

WELCOME!



On behalf of Splash! Publications, we would like to welcome you to *Large Mammals* one of nine lessons in our *California Animals Unit*. This lesson was designed by teachers with you and your students in mind.

THE FORMAT

Our goal is a lesson that you can use immediately. No comprehension questions to write, activities to create, or vocabulary words to define. Simply make copies of the lesson for your students and start teaching.

THE VOCABULARY

Our lessons feature words in bold type. We have included a Glossary to help students pronounce and define the words. Unlike a dictionary, the definitions in the Glossary are concise and written in context. Remember, we're teachers! Students will be exposed to these vocabulary words in the comprehension activities. They will also be tested on the vocabulary words at the end of the lesson.

Students will be responsible for filling out and studying their vocabulary cards. You may want to have students bring in a small box for storing their vocabulary cards. We don't have to tell you that incorporating these words into your Reading and Spelling programs will save time and make the words more meaningful for students.

THE LESSON PLAN

Before reading *Large Mammals*, students will:

- complete Vocabulary Cards for **canine**, **coastal**, **digest**, **extinct**, **illegal**, **inactive**, **inflate**, **inhabit**, **migrate**, **North America**, **yucca**.

After reading *Large Mammals*, students will:

- answer *Large Mammals* Reading Comprehension Questions.
- use a graphic organizer to research and complete *Mammal Expert's Journal* Part I.
- take a Vocabulary Quiz for *Large Mammals*.

NOTE: The answers to all activities and quizzes are at the end of the lesson.

OTHER LESSONS IN OUR CALIFORNIA ANIMALS UNIT

The Animal Kingdom, Vertebrates, Invertebrates, California's Small Mammals, California's Birds, California's Fish and Reptiles, California's Amphibians, California's Arthropods.

VOCABULARY CARD



word: _____

definition: _____



VOCABULARY CARD



word: _____

definition: _____



VOCABULARY CARD



word: _____

definition: _____





LARGE MAMMALS



California is full of wildlife. More than 400 species of mammals roam California's four major land regions and live in the waters of the Pacific Ocean. When the first hunters entered California, they found bighorn sheep, mule deer, and grizzly bears. Those who lived along California's **coastal** areas hunted sea lions, gray whales, and elephant seals. Today, bighorn sheep have almost disappeared and grizzly bears are **extinct**. Most of California's large sea mammals are protected by strict laws and it is **illegal** to hunt them.

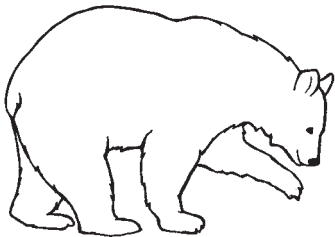
Some of California's most popular large mammals include black bears, pronghorns, mountain lions, elk, bighorn sheep, mule deer, California sea lions, blue whales, northern elephant seals, and gray whales. As you read about California's large mammals, pay special attention to what they eat and their structural and behavioral adaptations.

BLACK BEARS

Black bears are some of the largest mammals in **North America**. They used to roam throughout the state of California, but today they can usually be found in the mountains and forested areas of our state.

Like other mammals, black bears are covered with a layer of thick fur to keep them warm. The fur color of black bears can actually be black, tan, brown, or yellow. Beginning in late summer and fall, black bears search for acorns and other high protein foods. They build fat layers for added warmth.

During the colder months, black bears find a quiet place at the base of a tree or under the ledge of a large rock and remain **inactive** for part of the winter.



BLACK BEAR

Building fat layers and resting during the winter are behavioral adaptations that help black bears survive when food is difficult to find.

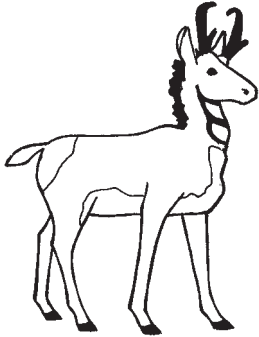
Female black bears give birth to one or two cubs every other year. Black bear cubs are blind at birth and only weigh about eight ounces. They stay with their mothers for about a year. Black bears grow very quickly. Full grown females can weigh as much as 600 pounds. Males can weigh up to 1,200 pounds!

Black bears are omnivores, which means they eat plants and meat. Their favorite foods are green plants, insects, and fruit. When food is hard to find, bears will eat small animals, young deer, and even garbage.

Black bears have sharp claws that make them good tree climbers and strong legs for running. They can reach speeds of up to 25 miles per hour. Humans are the only enemies of black bears, so don't try to feed or approach them.

PRONGHORNS

Pronghorns are some of the fastest animals in the world. They can run up to 50 miles per hour. This speed helps pronghorns run from predators that include mountain lions, wolves, and bobcats. When in danger, pronghorns act quickly by flaring out the white hairs on their back sides to warn other members of their herd. They have amazing eyesight and can sense movement up to three miles away. Their eyes are located far back on their heads so they can keep watch even when they are eating with their heads down.



