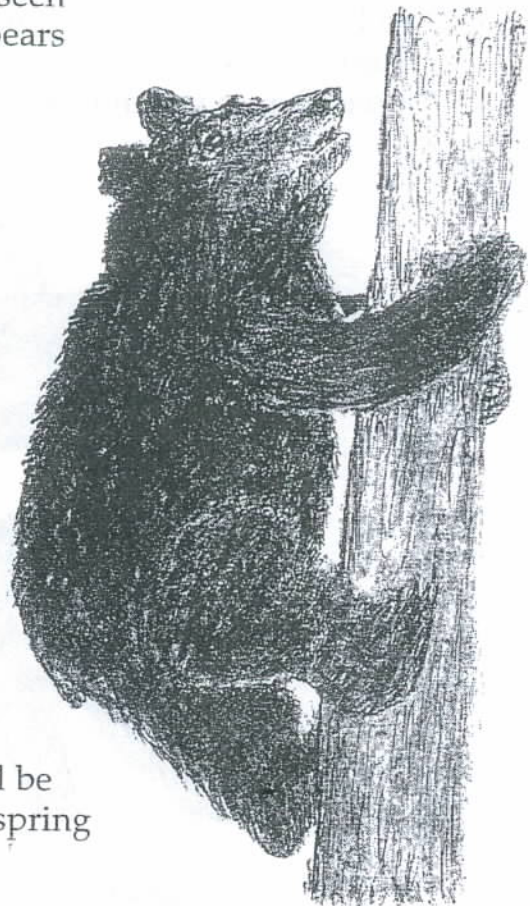
The Teddy Bear that many young children love was first made in the early 1900s. President Teddy Roosevelt had caught a black bear cub for a pet while hunting, and it was so cute that toy companies began making stuffed "teddies" to sell.

Strange as it may seem, black bears can be brown, gray, or even have some white on them. Most American black bears are dark colored, and they may look all black when a person only gets a glimpse of a fast-moving bear. Even a 5-foot-long, 300-pound male black bear can run 25 miles per hour. That is faster than humans can run!

Visitors to Yellowstone National Park are likely to see a few black bears. Those pesky bears are always looking for a free meal. Campers have to keep the food out of the bears' reach. Black bears in most forests are really very shy and are not seen very often unless people leave food where bears can get it easily. Scientists place black bears with the meat-eaters. Black bears do eat insects, grubs, fish, and small animals they can catch. However, most of the bear's diet is made up of leaves, buds, berries, roots, nuts, and even tree bark. You can tell if a bear is feeding in the area because it tears logs apart, moves stones, and will ruin young plants.

Black bears feed mostly at night. When winter is coming and they need to put on extra weight, they will feed during the day as well. In the winter they will make a den in a cave, hollow log, or a burrow they dig in a bank. The bear will doze in its den all winter unless the weather warms up. Bears don't really sleep all winter like some animals. They will be much thinner and very hungry by the time spring comes.

The females give birth to two or three cubs during January or February in their dens. The cubs weigh less than 1 pound, have no hair, and are blind at birth. They must be kept warm and fed by the mother until spring. By



*"We are great tree climbers! I want those bird eggs for breakfast."*

# The Shy American Bear

**Vocabulary Checkup** Write the words from the box on the correct blanks.



burrow	den	diet	doze	glimpse
insects	pesky	ruin	shy	

1. To sleep very lightly off and on is to \_\_\_\_\_.
2. A hole that is dug in the ground is a \_\_\_\_\_.
3. A very short or quick look at something is a \_\_\_\_\_.
4. The food you choose to eat is called your \_\_\_\_\_.
5. Anything troublesome or annoying is called \_\_\_\_\_.
6. To injure or destroy permanently is to \_\_\_\_\_.
7. An animal's cave-like home is called a \_\_\_\_\_.
8. An animal that is very timid or bashful is said to be \_\_\_\_\_.
9. The tiny animal group of bugs with six legs are \_\_\_\_\_.

