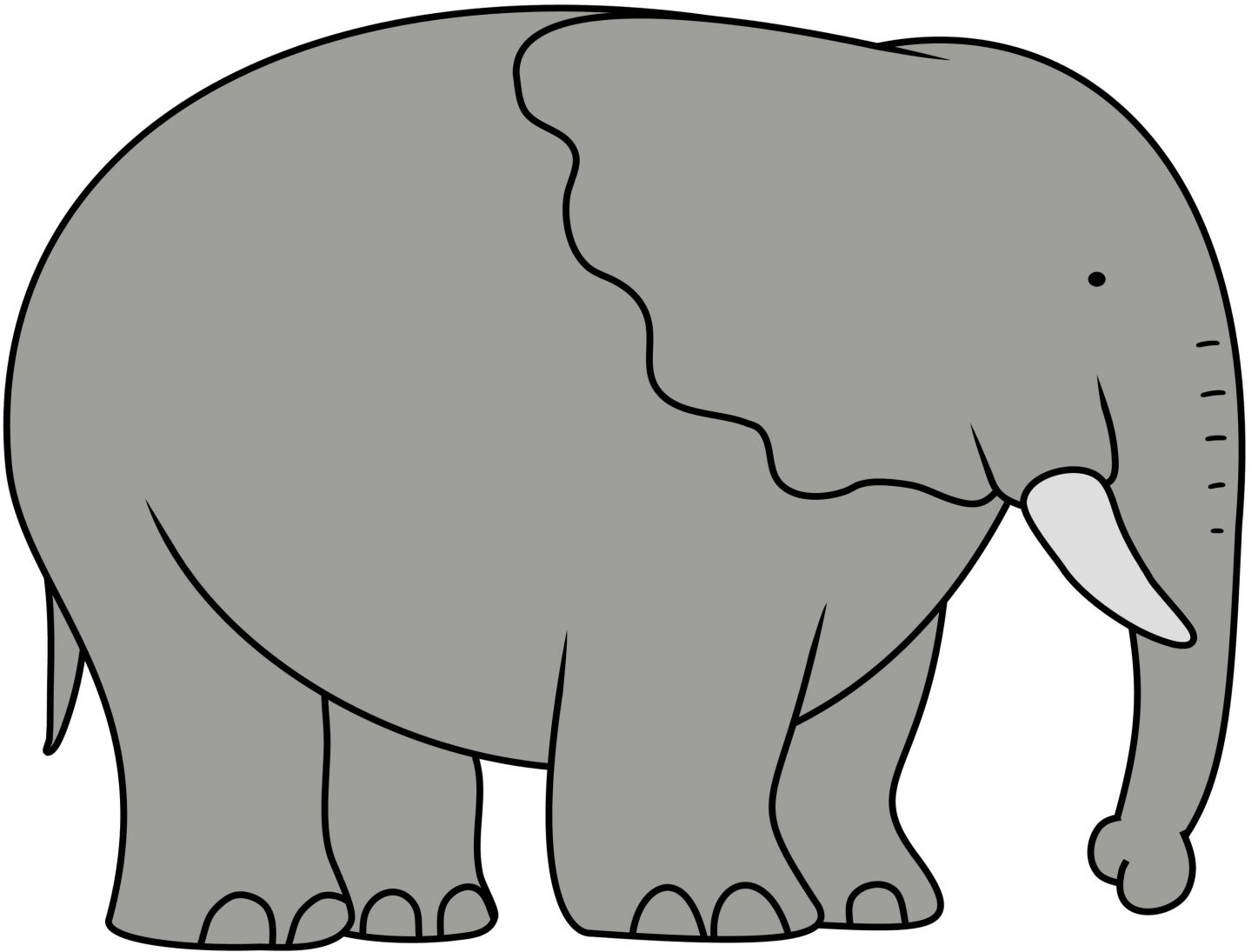


ELEPHANT



LAPBOOK

Elephant Lapbook And Lessons

created by Pamela Johnson

SCIENCE

Anatomy

Brain

There is a saying, “An elephant never forgets!” This may have come from the fact that the elephant’s brain at 13 pounds weighs about 4 times more than the human brain! This huge brain contains a greater amount of creases in the temporal lobe than the human brain, suggesting that the memory of an elephant may be colossal! Elephant caretakers who have nurtured orphaned babies before returning them to the wild have been surprised to see “their baby” return years later to introduce their babies to the caretakers!

→ Complete Brain Matchbook

Ears

1. Elephants have great hearing with their huge ears. Researchers believe they can hear sounds 5 miles away, and hear sounds that other animals cannot hear. Because elephant eyes are tiny and have reduced vision, their sense of hearing is enlarged.
2. Since elephants do not have sweat glands, their ears help cool them down. The huge fan ears cool several blood vessels while the elephant is flapping them causing the flowing blood to cool and circulate through the body.
3. Scientists observe the unique veins in elephant ears to help identify them.
4. Elephants hold out their ears to make them look even bigger to any creature that may be threatening them.

→ Complete Elephant Ears Simple Fold

Skin

To help prevent sunburn, elephants turn over in sticky mud and dirt to “apply” a

natural sun block. Mother elephants try to protect their children from sunburn and heat by standing over them to provide shade.

The dirt also works as an insect repellent for their very deep, solid, thick skin. The skin is creased and wrinkly, gray-brown, and contains only small amounts of thin hair, but it is very sensitive. Swatting with their bushy tails is another way to brush away the insects.

Some people refer to an elephant as a pachyderm, which means “thick skinned.” Rhinoceros and hippopotamus are also thick-skinned ungulates (mammals such as elephant, horse, cattle, and deer that have hooved feet) that are considered pachyderms.

→ Complete Skin Matchbook

Tusks

An elephant's tusks are his upper incisor teeth (sharp front teeth used for biting and gnawing). They can be used for digging and scratching the earth, defending themselves in a fight, scraping bark from trees, or even tearing down plants and bushes. See African / Asian Comparison for other tusk information. The tusks are made up of ivory that is a hard, white material like teeth.

→ Complete Tusks Matchbook

Trunk

A trunk may give elephants one of the strongest senses of smell than any other land animal. Their senses of taste and touch are also amplified because of their wonderful trunks! The trunk can hold about 4 liters of water. It is able to lift 4.5 % of its body weight with its trunk. It contains 6 key groups of muscles that make up 100,000 muscle parts (compare to human body 639). Prehensile or grasping “fingers” or “lips” are at the tip of the trunk to pick up things. An elephant can communicate with it (If an elephant charges toward you with its trunk held up, it is just a warning, but if it has its trunk down, beware!). Elephants use trunks and tails to make an elephant chain when traveling, especially with the babies for safety when crossing over water. It is the most tender part of body.

Elephants have gobs of uses for their trunks: to scratch, to warn, to throw, to snorkel, to explore, to eat, to drink, to play, to smell, to grab, to hold, to store, to

dust, to clean, to cool, to move, to dig, to hose, to communicate, to pat, to breathe, to bathe, to grasp, to touch, and to show affection.

→ Complete Terrific Trunks Mini-book

Elephant Senses

Hearing –great hearing because of large ears

Sight – poor sight with small eyes

Smell – strong smelling with long trunk

Taste – increased from trunk

Touch –trunk is very sensitive as is their thick skin

→ Complete Senses Petal Book

Size

Elephants are one of the largest land mammals to walk the earth. An adult can be 8 (Asian) to 13 (African) feet high at his shoulder, and weigh around 4 (female) to 6 tons (male)! Calves can be about 200 pounds at birth. Males are generally larger than females. See math lessons for an extension of this lesson.

→ Complete As Big as an Elephant Flap Book

Diet

Their trunks and tusks are used to help them collect and eat food. Elephants are herbivores; they eat only plants such as grains, grass, shrubs, bark, roots, leaves, and fruit. Bulls eat between 300-600 pounds of plants per day. 30 gallons of water or more per day is needed for these large mammals. Although they can grow up to 6 sets of molars (teeth with a wide top used for grinding and chewing, usually located in the back of the mouth) in their lifetime, their diet is hard on the teeth and wears them down. After the last set is gone, an elephant cannot chew his food, and may not be able to eat enough to live.

