MAMMALS

Grades 3-6

STUDENT JOURNAL

This journal belongs to:

THE GOOD AND THE BEAUTIFUL



INSTRUCTIONS

This student journal accompanies *The Good and the Beautiful Mammals* science unit. It contains all the worksheets and journal pages that are needed to complete the unit. Each student will need his or her own copy of the science journal.

Have each student take his or her time to create high-quality work as the activities and worksheets are completed. Students may enjoy looking back on their past discoveries when they've finished.



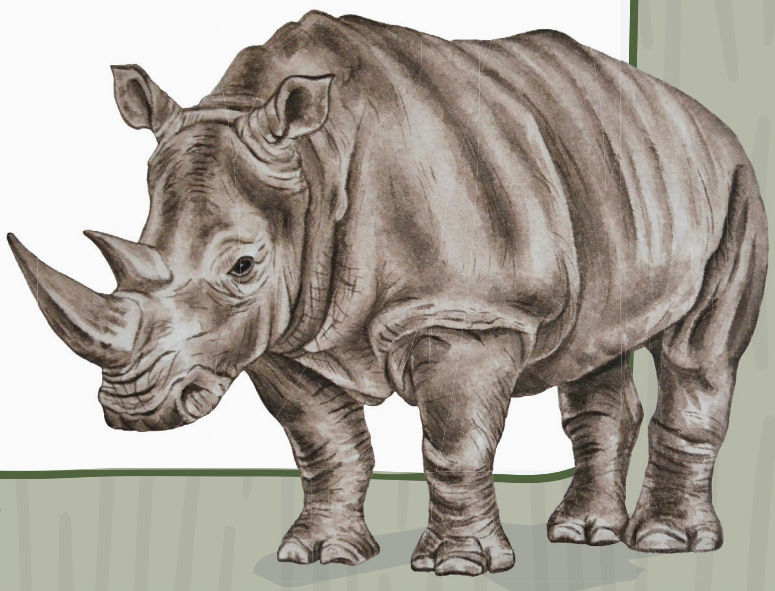
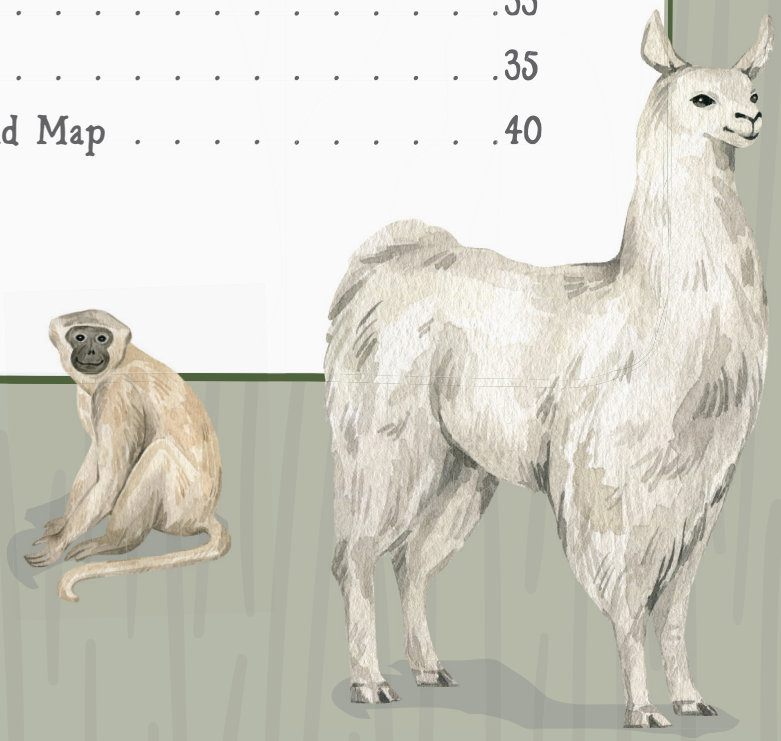