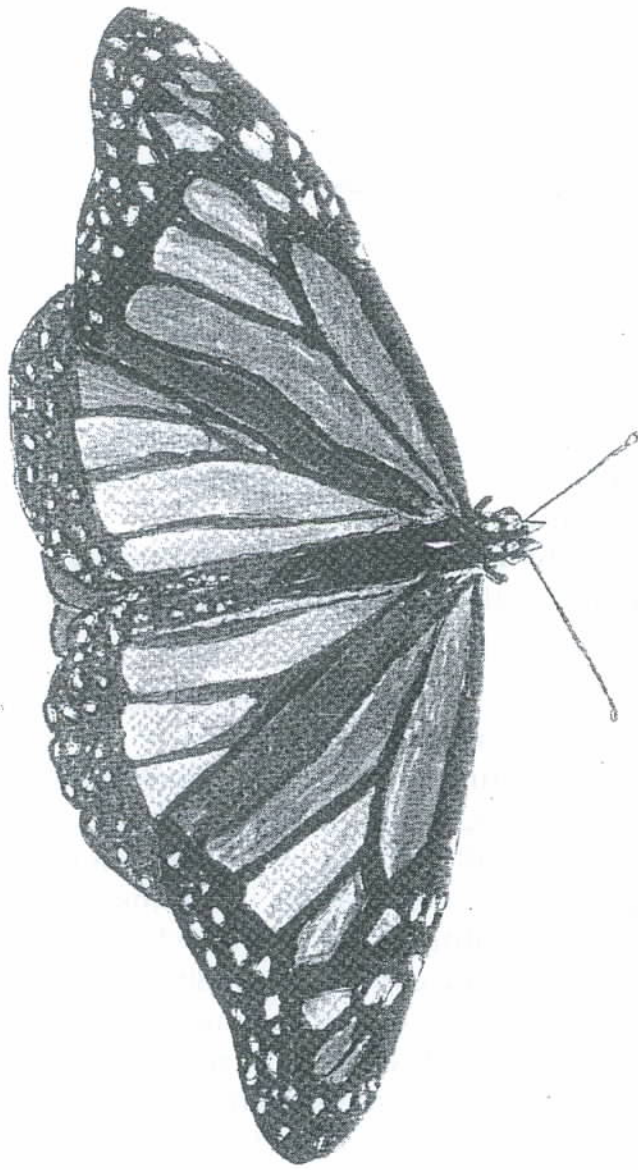
**Comprehension** You may need to look back at the story to answer the questions correctly.

1. What is the strange thing about the color of black bears? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Why are you not very likely to outrun a black bear? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What main foods are included in the black bear's diet? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_



## 5. Monarch Butterflies Flutter By



The monarch butterfly is the most beautiful insect. It has the six legs, three body parts, and feelers in common with other insects. But the wings of the monarch butterfly are works of art. The bright orange and gold on the wings are outlined in black. These colors make monarchs very easy to see. Birds know the colors mean a bad-tasting insect and will not bother monarchs. A viceroy butterfly has almost the same colors, and birds leave them alone, too, thinking they might have a bad flavor.

Monarch butterflies migrate north in spring. They lay their eggs on milkweed plants. The larvae that hatch out in three or four days are the ugliest looking caterpillars you've ever seen. They eat and drink from the milkweed for a couple of weeks. The milkweed juices make a poison in the caterpillar. Any bird that eats the caterpillar will get sick. The caterpillar's skin is like a shell that has to be shed several times for that caterpillar to grow to its full size.

The caterpillar sheds its skin for the last time and closes itself into a cocoon or shell-like case. This is the pupa stage in which a strange change will take place. The pupa inside the cocoon begins to swell and the head, body, and the wings of a beautiful butterfly burst out. In about half an hour the new monarch butterfly is ready to fly.

The monarch butterfly has two pairs of wings—a front pair and a rear pair. These wings have tube-like veins to hold them in shape.



# Monarch Butterflies Flutter By

**Vocabulary Checkup** Write the words from the box on the correct blanks.



antennae	caterpillar	cocoon	migrate	nectar
pollen	pupa	roost	scales	veins

1. \_\_\_\_\_ is the fine grains of powder that make seeds and fruit.
2. A \_\_\_\_\_ is the worm-like larva of a butterfly or moth.
3. The \_\_\_\_\_ are the tube-like framework of an insect's wings.
4. The \_\_\_\_\_ are the feelers a monarch uses to smell.
5. \_\_\_\_\_ is the sweet juice the monarch eats from a flower.
6. \_\_\_\_\_ are the thin, flat plates that cover butterfly wings.
7. A \_\_\_\_\_ is a shell-like covering for the pupa to grow in.
8. The \_\_\_\_\_ is the stage where the larva caterpillar changes into an adult butterfly.
9. \_\_\_\_\_ means to move from one place or climate to another.
10. A \_\_\_\_\_ is a spot where animals sit or lie to rest for a while.