→ Complete Eating Like an Elephant Mini-book

Elephants Are Mammals

- Give birth to a live baby
 - Hair on body
 - Mother feeds milk to the baby with her body
 - Warm blooded animal – body temperature stays fairly consistent although outside temperature changes
 - Use lungs to breathe – rib cage expands – diaphragm muscles contract and relax for air movement
 - Vertebrate -a backbone; an animal with an internal skeleton consisting of bones or cartilage
 - Well-developed brain – able to think and learn
 - Four-chamber heart – right /left atriums receive in, right/left ventricles pump out; the right atrium receives de-oxygenated blood, the right ventricle pumps blood to the lungs; the left atrium receives oxygenated blood, the left ventricle pumps blood to the body.
-

African and Asian Elephants

African

lives in central Africa
 2 “fingers” or “lips” at end of trunk
 larger than Asian – 9-13 feet tall
 both male & female have tusks
 tusks 6-8 feet long & 50-100 pounds
 most are wild
 light gray
 flat forehead
 back slightly swayed
 ears are longer and larger
 uses trunk to pick things up

Asian

lives in India, Malaysia, Sri Lanka, etc.
 1 “finger” or “lip” on trunk
 smaller than African – 8-10 feet tall
 only some males have tusks
 tusks 5 feet long & 70 pounds
 most domesticated – used for work
 dark gray
 globular forehead
 rounded back
 ears are shorter and smaller
 uses trunk to scoop things up

Which elephant is which? One way to remember is the ears! The word *Asia* is shorter and smaller than the word *Africa* (larger and longer!).

→ Complete African Elephant vs. Asian Elephant Venn Diagram

Habitat

A habitat is a place where plants and animals grow or live in the wild. Elephants can be found in Sub-Saharan Africa, Equatorial Forests of Central Africa, Savannas of South Africa, Dry Woodlands, Mountains, and Tropical Rainforests.

→ Complete Where Can You Find an Elephant Simple Fold

Life Span

60 – 80 years

→ Complete How Many Birthdays? Mini-book

Communication

Elephants are able to converse with each other with a variety of rumbles, growls, bellows, moans and blasting trumpeting! A few of these low-pitched sounds journey up to a mile or more.

→ Complete Elephant Communication Simple Fold

Elephant Families

Family Names

Mom – cow

Dad – bull

Baby – calf

Elephants live in herds (a family group of creatures that migrate, hunt for food, and live together in nature of about 10 adults and their calves. The strongest and most elderly female elephant, the matriarch, leads the group in searching for food and migrating. The matriarch will guide her family far distances to locate food. Teenage males either live solitary lives or in fraternities (groups of single male elephants).

Elephants are faithful to all their family members. Families of elephants have been seen waiting for elderly relatives and calves to catch up in their travels. Like humans, they comfort and console dying family members, and appear to have a deep sense of loss.

→ Complete Family Names Flap Book

→ Complete Family Ties Simple Fold

Baby Calves

Elephants are placental mammals. The cow's gestation period (the time of development of a mammal baby inside the mother's womb) is for 22 months before giving birth. This is the longest time of any animal. The baby can be 3 feet long and weigh between 200-250 pounds at birth. It can walk only a short time after being born! The mother nurses the baby for 2-4 years, but the baby can also feed itself using its trunk at about 4 weeks old. Mama elephants like to protect their children by keeping them close by for several years in order to teach and show them the way. They can breed at ten years old and have a single calf every four years.

→ Complete Babies Accordion Book

Endangered

There are two main reasons elephants are an endangered species. They hardly have any natural enemies, so unfortunately, humans originated problems that could cause their extinction.

1. Habitats – increased loss of their homes due to ranches, village building, logging, and other industries make hard living conditions.

2. Humans – Poachers hunt elephants for their beautiful ivory tusks regardless of harsh penalties. Elephant skin is used to make leather for shoes and other items. Some elephants are even hunted for their meat. Others are killed to keep them from destroying harvests and structures. Because of these poachers, the elephant population in Africa went down from 1,300,000 to 750,000 during a ten-year

period in the 1980's. There are at present an estimated 29,000 to 40,000 Asian elephants left in the wild, and they are now regarded as endangered throughout most of their natural habitat.

Protection – An international ban has been placed on the ivory trade cutting down the amount of poaching. Conservation efforts have been set up at reserves throughout the continent to protect and monitor the elephants.

Vocabulary to Know:

Endangered Species - plants and animals that may perish if protective actions are not taken.

Extinct – a plant or animal that is no longer living on Earth.

Conservation - protection and careful use of wildlife and natural resources.

Poaching - hunting animals or fishing illegally on another's property.

Reserve – a section of land kept back or set aside to be used to protect animals.

Extinct Relatives

Mastodon

lived in cold weather
warm, insulating fur
tusks for digging food and protection
tusks shorter than Woolly Mammoth, longer than elephant
7-10 feet tall
narrow head

Woolly Mammoth

lived in cold weather
long, black, shaggy fur
tusks for digging food and protection
tusks up to 17 feet long
9-15 feet tall
wide head
small ears (keep in heat)

Elephant

lives in warm weather
little hair, tough skin
tusks for several things
tusks 5-8 feet long
8-13 feet tall
large ears (reduce heat)

SOCIAL STUDIES

Elephants as Community Helpers (Elephant Occupations)

Architects & Ecologists - Elephants' herbivorous (plant eating) diet and migration patterns (moving from one location to another out of habit usually to search for food or breed) assist the ecosystem (a community consisting of plants, animals, and physical features living and working together) of the land by clearing bush and plants from spreading too far. They can consume upper leaves off the trees so sunlight shines on the lower foliage. By digging roots and turning over the soil, they help cultivate plants. Other animals are then able to enjoy a diet from the remaining grasslands.

Gardener - Elephant droppings help to fertilize the grasslands and provide food provisions for birds and bugs, and help to scatter seeds.

Plumbers - By digging deep into waterless waterholes, they help their fellow creatures to find fresh water.

Road Construction / Firefighters – Elephant trails are created as long lines of elephants roam from place to place. Paths are made for smaller creatures to walk upon. Some of these trails develop into rainwater aqueducts and fire barricades.

Entertainer - Elephants are very intelligent and easy to be trained for many purposes. One way we can observe this behavior is at a circus, like the famous “Jumbo” who worked at the Barnum Circus! Elephants can learn many tricks and are natural performers.

Lumberjack - Like living bulldozers, they are taught to help people by pushing bushes down and hauling logs from forests.

Mover – Their gigantic strength enables them to move and carry heavy loads from one place to another.

Transit Operator – People have ridden elephants for transportation for centuries!

Soldier – Elephants were brought to Europe by Alexander the Great after his Asian invasions. Romans used them in their gladiator games, and Hannibal used them in the Punic War (see article and picture below). Elephants were used to move

military equipment through difficult terrain during World War II and many other times. Let your older student research the famous adventure of Hannibal and his war elephants.

Complete:
Elephant Occupations

MATH

Measurement & Graphing Activity

Measure and mark 10 feet (the average height of an elephant) on a sidewalk or driveway. Chalk works well and washes away. Measure your height from the same starting point, mark your height. Measure and mark heights of other people or objects to compare with an elephant's height. This activity can also be done on a graph. Which things that you measured are taller than an elephant? Which are smaller? Are any of the items the same height?

Word Problems

Use the charts provided to help with the following problems. You can also play dominoes (provided) to reinforce the various measurements.

A bull elephant weighs 6 tons and a cow weighs 4 tons. How many more tons is the bull? How many more pounds is he? How many less ounces is the cow?

An adult elephant weighing 6 tons is how many pounds? How many ounces?

If a calf weighs 200 pounds at birth, how many ounces does he weigh?

A bull eats a lot! If he ate 450 pounds every day, how many quarter pound ($\frac{1}{4}$ lb.) veggie burgers could he eat?

An adult elephant 9 feet tall is how many yards tall? How many inches tall?

A bull's height can reach 13 feet high. His son is $\frac{1}{2}$ his height. What is the son's

height in feet? Inches? His daughter is $\frac{1}{4}$ his height. What is the daughter's height in feet? Inches?

Elephants can drink over 30 gallons of water each day. How many glasses of water would that be for us? (If each glass contained 1 cup of water)

If a baby calf only drank 10 gallons of water per day, what fraction is that of his mother (30 gallons)? How many times more water does the mother drink each day?

An elephant can walk 5 miles per hour. How many miles can he walk in 4 hours? 10 hours? 24 hours? 50 hours?