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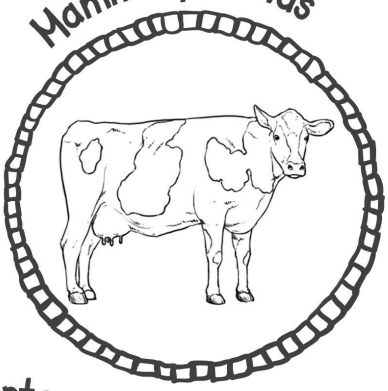


MAMMAL CHARACTERISTICS

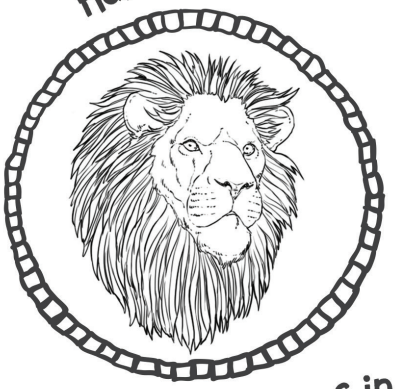
NOTE:

Repeat each characteristic aloud three times as you color this page.

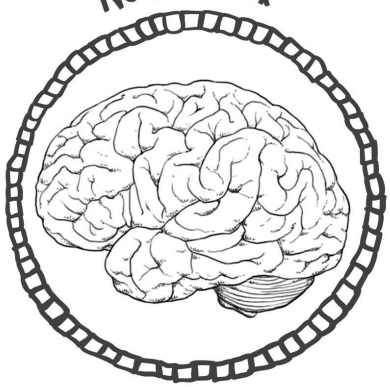
Mammary Glands



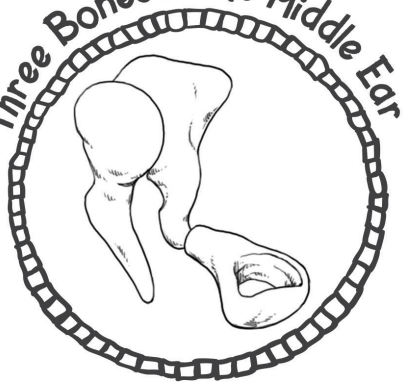
Hair or Fur



Neocortex



Three Bones in the Middle Ear



Single-Boned Jaw



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My Ungulates BOOKLET





PERISSODACTYLA:
Odd-Toed Mammals

Features of Perissodactyls

- They bear their weight on one toe.
- They are herbivores.
- They have hooves.
- They have long faces.

TAPIR



Number of Toes Per Foot

4 front 3 hind 5 1

Partial or Full Hoof

HORSE



Number of Toes Per Foot

2 5 3 1

Partial or Full Hoof

RHINOCEROS



Number of Toes Per Foot

7 5 3 2

Partial or Full Hoof

UNGULATE RUNNING

Fill in the information on the chart below as you complete the running challenge.

Name	Time	Distance Run	Speed (feet per second) Calculate: Distance Run ÷ Child's Time	Speed (miles per hour) Calculate: Speed (Feet per Second) x 0.68
Example	5 seconds	50 feet	50 feet ÷ 5 seconds = 10 ft/s	10 ft/s x 0.68 = 6.8 mph

HORSE BREEDS











Friesian

Clydesdale

Appaloosa

Shetland

American Quarter Horse

ARTIODACTYLA:
Even-Toed Mammals

Features of Artiodactyls

- They bear their weight evenly between two main toes.
- They are herbivores.
- They have hooves.
- Most of them have four-chambered stomachs.
- Most of them have powerful, elongated legs.
- Many families in this order have horns, antlers, or tusks.