PRONGHORN

Pronghorns are white and tan in color. They weigh up to 125 pounds and stand about three feet high. The name “pronghorn” comes from the shape of the horns found on both males and females. Most people mistakenly call pronghorns “antelopes.” Pronghorns are not true antelopes because they shed their horns every year. True antelopes do not shed their horns.

Female pronghorns usually have twins at the end of winter. Baby pronghorns, or fawns, weigh between five and seven pounds at birth. They can walk in less than an hour and outrun a human being at just four days old. Fawns give off almost no odor. This structural adaptation helps protect them from coyotes and golden eagles, their biggest enemies.

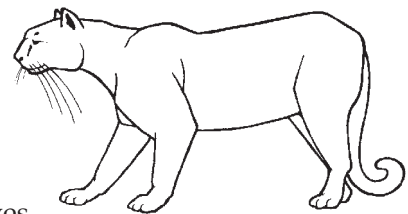
Pronghorns can survive in very hot and very cold temperatures. They are herbivores, which means they only eat plants. They eat shrubs, grasses, and even cacti. In California, pronghorns were once common throughout the entire central valley. Today, the largest numbers are found in northeastern California. Pronghorns are protected by strict laws. Only a few hunting permits are issued each year by the California Department of Fish and Game.

MOUNTAIN LIONS

Mountain lions are the largest wildcats in the United States. They are also known as cougars, pumas, and panthers. Their rounded black-tipped ears and wide noses give mountain lions an excellent sense of hearing and smell. Long legs and unusually large paws make them good climbers and jumpers. Mountain lions use their long black-tipped tails to balance themselves as they jump and walk along steep ledges.

Female mountain lions usually give birth to two or three cubs. The cubs are blind at birth and unable to defend themselves. Mountain lions have brownish-orange coats, grow to seven or eight feet long, and weigh 150 to 300 pounds.

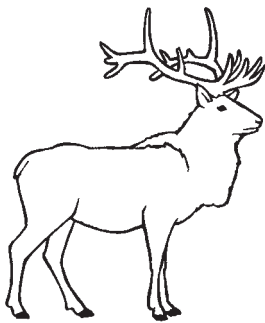
Mountain lions can usually be found in the foothills and mountains of California. They are shy animals, and attacks on humans are very rare. Mountain lions are carnivores, which means they eat meat. They are most active at night, hunting for deer, porcupines, and rabbits. It is illegal to hunt, own, or sell mountain lions in California.



MOUNTAIN LION

ELK

Elk are large, deer-like herbivores. They have long necks for stretching and reaching plants in difficult places. Strong teeth help them bite and chew plants. Elk have special four-part stomachs so they can **digest** grasses, shrubs, tree limbs, and even bark.



ELK

Elk have large bodies and huge horns. Male elk have large, six-pointed antlers that grow from the bony bumps on their heads. Their antlers are light and easily damaged until late summer when they turn into bone. Antlers grow for another six or seven months before falling off in early spring. A set of antlers can grow four feet long and weigh up to 40 pounds. Antlers act as a cooling system during the summer. Warm blood flowing through the antlers is cooled by the outside air. Antlers also help protect males when they fight with other elk.

Both male and female elk have body colors that can range from light tan to dark brown. Their thick fur protects them from cold temperatures. Female elk usually give birth to one calf each spring. Calves weigh about 35 pounds and can gain up to two pounds a day during their first few weeks of life.

Elk are social animals. They live in herds that are led by female elk. Female elk lead the rest of the herd to water and feeding grounds. During the spring, elk travel to higher places where they find cooler temperatures and plenty of food.

In the late 1800s, the elk population in the United States was almost completely wiped out because elk were hunted for their hides, antlers, or sometimes just their **canine** teeth, which are made of ivory. Today, elk can be found roaming the mountainous areas of California.

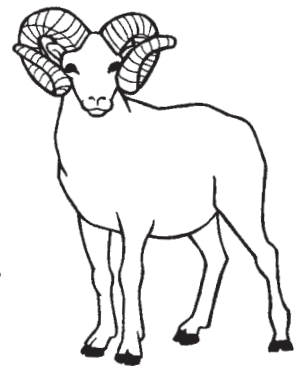
BIGHORN SHEEP

Bighorn sheep, or mountain sheep, have extremely good eyesight, very short tails, and pointed ears. The horns of male bighorn sheep are larger and curlier than the horns of female bighorn sheep. Male bighorn sheep are known as rams. Female bighorn sheep are ewes.