If an elephant has walked 75 miles at 5 miles per hour, how many hours has she walked?

If an elephant walked for $6\frac{1}{2}$ hours at 3 miles per hour, how many miles did it walk? How many yards? How many feet?

The elephant population in Africa went down from 1,300,000 to 750,000 over a decade. How many elephants were lost total? What is the average loss per year?

LANGUAGE ARTS

Vocabulary

anatomy – parts of a plant or animal put together

conservation - protection and careful use of wildlife and natural resources

domestic – a tamed animal able to be around humans

ecosystem - a community consisting of plants, animals, and physical features living and working together

gestation – the time of development of a mammal baby inside the mother's womb

habitat – a place where plants and animals grow or live in the wild

herbivore – animal that eats only plants; grasses, leaves, trees

herd – a family group of creatures that migrate, hunt for food, and live together

incisor - sharp front teeth used for biting and gnawing
ivory –hard, white material like teeth which constructs the tusks of elephants
mammal – a warm-blooded animal with a backbone, well-developed brain, four-chamber heart, and usually body hair. The females feed their children with milk from mammary glands.
matriarch – a grandmotherly female who is a leader of a family
migrate - moving from one location to another out of habit usually to search for food or breed
molars - teeth with a wide top used for grinding and chewing; usually located in the back of the mouth
pachyderm - huge thick-skinned animals such as elephant, rhinoceros, and hippopotamus
poaching - hunting animals or fishing illegally on another's property
prehensile – grasping
proboscidea – an order of enormous mammals with lengthy muscular noses, called trunks
quadruped – a four-footed animal
reserve – a section of land kept back or set aside to be used to protect animals
trunk – the long, flexible hose-like extension of a nose and lips found on elephants
tusk – an extended upper incisor that grows outside the mouth of some animals
ungulate - a mammal such as an elephant, horse, cattle, deer that has hooved feet
vertebrate - animal with internal skeleton consisting of bones or cartilage; a backbone

→ Choose some words and complete the New Words Mini-book

Adjectives

Adjectives are words that describe a noun (person, place, thing, or idea). Think of and write down words to describe an elephant. There are many words you could choose: big, large, gray, brown, tall, nice, mean, young, old, clean, strong, wild, smart, gentle, friendly, etc.

It would be great to read the poem, "The Blind Men and the Elephant" as an extension to this lesson. Have your student pick out the elephant adjectives in the poem.

It was six men of Indostan
To learning much inclined,
Who went to see the Elephant
(Though all of them were blind),
That each by observation
Might satisfy his mind

The First approached the Elephant,
And happening to fall
Against his broad and sturdy side,
At once began to bawl:
"God bless me! but the Elephant
Is very like a wall!"

The Second, feeling of the tusk,
Cried, "Ho! what have we here
So very round and smooth and sharp?
To me 'tis mighty clear
This wonder of an Elephant
Is very like a spear!"

The Third approached the animal,
And happening to take
The squirming trunk within his hands,
Thus boldly up and spake:
"I see," quoth he, "the Elephant
Is very like a snake!"

The Fourth reached out an eager hand,
And felt about the knee.
"What most this wondrous beast is like
Is mighty plain," quoth he;
" 'Tis clear enough the Elephant
Is very like a tree!"

The Fifth, who chanced to touch the ear,

Said: "E'en the blindest man
Can tell what this resembles most;
Deny the fact who can
This marvel of an Elephant
Is very like a fan!"

The Sixth no sooner had begun
About the beast to grope,
Than, seizing on the swinging tail
That fell within his scope,
"I see," quoth he, "the Elephant
Is very like a rope!"

And so these men of Indostan
Disputed loud and long,
Each in his own opinion
Exceeding stiff and strong,
Though each was partly in the right,
And all were in the wrong!

Library List

Library List

Eyewitness: Elephant by Ian Redman
Elephant: Watch Me Grow by DK Publishing
Elephant Families by Arthur Dorros
Horton Hatches an Egg by Dr. Seuss
Horton Hears a Who by Dr. Seuss
The Story of Babar by Jean de Brunhoff

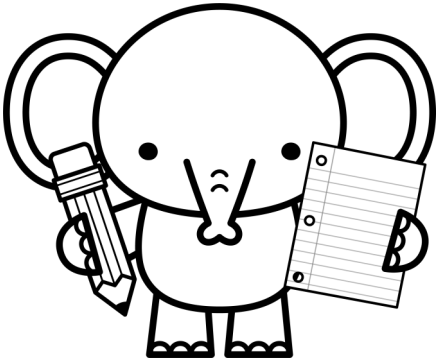
Record the books you read in one of the book logs provided.

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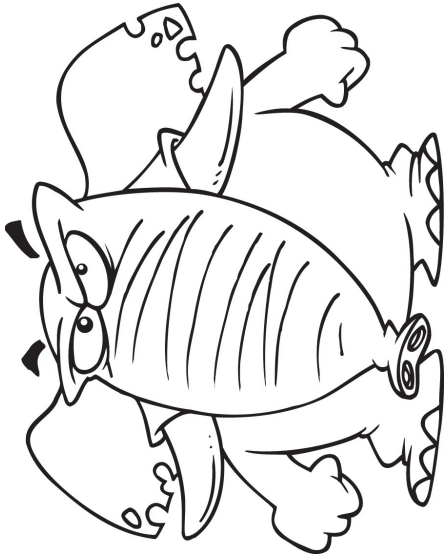
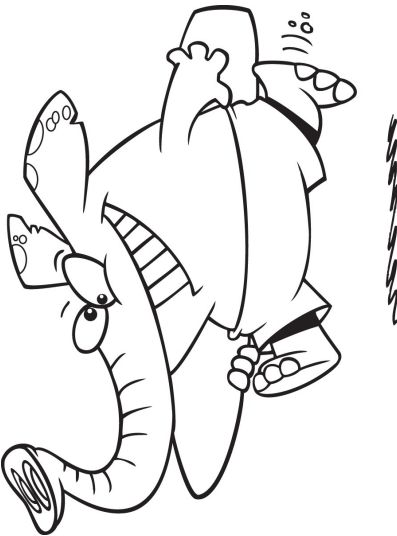

Directions: Cut on the solid lines. Write in words and definitions. Stack pages together with cover on top and staple on the left side.

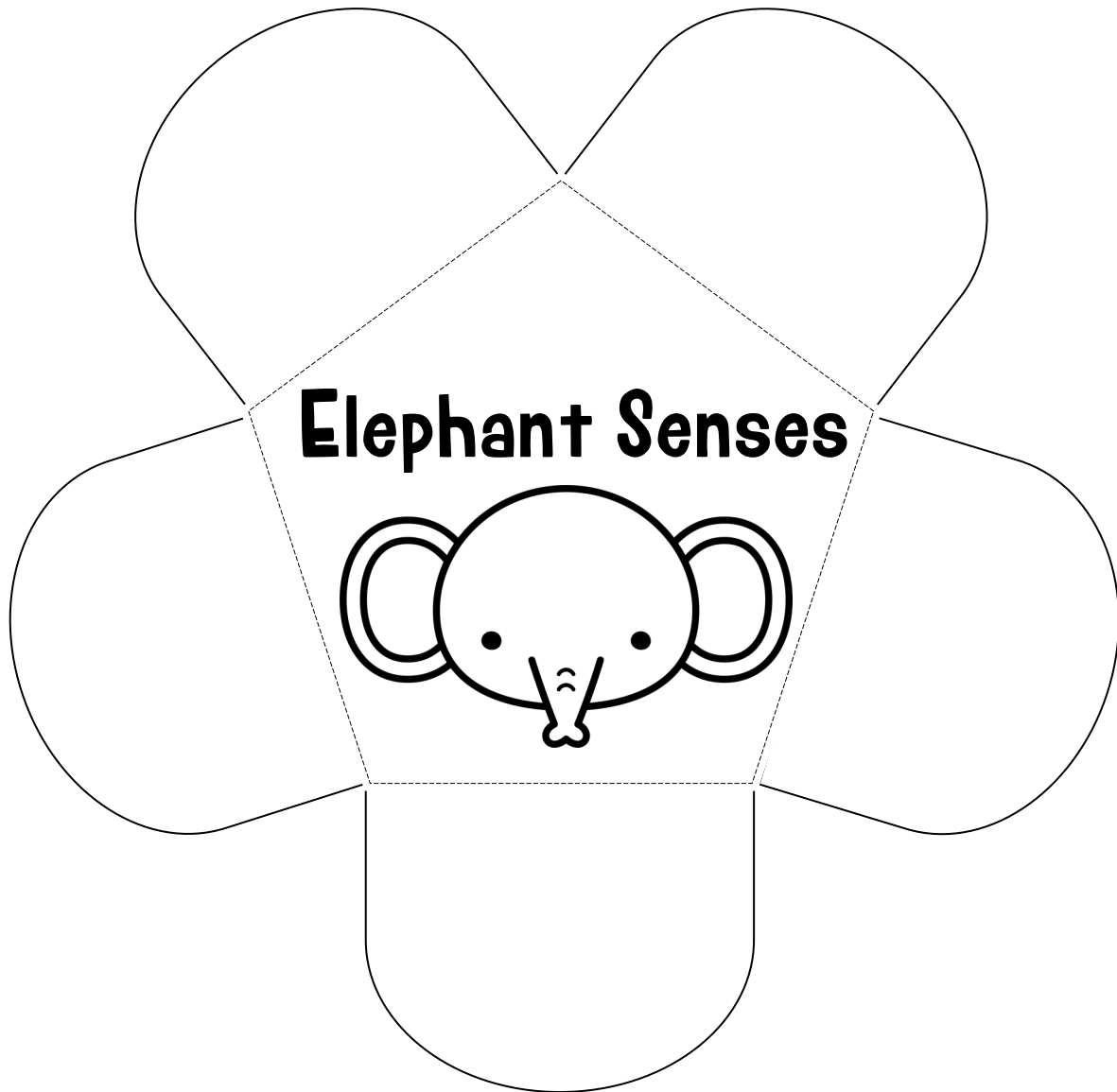
<p>My Book of Elephant Words</p> 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
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Anatomy Matchbooks