HORNS



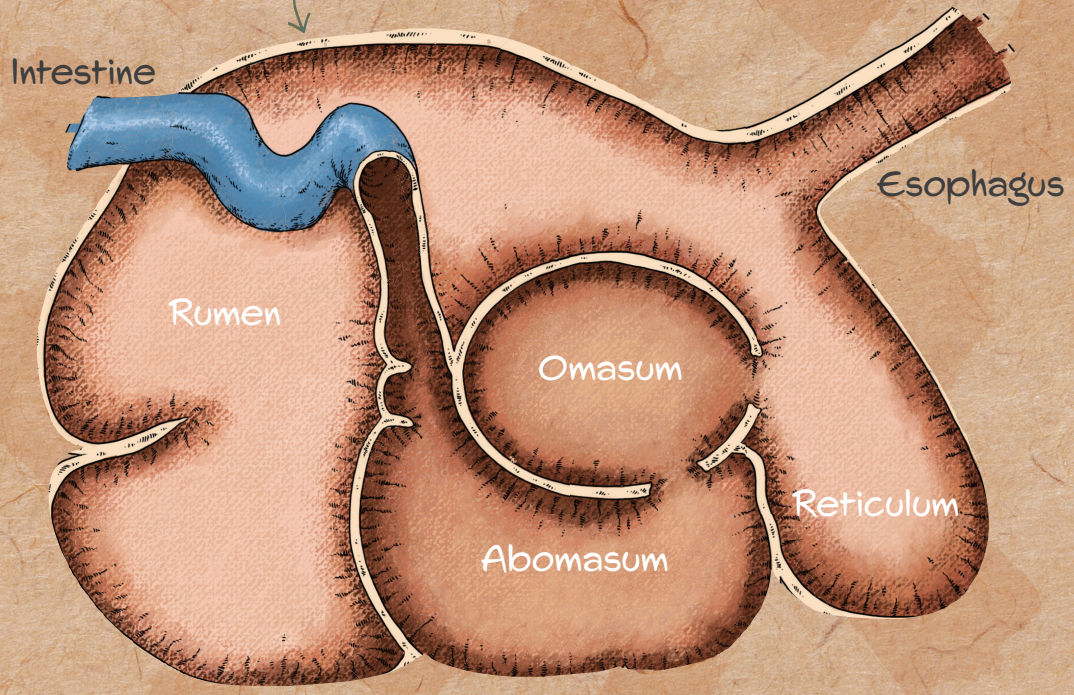
branch	do not branch
fall off	do not fall off
replaceable	not replaceable
velvet covering	never covered with velvet

ANTLERS



branch	do not branch
fall off	do not fall off
replaceable	not replaceable
velvet covering	never covered with velvet

RUMINANT DIGESTIVE SYSTEM



ART STUDY



"Tropical Forest with Monkeys"
by Henri Rousseau (1844–1910), 1910

© Good and Beautiful

MONKEY MYSTERY



Draw a line from each primate to the category it belongs to.

NEW WORLD MONKEY

- comes from the Americas
- has a prehensile tail
- spends most of its time in trees

OLD WORLD MONKEY

- comes from Africa and Asia
- has a tail, but not a prehensile one
- spends most of its time on the ground

APE

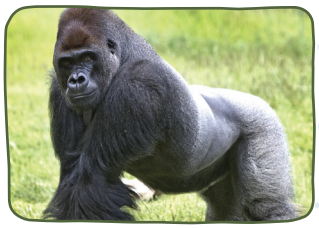
- comes from Africa and Asia
- does not have a tail
- spends most of its time on the ground
- is not considered a monkey



Mandrill



Slow Loris



Gorilla

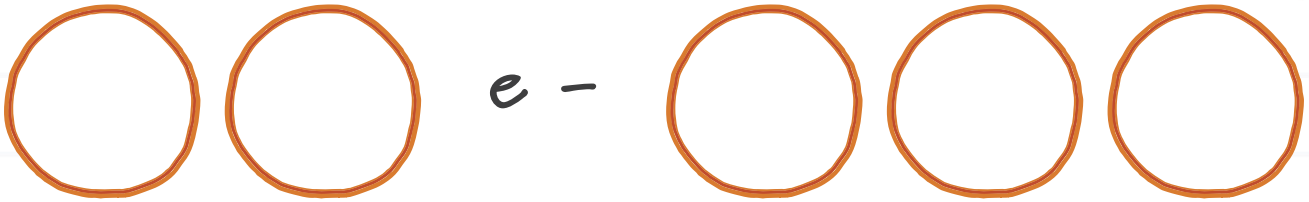


Vervet



Pygmy Marmoset

What is a primate's favorite month?