Ewes deliver one or two lambs each spring. Bighorn sheep have a special kind of “nursery system.” Two ewes stay with all of the lambs in a protected area while the other ewes move into the open areas to find food.

Unlike most other types of sheep, bighorns are covered with an outer layer of brown hair instead of wool. The underparts of bighorn sheep are gray. Their tails, backs of their legs, and areas around their jaws and noses are white. These colors help bighorn sheep blend in with the steep rocky slopes where they rest at night. Their eyes are located on the sides of their heads, allowing bighorn sheep to see predators approaching from all directions. Bighorn sheep have sharp-edged hooves that are split down the middle. These hooves help them climb and escape from predators that are unable to move as quickly through the rocky areas where bighorn sheep hide.

Bighorn sheep are herbivores. Their diets include **yucca**, prickly pear cactus, green leafy plants, and wild onions. Since water is difficult to find in the desert, bighorn sheep are able to get most of the water they need from the foods they eat.



BIGHORN SHEEP

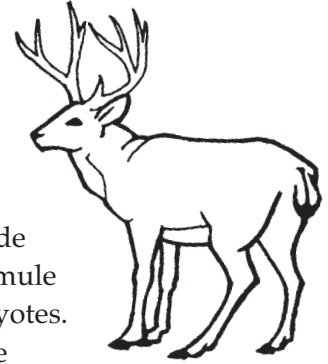
MULE DEER

California has a large number of mule deer. Mule deer can usually be spotted on the edges of forests where they hide themselves in leaves and tall grasses. Mule deer can be identified by the way they jump and bounce while running. They can reach speeds of 45 miles per hour. When frightened, mule deer move in a series of stiff-legged jumps, with all four feet hitting the ground at the same time. This behavior alerts other mule deer to danger in the area.

Mule deer have wide antlers, long ears, and black tips on their tails. During the summer, their coats can be yellow or reddish brown. In the winter, their coats turn gray. Their throats, inside ears, and inside legs are white. These colors are structural adaptations that help hide mule deer in the desert from predators like mountain lions, bobcats, and coyotes.

Bucks, or male mule deer, are larger than females. Female mule deer, known as does, deliver their babies in late spring or early summer. Does usually give birth to one fawn the first year and twins the next year. At birth, the fawns weigh about six pounds and are reddish colored with white spots. The white spots help camouflage fawns from eagles that like to swoop down and grab them.

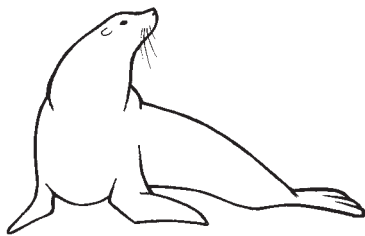
Mule deer have good senses of sight, smell, and hearing. Their large feet help them dig for water that can be as deep as two feet underground. Mule deer are herbivores that eat mostly leaves and shrubs. They eat so carefully, mule deer can even pick the fruit off of prickly cactus.



MULE DEER

CALIFORNIA SEA LIONS

California sea lions **inhabit** the Pacific waters from Canada to Baja California in Mexico. They are members of the walking seal family and are known for their intelligence, playfulness, and noisy barking. They use their large flippers to “walk” on land. Sea lions are social animals that often float on the ocean’s surface so closely packed together, they look like rafts.



CALIFORNIA SEA LION

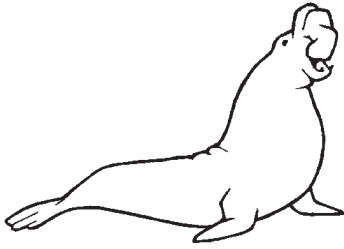
California sea lions have many structural adaptations that help them survive in the water. Their front flippers move them through the water at speeds up to 13 miles per hour. Most of their body fat is deposited into a thick layer of blubber just under their skin. The blubber helps them stay warm in the water and keeps them from getting too thin when food is difficult to find.

Male sea lions are chocolate brown in color and can weigh as much as 1,000 pounds. Females are light golden brown in color and weigh about 220 pounds as adults. During the summer, female sea lions give birth to pups that weigh about 20 pounds. Pups depend upon their mother’s milk for up to a year.

California sea lions spend time on land and in the water, diving as deep as 400 feet in search of mollusks, squid, octopus, and small sharks. Killer whales and great white sharks prey upon California sea lions, but their main enemies are fishing nets that accidentally trap and kill sea lions before they can be released.

NORTHERN ELEPHANT SEALS

Northern elephant seals are the largest and most powerful members of a family that includes seals, sea lions, and walruses. Like other true seals, elephant seals move on land by flopping on their bellies.