Directions: Cut on solid lines. Fold on dotted lines (matchbook style).

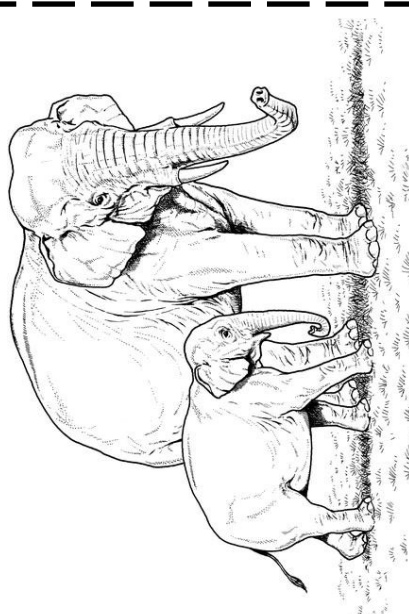
Tusks		 A cartoon walrus is shown from the side, facing left. It has a large, rounded body with vertical lines indicating its skin texture. It has a small head with a single eye visible, a small ear, and a small tail. Its most prominent features are its two large, curved tusks, one on each side of its head. The tusks are pointed and have a slightly jagged tip.
Skin		 A cartoon walrus is shown from the side, facing left. It is in the process of peeling its skin. The skin is being pulled back from its head, revealing a striped pattern underneath. The walrus has a surprised expression on its face. Its tusks are visible, and it has a small tail. The background is plain.
Brain		 A cartoon walrus is shown from the side, facing left. It is holding its brain in its right hand. The brain is a simple, rounded shape with a small stem. The walrus has a surprised expression on its face. Its tusks are visible, and it has a small tail. The background is plain.



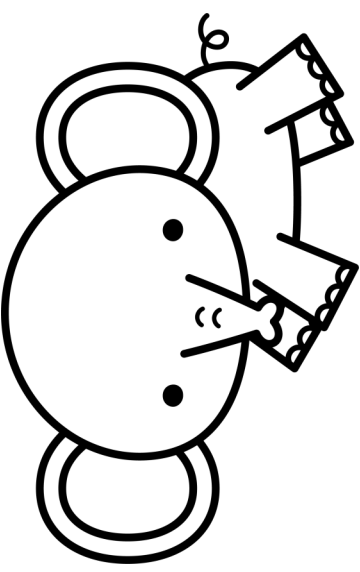
Long trunk is good for smelling	Trunk & skin are sensitive to touch	Small eyes are not good for seeing
Large ears are great for hearing	Trunk is also used for tasting	

Directions: Cut shape out as one piece. Write about an elephant sense on each petal (or cut/paste words provided). Fold flaps in using the dotted lines as your guide. Tuck the last flap under so that book will stay closed.

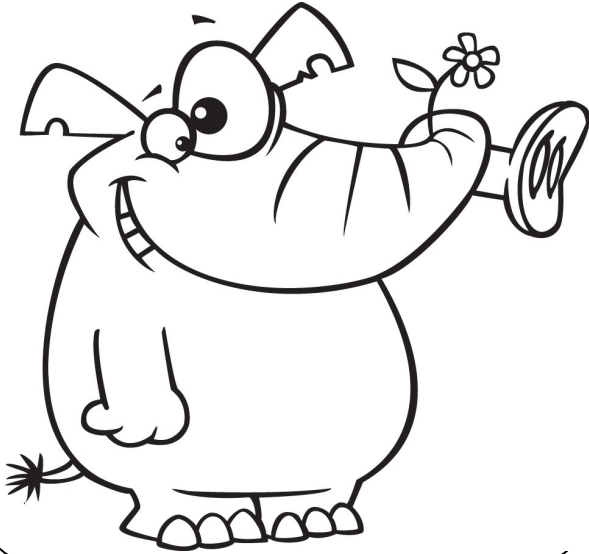
Cut out book as one piece. Complete information. Fold like an accordion and paste back of last piece to your lapbook.

<h1>Babies</h1> 	<p>How long is the baby at birth?</p> <p>How much does it weigh?</p>	<p>How long does the baby nurse?</p> <p>When can it use its trunk?</p> <p>Favorite baby fact:</p>
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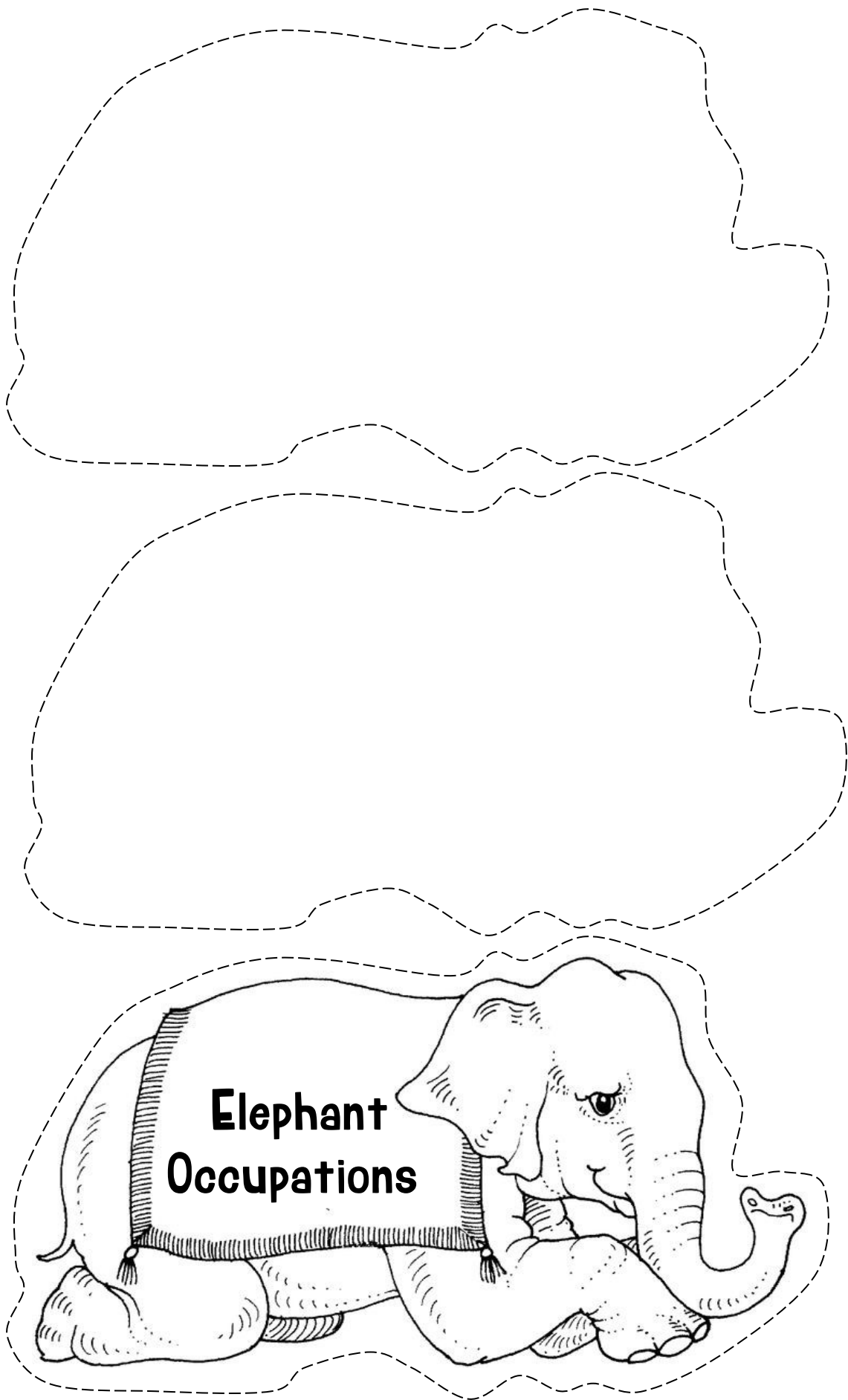
Cut out book as one piece. Fold left side under. Fold right side under (it is the cover). Unfold book. Cut on the two lines between the names to form three flaps.