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Lesson 7

FEROCIOUS FELINES

Match the descriptions on the next two pages with the pictures on the third page by writing the number by each name in the correct circle. If desired, write or draw an interesting fact about each species on the fourth page.

1 LIONS

- Lions live with about 30 others in a group called a *pride*, with about four lionesses for every male lion.
- The size of a pride is determined by food and water availability; where there is more food and water, there are more lions.
- The small, agile adult lionesses hunt for dinner while the larger male leaders stay behind to protect their young and territory.
- A lion's thick mane protects its neck from attack.

2 TIGERS

- The tiger is the largest feline, with Siberian tigers weighing around 300 kilograms (660 pounds).
- Their long hind legs for making great leaps and padded feet for sneaking up on prey help them hunt.
- A tiger can single-handedly kill a young elephant and eat more than 36 kilograms (80 pounds) in one sitting.
- A tiger's stripes are on its fur and its skin.
- White tigers are not albino or a separate species, but have a rare genetic anomaly known as *leucism*. Genes from both parents cause them to have pigmentation only in their eyes, not their hair or skin.

3 CHEETAHS

- A cheetah's paw pads are like football cleats, rough with semi-retractable claws for traction.
- Their eyes are outlined with black to reflect the sun's glare so they can zero in on their prey.
- Going from 0 to 113 kilometers per hour (0 to 70 miles per hour) in just three seconds, or three paces, the cheetah is well known as the fastest mammal on Earth.
- A small head, a sleek body, low weight, and a flat rib cage make a cheetah's body aerodynamic.
- Long legs and powerful muscles allow a cheetah to take strides of 7.62 meters (25 feet) at a time.

4 LEOPARDS

- Found in Africa, the Middle East, and Asia, leopards are not fussy about their habitat as long as they live alone.
- They love to rest in trees and will even drag their prey (including gazelles, baboons, and antelope) up into the tree with them.
- Most leopards can live for 12–17 years.
- When leopards are calm and happy, they can be heard purring like a house cat, but you don't want to get too close and upset a leopard. When they are angry, they have a loud roar.

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FEROCIOUS FELINES

5 SNOW LEOPARD

- Just as other cats were created with traits that help them to survive the heat in sub-Saharan areas of Africa, snow leopards were created to survive the cold in the mountainous areas of Asia using their thick fur coats.
- Their small ears are designed to lose less heat, and their long tail can wrap around them for extra warmth.
- They are very difficult to see because they are perfectly camouflaged in their snowy, mountainous habitats. This makes them hard to study.

6 DOMESTIC CATS

- Recent studies have linked the DNA roots of cat domestication to the Fertile Crescent and Egypt. Cat domestication may have begun with cats taming themselves rather than humans caging and taming them.
- As farming practices increased, there became a surplus of grains to store and trade on ships. This invited unwelcome rodents. Cats are natural predators of rodents.
- It wasn't until the 18th century, when selective breeding began, that cats became a more prevalent house pet. Scientists study changes in behavioral patterns and the color, pattern, and length of cat coats to determine the history of breeding over the years.

7 MOUNTAIN LION

- Also called pumas or panthers, these wild cats are found throughout the Americas, generally wherever deer are found.
- They inhabit deserts, woodlands, and rocky mountains.
- They are the largest American wild cat; adult males can be more than 2.44 meters (8 feet) long.