NORTHERN ELEPHANT SEAL

Male elephant seals can grow over 13 feet long and weigh 5,000 pounds. They also have thick, elephant-like noses that can grow up to one foot long. Adult females are much smaller at 10 feet long and 1,500 pounds. About one third of their weight is a thick layer of blubber that keeps northern elephant seals warm and helps them float. They dive up to two hours each day in search of squid, small sharks, and other types of fish.

Each winter, elephant seals **migrate** to beaches in Mexico and California in search of mates. Males arrive first, fighting each other to prove who is the strongest. To attract females, male elephant seals **inflate** their noses and make drum-like noises. A year later, females give birth to elephant seal pups that weigh about 80 pounds at birth, growing quickly and tripling their weight within a month. Pups are born with black coats that molt into a silvery brown color after about a year. Once hunted to near extinction, northern elephant seals are now fully protected by law.

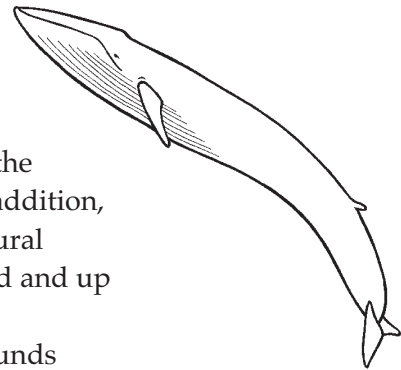
BLUE WHALES

Blue whales are the largest animals on Earth. Everything about them is huge. They are about as long as three school buses and weigh between 200,000 and 300,000 pounds. Their hearts are as large as a small car. Fifty people could stand on a blue whale's tongue. As they come up for air, blue whales shoot a 30 foot stream of water from their spouts.

Though they are the biggest animals in the world, blue whales eat krill, which are some of the smallest animals in the ocean. They must eat 2,000 to 8,000 pounds of these small shrimp-like sea animals each day during the feeding season. Instead of teeth, blue whales have a row of 320 plates in their mouths that are 40 inches long and 22 inches wide. As blue whales take in water, the plates grab onto the tiny krill. After forcing the water out of their mouths, the whales use their long tongues to lick the krill off the plates. In addition, blue whales have throats that fill up like balloons. These structural adaptations allow blue whales to swallow large amounts of food and up to 50 tons of water at one time.

Baby blue whales, called calves, weigh 5,000 to 6,000 pounds when they are born and require over 50 gallons of mother's milk each day. Calves gain ten pounds an hour in their first few weeks of life. By the time they are six months old, calves are eating their own supply of krill.

Blue whales are blue-gray in color with yellowish-gray bellies. Blue whales have been found in every ocean of the world. In California, they live off the coast and migrate south to the warmer waters in Mexico and Costa Rica. Many blue whales were killed before the 1960s. Today, they are on the endangered species list. It is illegal to hunt blue whales.



BLUE WHALE



LARGE MAMMALS



Directions: Read each question carefully. Darken the circle for the correct answer.

- 1 Many of the land and sea mammals in California are rare or extinct. **Extinct** means –
- A moved to less populated areas
- B roams through all areas of California
- C covered with a thick layer of fur
- D no longer living
- 2 After reading about black bears, you get the idea that –
- F they only eat meat
- G their fur is always black in color
- H female black bears are larger than male black bears
- J a newborn black bear cub could probably fit in your hand
- 3 Which of the following is a **behavioral adaptation** of pronghorns?
- A They have amazing eyesight.
- B They have twins at the end of winter.
- C When in danger, they flare out the white hairs on their back sides to warn others in the herd.
- D Pronghorns weigh up to 125 pounds and stand about three feet high.
- 4 Bighorn sheep are different from other sheep because –
- F they lay eggs
- G they are covered with hair instead of wool
- H they don't have horns
- J they eat meat instead of plants
- 5 Which of the following is the **best** example of **camouflage**?
- A White spots on mule deer fawns hide them from predators that want to swoop down and grab them.
- B California sea lions are very social.
- C Wide noses give mountain lions an excellent sense of smell.
- D Black bears are covered with a thick layer of fur to keep them warm.
- 6 Which statement below describes a **structural adaptation**?
- F Pronghorns are herbivores that only eat plants.
- G Northern elephant seals make drum-like noises with their noses to attract females.
- H Mountain lions use their tails to balance themselves.
- J Blue whales are found in all of the world's oceans.
- 7 Which statement about blue whales is **false**?
- A Blue whales are the largest animals on Earth.
- B Blue whales have rows and rows of teeth.
- C It is illegal to hunt blue whales.
- D Blue whales have huge hearts.

READING

Answers

- | | | | |
|---|-----------------|---|-----------------|
| 1 | (A) (B) (C) (D) | 5 | (A) (B) (C) (D) |
| 2 | (F) (G) (H) (J) | 6 | (F) (G) (H) (J) |
| 3 | (A) (B) (C) (D) | 7 | (A) (B) (C) (D) |
| 4 | (F) (G) (H) (J) | | |

MAMMAL EXPERT'S JOURNAL: PART I

California is home to many species of large mammals. You have learned so much information about California's large mammals that you are ready to create the first part of a *Mammal Expert's Journal*. An *Expert's Journal* includes pictures and descriptions of each mammal that you have studied.