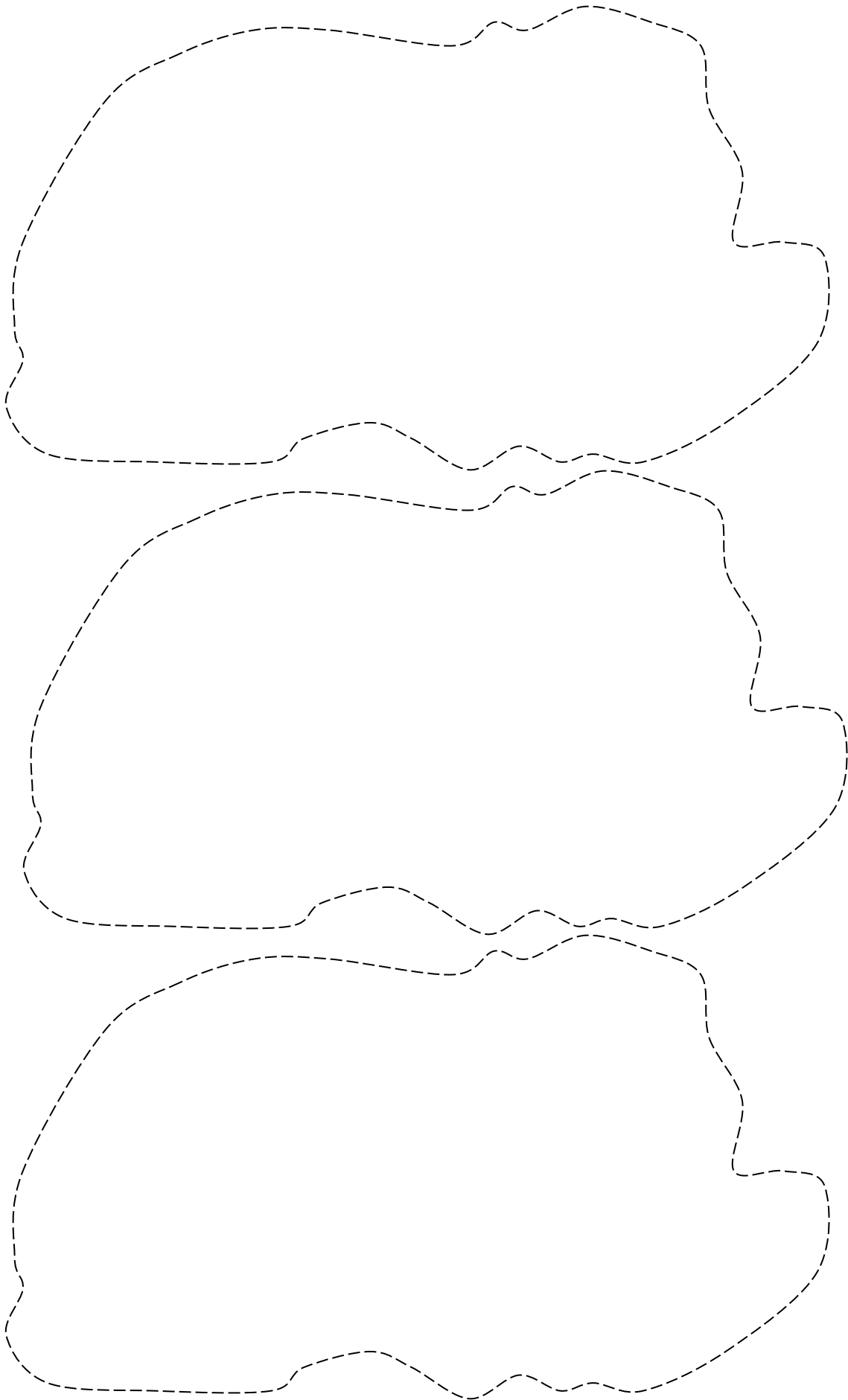
<h2>Dad</h2>	<h1>Family Names</h1> 
<h2>Mom</h2>	
<h2>Baby</h2>	

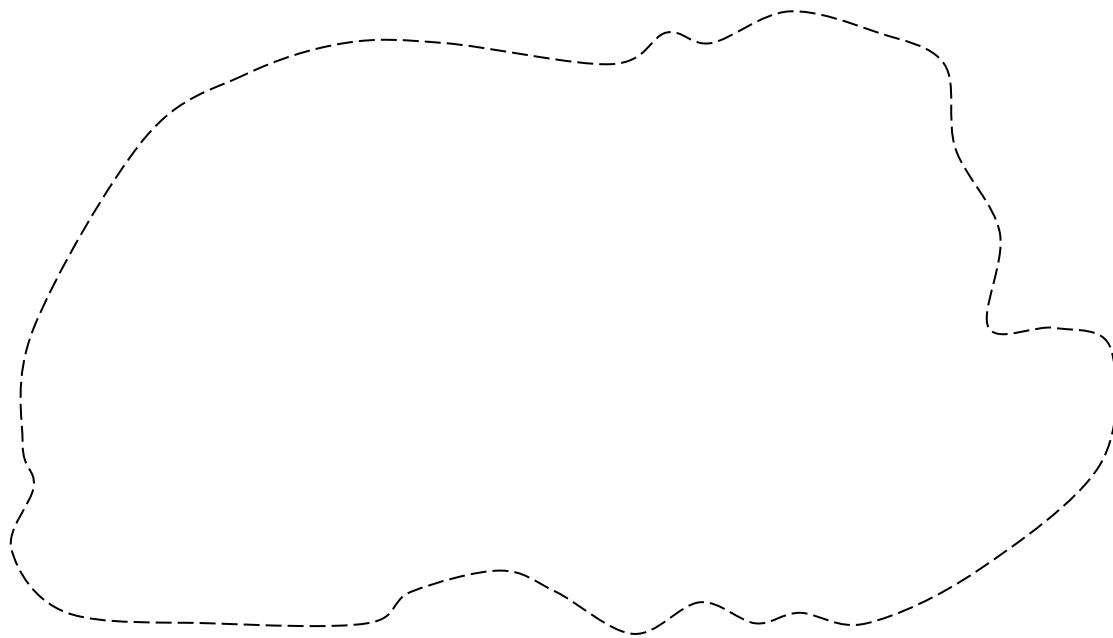
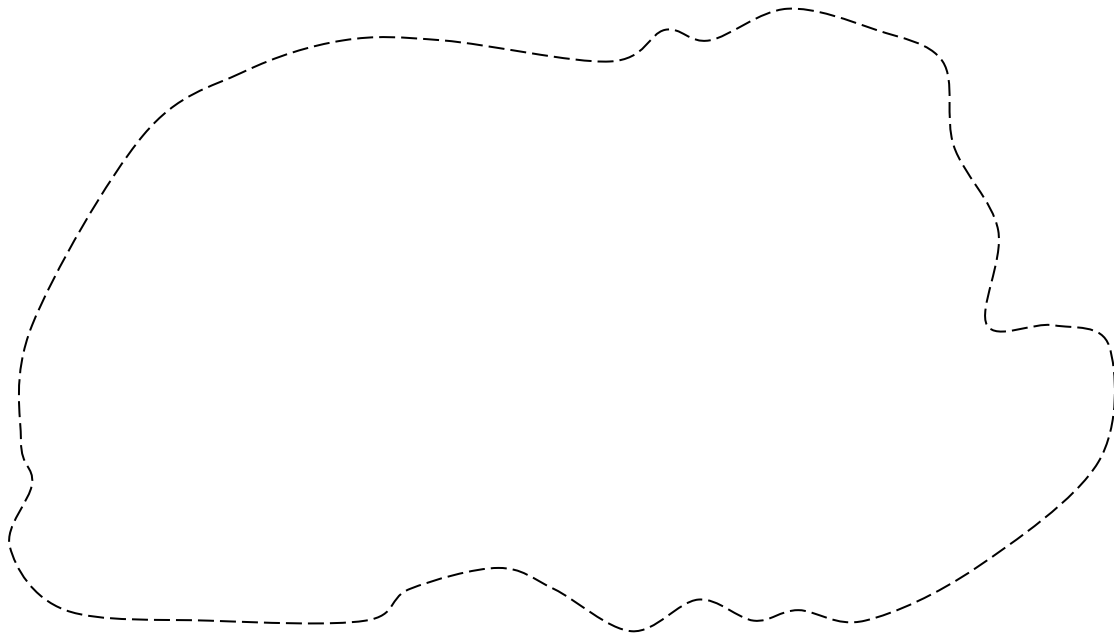
TERRIFIC TRUNKS