8 BOBCAT

- Not as large as mountain lions, these fierce predators generally prey on rabbits, birds, or rodents, but they are capable of taking down prey that is up to eight times bigger than they are.
- Females raise their young, known as kittens, in a secluded den for up to 12 months. Domesticated cats have been known to care for orphaned bobcat kittens.
- The bobcat gets its name from its short "bobbed" tail.

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Lesson 7

FEROCIOUS FELINES

















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WOLF VS. DOG IMAGES

Read the characteristics of the gray wolf and the husky dog on the "Wolf vs. Dog" page. On this page, cut out the two images under the first category (coat) and choose which of the two images best fits the wolf or the dog. Paste the images onto the worksheet. Repeat this for the remaining categories.

COAT





FACE & EARS





SOUND





TRACKS





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MONOTREMES

Circle the fact you found most interesting from the activity.

Platypus



- **Scientific Name:** *Ornithorhynchus anatinus*
- **Size:** 43–51 centimeters (17–20 inches)
- **Weight:** 0.90–2.27 kilograms (2–5 pounds)
- **Top Swimming Speed:** About 35 kilometers per hour (22 miles per hour)
- **Diet:** Carnivorous; insects, shellfish, and worms (They are bottom-feeders.)
- **Habitat:** Australia; in freshwater streams, rivers, and lakes
- **Life Expectancy:** 17 years
- **Fun Fact:** They use their beaks to help them sense electrical impulses (like the heartbeats) in their prey.

Echidna

- **Scientific Name:** *Tachyglossidae*
- **Size:** About 30–76 centimeters (12–30 inches), depending on the species
- **Weight:** 3–9 kilograms (7–20 pounds)
- **Top Speed:** About 29 kilometers per hour (18 miles per hour)
- **Diet:** Carnivorous; insects like ants and termites
- **Habitat:** Australia and New Guinea; in arid forests and grasslands
- **Life Expectancy:** 14–16 years
- **Fun Fact:** Their short snout digs, eats, senses, and breathes.



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POSSUM VS. OPOSSUM



They are native to Australia. They appear very soft and have large ears and bushy tails. Their fur is gold, brown, black, and gray.



They are native to North America and appear to be fierce. They have sharp teeth, coarse hair, and bare tails. Their fur is white and gray.



Using their strong teeth, they feed mostly on eucalyptus leaves, buds, flowers, and fruits. They can also eat insects and small animals. Close to suburban areas, they'll eat almost anything.



They eat grass, nuts, and fruit, and they hunt small animals like mice, birds, insects, and worms. Known for being scavengers, they may raid garbage cans. By eating ticks, they help reduce the spread of Lyme disease in humans, since some ticks carry the disease.



Females will give birth to only one baby at a time, which will nurse in the mother's pouch and eventually ride on her back.



Females give birth to many young at a time, and they are as small as bees! They nurse in their mother's pouch and will ride on her back while she hunts.



They are solitary (live alone) but can be very noisy during breeding season! They make clicking, chattering, hissing, and grunting sounds. They can also make piercing screeches.



These creatures are known for the phrase "playing possum." They pretend they are dead when they feel threatened by a predator, hoping the predator will pass them by, giving them a chance to escape!

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ART STUDY



"Dormice"
by Archibald Thorburn (1860–1935), 1903

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BEAR SPECIES

Match each bear picture to the correct species name.



American Black Bear
Ursus americanus



Brown Bear
Ursus arctos



Giant Panda
Ailuropoda melanoleuca



Polar Bear
Ursus maritimus



Sun Bear
Helarctos malayanus



Spectacled Bear
Remarctos ornatus

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MAMMAL CONSERVATIONISTS BOOKLETS PAGE 1

glue here

Chimpanzee of Gombe

Current population in the wild: 170,000 to 300,000

Jane Goodall grew up in England. She developed a love for animals while reading books about a naturalist veterinarian, and she gained a love of Africa while reading fiction stories that took place on that amazing continent. She has been living with, studying, and teaching about the chimpanzees of Gombe for many decades! It began when she saw a male chimpanzee in the rainforest reserve looking for food. He used a twig to spoon termites out of their mound and into his mouth. She found it fascinating that he made a tool and used it like a human would. She also observed the chimpanzees showing affection for one another as humans do, and interestingly, she also saw them fighting a war! This occurred between two tribes of chimps and lasted about three years.