To complete Part I of your *Mammal Expert's Journal*, you will need:

- your information about California's Large Mammals.
- pages with the pictures of large mammals already on them.
- coloring pencils.

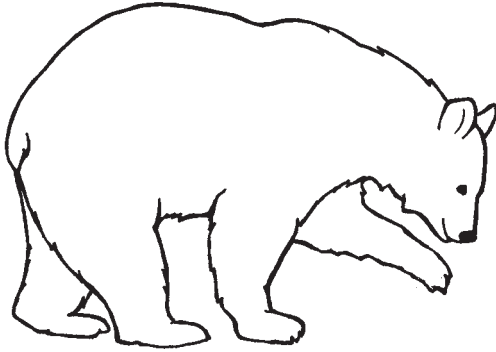
PART I DIRECTIONS:

1. Use the 9 mammal pages and your information about California's large mammals to correctly color each of the 9 large mammals.
2. Use your information about California's large mammals and the lines provided on each of the pages to fill in the required information about each large mammal.
Spelling Counts!
3. When you are finished with all 9 large mammals, arrange the pages neatly on top of each other.
4. Put your finished pages in a folder or other safe place. You will need them later to complete Part II of your *Mammal Expert's Journal*.



NORTHERN ELEPHANT SEAL

BLACK BEARS



Black bears are some of the largest mammals in North America.

They are omnivores that usually roam the mountains of our state. Omnivores are _____

Favorite foods of black bears include _____

Black bear cubs only weigh about eight ounces at birth. Full grown females can weigh _____

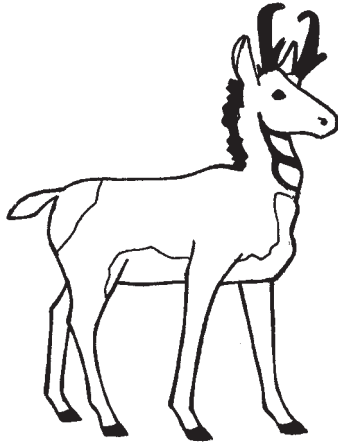
and full grown males can weigh _____

The fur colors of black bears can be _____

One structural adaptation of black bears is _____

One behavioral adaptation of black bears is _____

One other interesting fact I learned about black bears is _____



PRONGHORNS

Pronghorns are some of the fastest animals in the world. They can run up to _____

Their speed helps them run from predators that include _____

Most people mistakenly call pronghorns _____

Pronghorns are not true _____ because _____

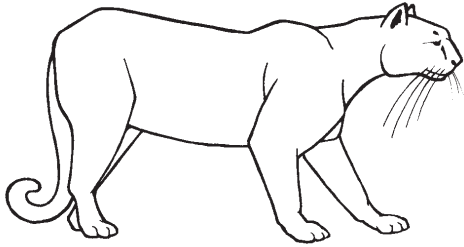
Pronghorns are herbivores. Herbivores are _____

One structural adaptation of pronghorns is _____

One behavioral adaptation of pronghorns is _____

One other interesting fact I learned about pronghorns is _____

MOUNTAIN LIONS



Mountain lions are the largest wildcats in the United States. They are also known as

Mountain lions are carnivores. Carnivores are _____

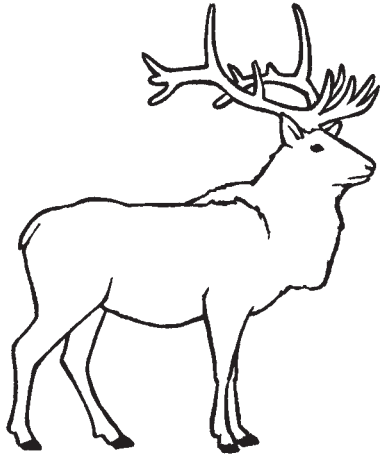
Favorite foods of mountain lions include _____

Mountain lions are good climbers and jumpers because _____

Two structural adaptations of mountain lions are _____

One other interesting fact I learned about mountain lions is _____

ELK



Elk are large, deer-like herbivores. They have long necks for _____

Elk can be easily spotted by their _____

A set of male antlers can grow four feet long and weigh _____

Antlers act as _____

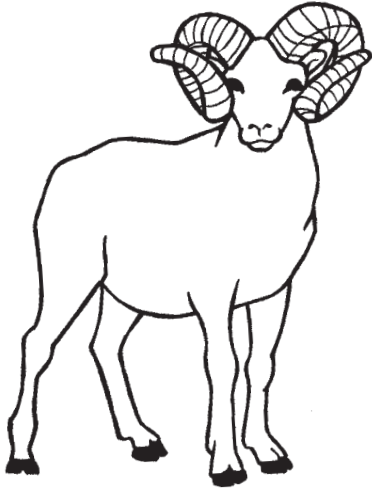
Antlers also help protect males when _____