Directions: Cut out four pieces. Stack together with cover on top and secure with staples. Use the pages to record information about trunks.





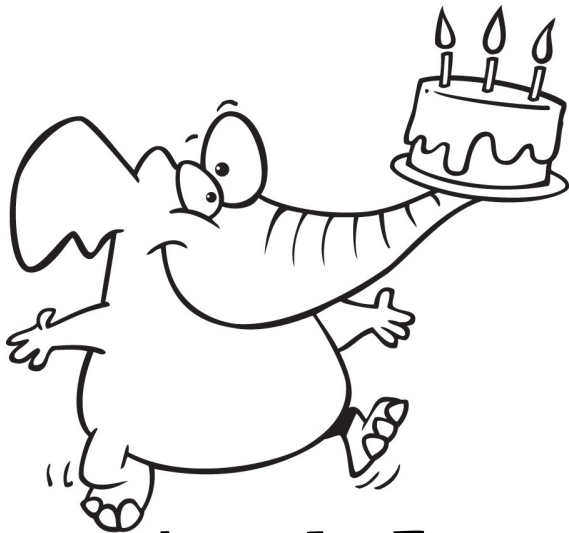


Directions: Cut out templates. Write about one job elephants do on each template. You may need to print more for an older student. For a younger student, you may only want to use a few.

Stack together with cover on top and staple.

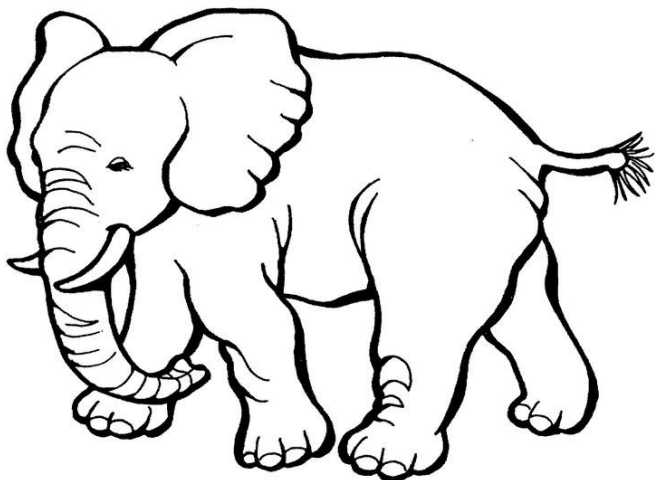
Cut book out as one piece. Use an Exact-o knife to cut the slit in the top of the book. Fold in half. Fold triangle flap down and tuck into slit.

Cut out book as one piece. Fold in half. Write about an elephant's habitat inside the book.