**Comprehension** You may need to look back at the story to answer the questions correctly.

1. Monarch butterflies are insects since they have \_\_\_\_\_  
\_\_\_\_\_
2. Birds don't eat monarch butterflies because \_\_\_\_\_  
\_\_\_\_\_
3. Monarch butterflies migrate south in the fall because \_\_\_\_\_  
\_\_\_\_\_
4. Monarch butterflies are helpful to humans since they \_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_



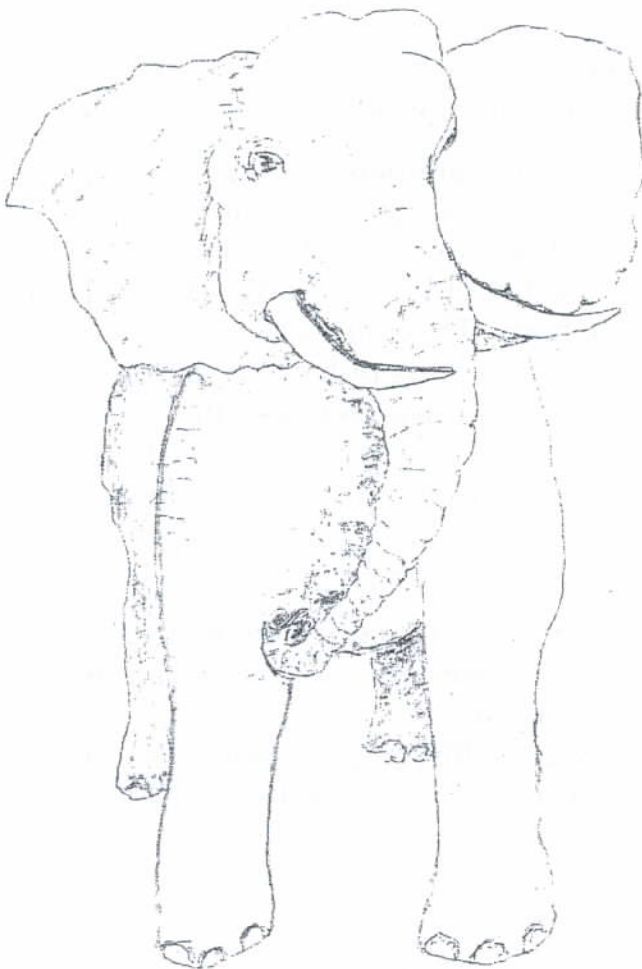
## 10. The Biggest Land Mammal

The African elephant is bigger and stronger than any other land mammal. In fact, they would be the biggest living animal in the world if there were no whales. African elephants weigh 8,000 to 12,000 pounds, with the males (bulls) being heaviest. A male can be 25 feet long, with its tail at one side of your classroom and its trunk reaching to touch the other side. Of course, it would have pushed the ceiling out since it is over 10 feet tall at the shoulder. The bulls and cows both have tusks that grow all sixty to seventy years of their life. An old bull's tusks have been measured at more than 10 feet long, weighing more than 200 pounds each. The African elephants' cousins are the Asian elephants, which are smaller and have smaller ears, trunks, and tusks. Asian species are a lighter gray, and they are easier to tame than their big African cousins.

The dark gray African elephant's skin is about 1 inch thick and wrinkled. You may think it looks baggy and doesn't fit. You are aware that their nose is called a trunk; but did you know it can be used to pick up tree trunks and is also capable of picking up a peanut? The trunk has two fingers on its tip to pick up small things. That same trunk is used to put

food in the mouth, to breathe, and to smell, the elephant's most important sense. Even though they can hear well, elephants depend on smelling danger. The trunk can suck up as much as 6 quarts of water to drink or spray over the elephant's back. The trunk is sensitive enough to feel heat and texture (how hard or soft something is).

African elephants eat as much as 500 pounds of vegetation in a day. They eat grass, leaves, twigs, and some fruits. They can do a lot of damage to trees since they sometimes knock down 30-foot trees to get the leaves and twigs at the top. Elephants always stay near some water. They drink about 40 gallons a day and like to bathe in the evening. Strange as it



# The Biggest Land Mammal

**Vocabulary Checkup** Write the words from the box on the correct blanks.



bulls	cousins	funeral	habitat
sensitive	texture	vegetation	wrinkled

1. To have ridges and creases in the skin is to be \_\_\_\_\_.
2. A ceremony held before the dead are buried is a \_\_\_\_\_.
3. The males of some large animals like elephants are called \_\_\_\_\_.
4. Plants or plant life growing in an area is \_\_\_\_\_.
5. The natural place where animals or plants live is the \_\_\_\_\_.
6. The rough or smooth look or feel of material is its \_\_\_\_\_.
7. The children of aunts and uncles are called \_\_\_\_\_.
8. Having sensation or feeling easily means something is \_\_\_\_\_.

**Comprehension** You may need to look back at the story to answer the questions correctly.

1. African elephants can weigh as much as \_\_\_\_\_ pounds and can be as long as \_\_\_\_\_ feet and as tall as \_\_\_\_\_ feet at the shoulders.
2. The elephant's \_\_\_\_\_ is called a trunk, and it is used for \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. The African elephant is different from the Asian elephant. The African elephant has  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Mother elephants carry the baby inside for almost \_\_\_\_\_ years. That is longer than  
\_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_