Elk are social animals. They live in herds that are led by _____

Two structural adaptations of elk are _____

One other interesting fact I learned about elk is _____

BIGHORN SHEEP



Bighorn sheep, or mountain sheep, have extremely good eyesight, very short _____

and pointed _____

Male bighorn sheep are known as _____

Female bighorn sheep are _____

Their babies are called _____

Unlike most other types of sheep, bighorns are covered with _____

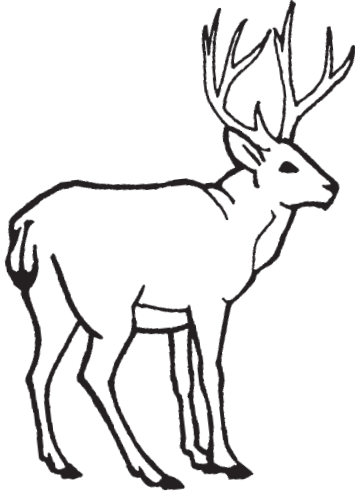
The underparts of bighorn sheep are _____

and their tails, backs of their legs, jaws, and noses are _____

This coloring helps them _____

One structural adaptation of bighorn sheep is _____

One other interesting fact I learned about bighorn sheep is _____



MULE DEER

Mule deer can be easily spotted on the edges of forests where they hide themselves in

They can be identified by the way they

Male mule deer are known as _____

Female mule deer are known as _____

and their babies are called fawns. At birth, fawns weigh about six pounds and are reddish colored with _____

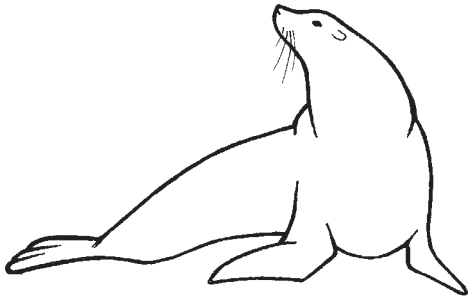
This coloring helps fawns by _____

One structural adaptation of mule deer is _____

One behavioral adaptation of mule deer is _____

One other interesting fact I learned about mule deer is _____

CALIFORNIA SEA LIONS



California sea lions are members of the walking seal family. They are known for their

Male sea lions are chocolate in color and can weigh _____

Females are light golden brown in color and weigh _____

During the summer, female sea lions give birth to _____
that weigh _____

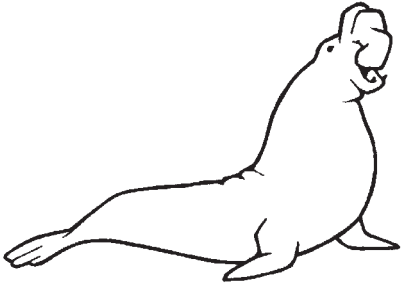
California sea lions spend time on land and in the water, diving as deep as _____
_____ in search of _____

One structural adaptation of California sea lions is _____

One behavioral adaptation of California sea lions is _____

One other interesting fact I learned about California sea lions is _____

NORTHERN ELEPHANT SEALS



Northern elephant seals are the largest and most powerful members of a family that includes _____

Like other true seals, elephant seals move on land by _____

Male elephant seals can grow over 13 feet long and weigh _____

Adult females are much smaller at 10 feet long and weigh _____

Elephant seals dive up to two hours each day in search of _____

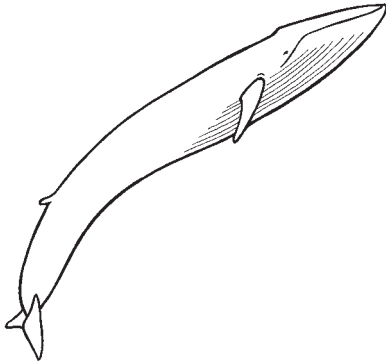
Each winter, elephant seals migrate to beaches in Mexico and California in search of _____ . Males arrive first, fighting to prove _____

One structural adaptation of northern elephant seals is _____

One behavioral adaptation of northern elephant seals is _____

One other interesting fact I learned about northern elephant seals is _____

BLUE WHALES



Blue whales are the largest animals on Earth.