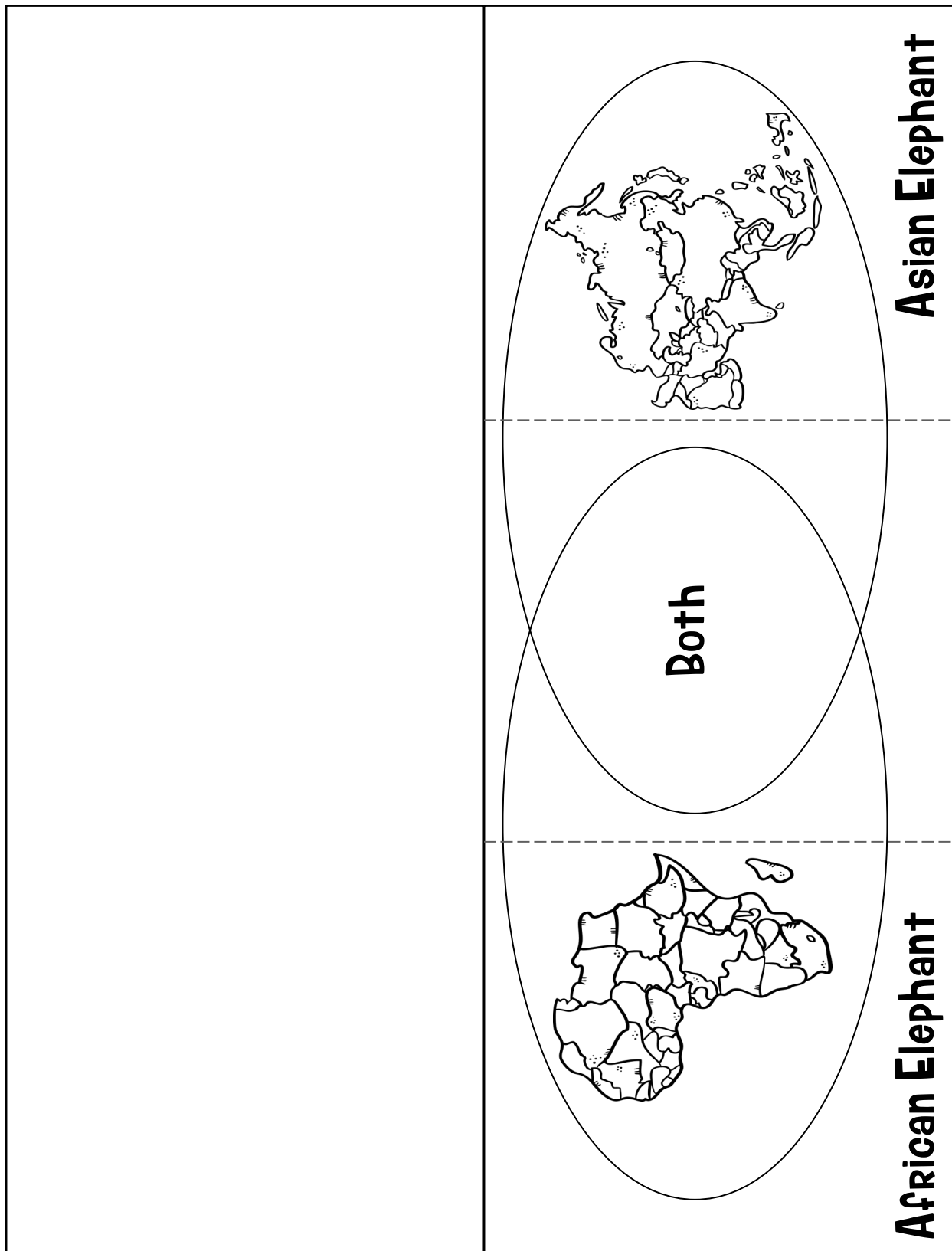


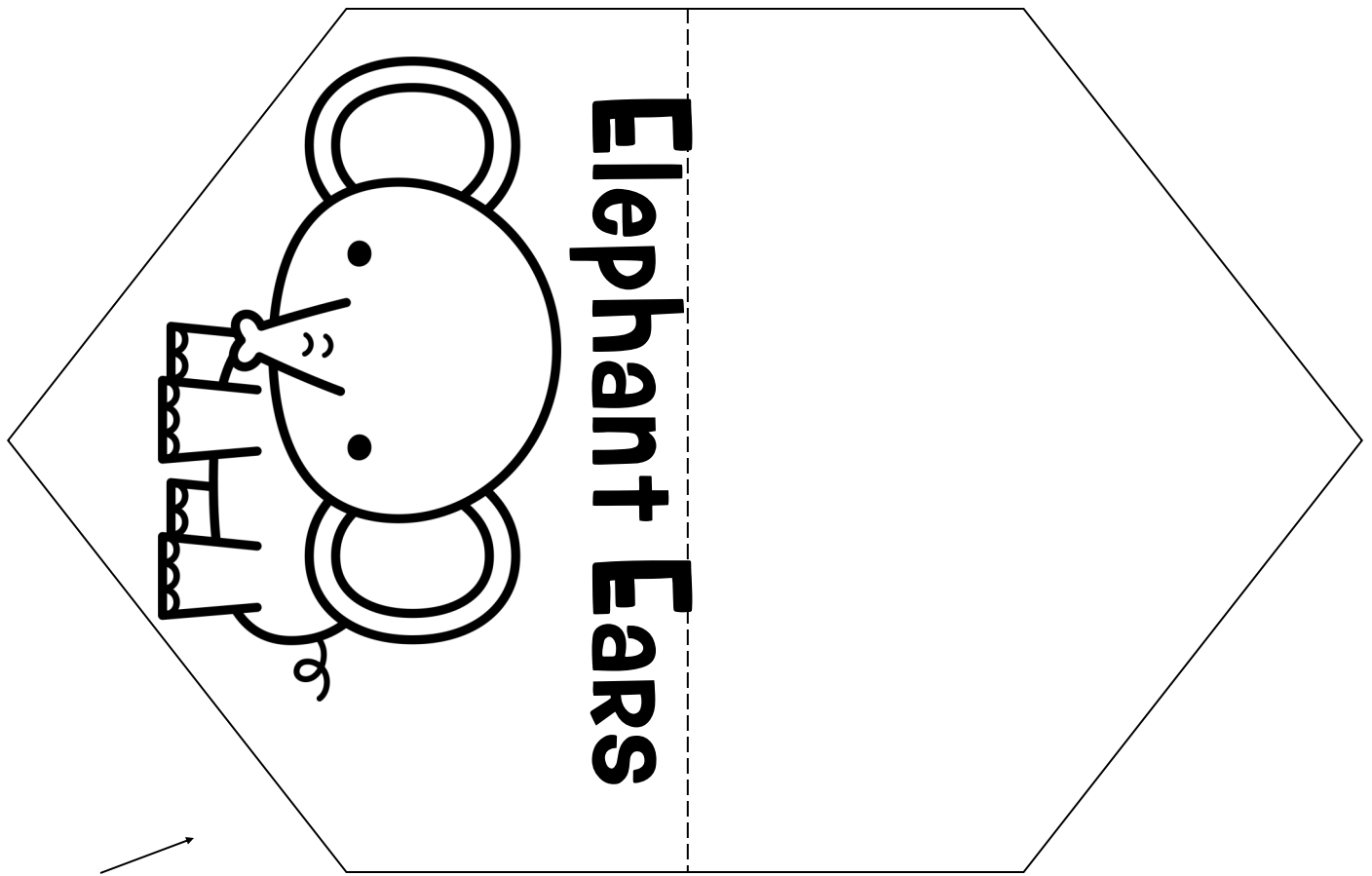
Eating Like An Elephant

Where Can You Find an Elephant?



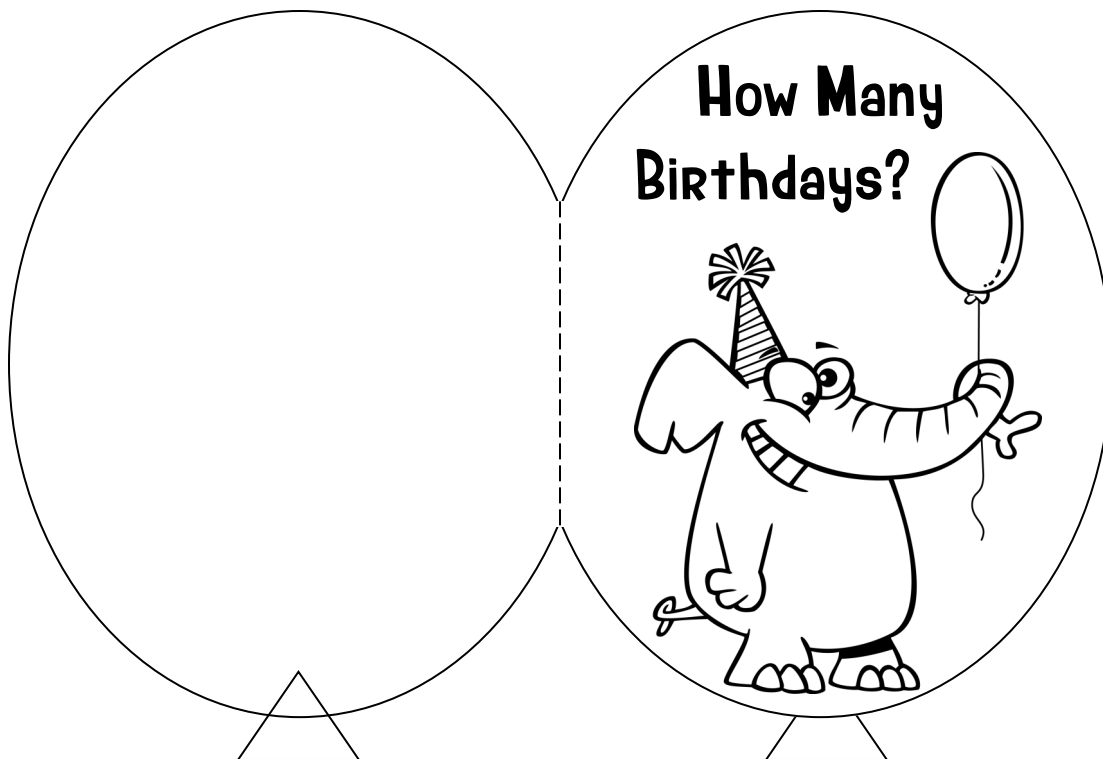
Directions: Cut out book as one piece. Fold in half on the black line. Cut on the dotted lines to form three





Cut out as one piece. Fold in half. Record information about elephant ears inside the book.

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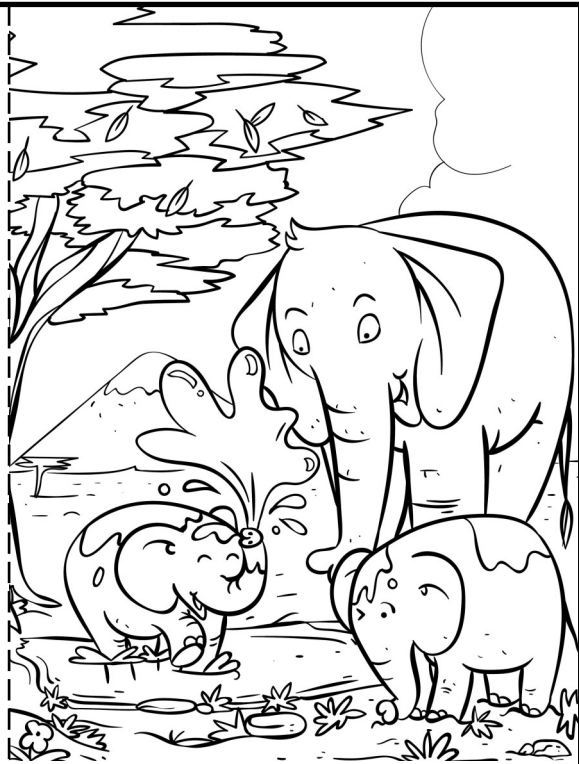


Directions: Cut out as **one** piece. Fold in half. Write about an elephant's lifespan inside the book. Attach a ribbon or string to hang down from the balloon, if desired.