glue here

Bison of the American West

Current population in the wild: about 500,000

About 30–60 million bison once roamed North America. When American settlers pushed farther west in the 1800s, American bison were pushed out. By 1889, the bison numbers plummeted to a mere 1,091. How did this happen? Native Americans understood the land and had burned the grasses of the prairies to keep the trees from overtaking the bison range. However, farming settlers didn't know this, and their ways of farming left the soil depleted, affecting the balance of the prairie's ecosystem. The bison were also hunted by the millions during this time. In 1908, President Theodore Roosevelt passed legislation to establish the National Bison Range, and land was purchased for it. The American Society of Bison bought the first 34–40 bison for the bison range, and by 1910 there were 11 calves. While this allowed the bison to graze freely again, care for the land and the species is still needed to ensure their survival.

glue here

Chiru of Chang Tang, Tibet

Current population in the wild: 100,000 to 150,000

The chiru is a Tibetan antelope. The chiru's wool is very fine—one-fifth the thickness of human hair! It is used to make shahtoosh wedding shawls, and it takes four chiru to make one shawl. The demand was so great that it pushed the species near to extinction. George B. Schaller grew up in Germany reading books about Tibet. As an adult in the 1900s, he traveled there to study the wildlife. He found thousands of chiru carcasses lying in waste, so he decided to do something about it. He studied the herd and found the secret place where the chiru gave birth each year, away from hunters. He helped to make the buying and selling of the shahtoosh illegal. The number of chiru has been increasing in recent years because of conservation efforts.

glue here

Amur Leopard of Eastern Russia

Current population in the wild: greater than 103

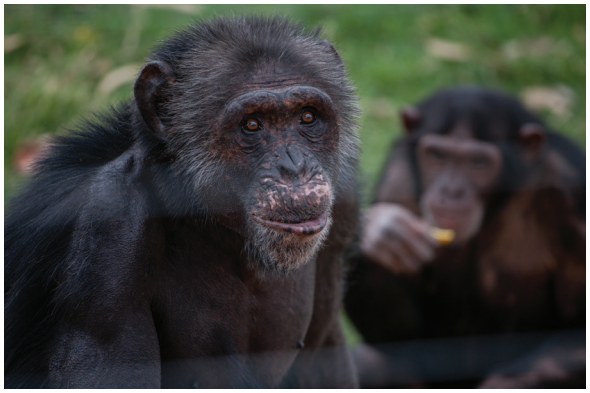
One critically endangered species is the Amur leopard found in Eastern Russia (also home to the rare Amur tiger). Surrounded by agriculture and villages, the leopard's forests are being threatened, as well as its prey. Because of its highly admired pelt, poaching is also a major threat to this beautiful species. Land of the Leopard National Park was founded by the Russian government in 2012 to help protect the world's rarest feline species. There are 400 cameras installed all over the park to harmlessly capture these leopards on camera for people to see their movements.

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MAMMAL CONSERVATIONISTS BOOKLETS PAGE 2

glue here

Chimpanzee of Gombe



glue here

Bison of the American West



glue here

Chiru of Chang Tang, Tibet



glue here

Amur Leopard of Eastern Russia



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ARCTi
NORTH AMERICA
Rocky Mtns.
United States
CENTRAL AMERICA
United Kingdom
EUR
Sahara De
AFR
Equator
SOUTH AMERICA
N
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Mammals of the World Map


IC REGION
OPE
ICA
Russia
ASIA
China
India
SOUTHEAST ASIA
Borneo
Madagascar
AUSTRALIA/
OCEANIA
Tasmania
ANTARCTICA