They are about as long as _____

and weigh between _____

Though they are the biggest animals in the world, blue whales eat _____

which are some of the smallest animals in the ocean. Baby blue whales are called

_____ . When they are born, they weigh _____

and require over 50 gallons of _____

By the time they are six months old, baby blue whales are _____

In California, blue whales live _____

and migrate _____

Two structural adaptations of blue whales are _____

One other interesting fact I learned about blue whales is _____

VOCABULARY QUIZ

LARGE MAMMALS

DIRECTIONS: Match the vocabulary word on the left with its definition on the right. Put the letter for the definition on the blank next to the vocabulary word it matches. Use each word and definition only once.

1. _____ North America

2. _____ inactive

3. _____ yucca

4. _____ inflate

5. _____ extinct

6. _____ illegal

7. _____ coastal

8. _____ migrate

9. _____ digest

10. _____ canine

11. _____ inhabit

A. no longer living.

B. against the law.

C. a plant with pointed leaves and clusters of white, waxy flowers.

D. to live in a place.

E. surviving for a long time with no movement.

F. pointed, cone-shaped teeth.

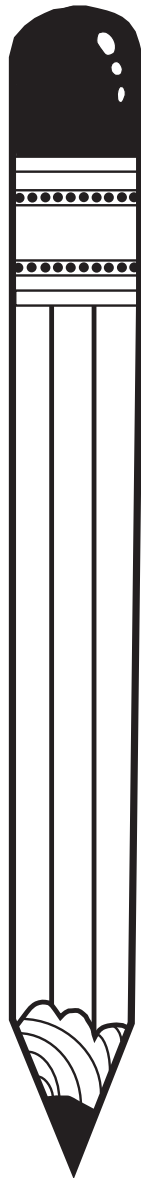
G. one of seven continents in the world. Bounded by Alaska on the northwest, Greenland on the northeast, Florida on the southeast, and Mexico on the southwest.

H. blow air into something to make it bigger.

I. to move from one region or country to another.

J. the process used by the body to break down food so it can be used for vitamins and energy.

K. an area of land that borders water.



GLOSSARY



ca•nine pointed, cone-shaped teeth.

coast•al an area of land that borders water.

di•gest the process used by the body to break down food so it can be used for vitamins and energy.

ex•tinct no longer living.

il•le•gal against the law.

in•ac•tive surviving for a long time with no movement.

in•flate blow air into something to make it bigger.

in•hab•it to live in a place.

mi•grate to move from one region or country to another.

North A•mer•i•ca one of seven continents in the world. Bounded by Alaska on the northwest, Greenland on the northeast, Florida on the southeast, and Mexico on the southwest.

yuc•ca a plant with pointed leaves and clusters of white, waxy flowers.

ANSWERS



ANSWERS TO COMPREHENSION QUESTIONS

1. D
2. J
3. C
4. G
5. A
6. H
7. B

ANSWERS TO VOCABULARY QUIZ

- | | |
|------|-------|
| 1. G | 7. K |
| 2. E | 8. I |
| 3. C | 9. J |
| 4. H | 10. F |
| 5. A | 11. D |
| 6. B | |

ANSWERS TO MAMMAL EXPERT'S JOURNAL PART I

BLACK BEARS

Black Bears are some of the largest mammals in North America. They are omnivores that usually roam the mountains of our state. Omnivores are animals that eat both meat and plants. Favorite foods of black bears include green plants, insects, and fruit. Black bear cubs only weigh about eight ounces at birth. Full grown females can weigh 600 pounds and full grown males can weigh 1,200 pounds. The fur colors of black bears can be black, tan, brown, or yellow. One structural adaptation of black bears is they are covered with a layer of thick fur to keep them warm or black bears have sharp claws that make them good tree climbers and strong legs for running. One behavioral adaptation of black bears is beginning in late summer they start building fat layers for added warmth or they remain inactive for part of the winter.

PRONGHORNS

Pronghorns are some of the fastest animals in the world. They can run up to 50 miles per hour. Their speed helps them run from predators that include mountain lions, wolves, and bobcats. Most people mistakenly call pronghorns antelopes. Pronghorns are not true antelopes because pronghorns shed their horns every year. Pronghorns are herbivores. Herbivores are animals that only eat plants. One structural adaptation of pronghorns is they have amazing eyesight and can sense movement up to three miles away or their eyes are located far back on their heads so they can keep watch even when they are eating with their heads down or fawns give off no odor, protecting them from coyotes and golden eagles. One behavioral adaptation of pronghorns is when in danger, pronghorns act quickly by flaring out the white hairs on their back sides to warn other members of their herd.

MOUNTAIN LIONS

Mountain lions are the largest wildcats in the United States. They are also known as cougars, pumas, or panthers. Mountain lions are carnivores. Carnivores are animals that only eat meat. Favorite foods of mountain lions include deer, porcupines, and rabbits. Mountain lions are good climbers and jumpers because they have long legs and unusually large paws. Two structural adaptations of mountain lions are they have rounded black-tipped ears for hearing or they have wide noses for an excellent sense of smell or their long black-tipped tails help them to balance themselves as they jump and walk along steep ledges.