Elephant Communication



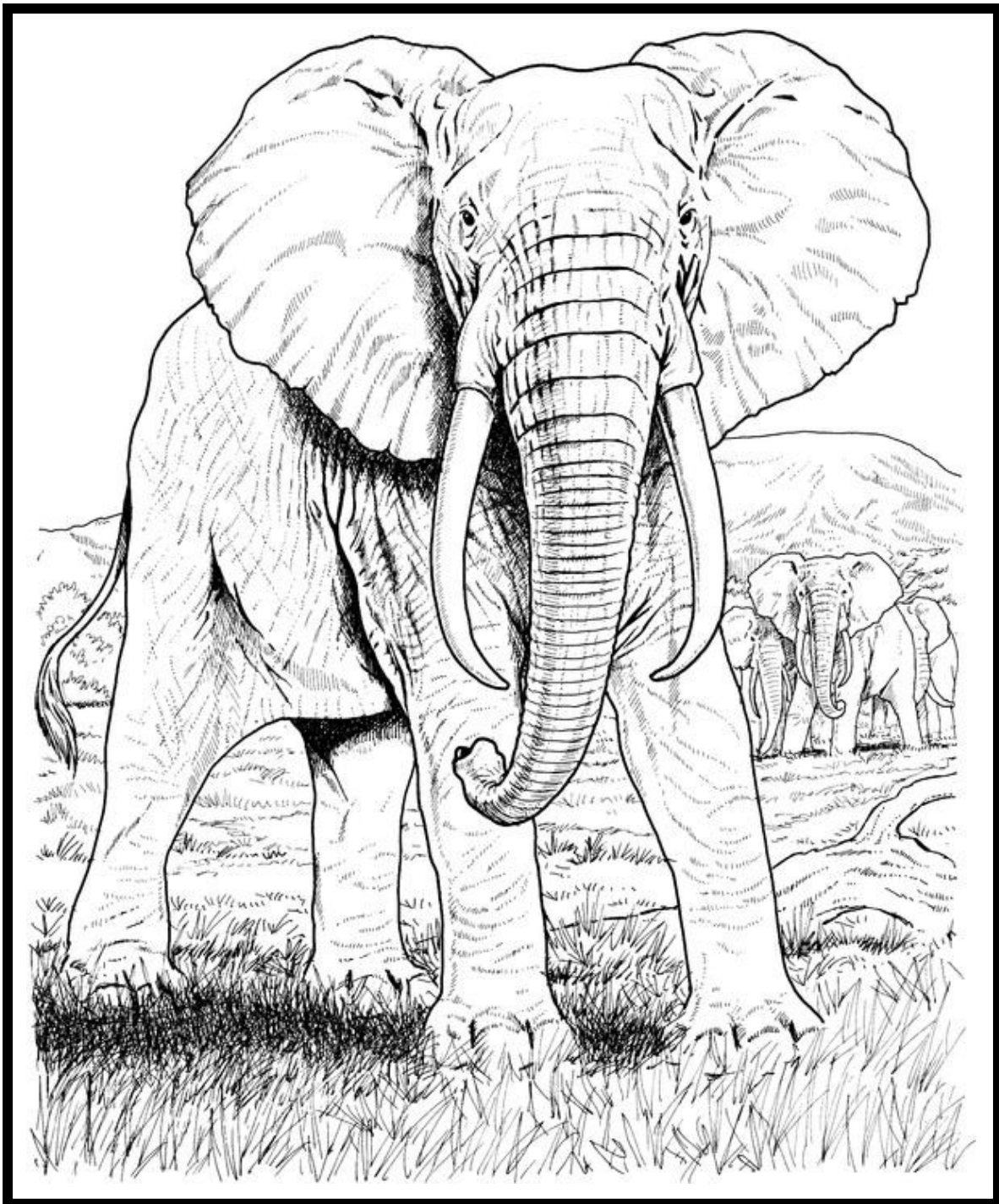
Cut out book as one piece. Fold in half. Write about elephant communication inside the book.



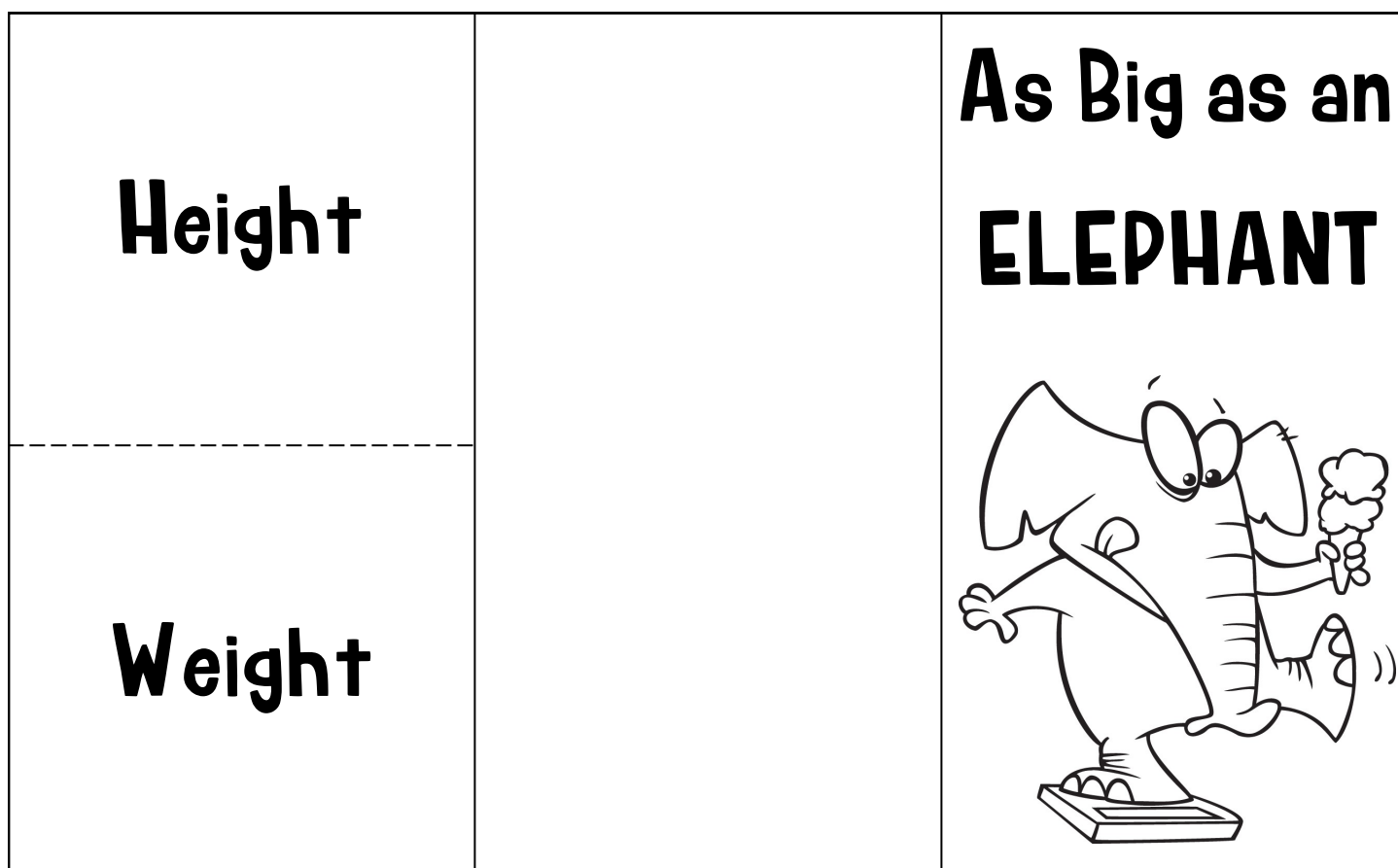
Family Ties

Cut out book as one piece. Fold in half. Write about elephant families inside the book.

Directions: If desired, color the image and use for the front or the back of your lapbook.



Directions: Cut out book as one piece. Fold on left side under. Fold right side under. Open book. Cut on dotted lines to form two flaps. Refold.



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