ELK

Elk are deer-like herbivores. They have long necks for stretching and reaching plants in difficult places. Elk can be easily spotted by their large bodies and huge horns. A set of male antlers can grow four feet long and weigh up to 40 pounds. Antlers act as a cooling system during the summer. Antlers also help protect males when they fight with other elk. Elk are social animals. They live in herds that are led by female elk. Two structural adaptations of elk are they have strong teeth that help them bite and chew plants or they have special four-part stomachs that help them digest grasses, shrubs, tree limbs, and even bark or they have antlers for protection or they have thick fur to protect them from cold temperatures.

ANSWERS TO MAMMAL EXPERT'S JOURNAL PART I (CONTINUED)

BIGHORN SHEEP

Bighorn sheep, or mountain sheep, have extremely good eyesight, very short tails and pointed ears. Male bighorn sheep are known as rams. Female bighorn sheep are ewes. Their babies are called lambs. Unlike most other types of sheep, bighorns are covered with an outer layer of brown hair instead of wool. The underparts of bighorn sheep are gray and their tails, backs of their legs, jaws, and noses are white. This coloring helps them blend in with the steep rocky slopes where they rest at night. One structural adaptation of bighorn sheep is their eyes are located on the sides of their heads, allowing them to see predators approaching from all directions or they have sharp-edged hooves that are split in half to help them climb and escape from predators.

MULE DEER

Mule deer can be easily spotted on the edges of forests where they hide themselves in leaves and tall grasses. They can be identified by the way they jump and bounce while running. Male mule deer are known as bucks. Female mule deer are known as does and their babies are called fawns. At birth, fawns weigh about six pounds and are reddish colored with white spots. This coloring helps fawns by camouflaging them from eagles that like to swoop down and grab them. One structural adaptation of mule deer is their coloring helps hide them from predators or mule deer have a good sense of sight, smell, and hearing or their large feet help them dig for water that can be as deep as two feet underground. One behavioral adaptation of mule deer is when frightened, mule deer move in a series of stiff-legged jumps, with all four feet hitting the ground at the same time or mule deer eat so carefully, they can even pick the fruit off of prickly cactus.

CALIFORNIA SEA LIONS

California sea lions are members of the walking seal family. They are known for their intelligence, playfulness, and noisy barking. Male sea lions are chocolate in color and can weigh as much as 1,000 pounds. Females are light golden brown in color and weigh about 220 pounds. During the summer, female sea lions give birth to pups that weigh about 20 pounds. California sea lions spend time on land and in the water, diving as deep as 400 feet in search of mollusks, squid, octopus, and small sharks. One structural adaptation of sea lions is their front flippers move them through the water at speeds of up to 13 miles per hour or they use their flippers to "walk" on land or most of their body fat is deposited into a thick layer of blubber just under their skin or their blubber helps them stay warm in the water and keeps them from getting too thin when food is difficult to find. One behavioral adaptation of sea lions is they are social animals that often float on the ocean's surface so closely packed together, they look like rafts.

NORTHERN ELEPHANT SEALS

Northern elephant seals are the largest and most powerful members of a family that includes seals, sea lions, and walruses. Like other true seals, elephant seals move on land by flopping on their bellies. Male elephant seals can grow over 13 feet long and weigh 5,000 pounds. Adult females are much smaller at 10 feet long and weigh 1,500 pounds. Elephant seals dive up to two hours each day in search of squid, small sharks, and other types of fish. Each winter, elephant seals migrate to beaches in Mexico and California in search of mates. Males arrive first, fighting to prove who is the strongest. One structural adaptation of elephant seals is a thick layer of blubber keeps them warm and helps them float. One behavioral adaptation of elephant seals is to attract females, male elephant seals inflate their noses and make drum-like noises.

BLUE WHALES

Blue whales are the largest animals on Earth. They are about as long as three school buses and weigh between 200,000 and 300,000 pounds. Though they are the biggest animals in the world, blue whales eat krill which are some of the smallest animals in the ocean. Baby blue whales are called calves. When they are born, they weigh 5,000 to 6,000 pounds and require over 50 gallons of mother's milk each day. By the time they are six months old, baby blue whales are eating their own supply of krill. In California, blue whales live off the coast and migrate south to the warmer waters in Mexico and Costa Rica. One structural adaptation of blue whales is instead of teeth, blue whales have a row of 320 plates in their mouths that are 40 inches long and 22 inches wide or blue whales use their long tongues to lick krill off their plates or blue whales have throats that fill up like balloons so they can swallow large amounts of food and water at one time.