
CONDENSATION OF If My Mom Were a Platypus

By Dia L. Michels

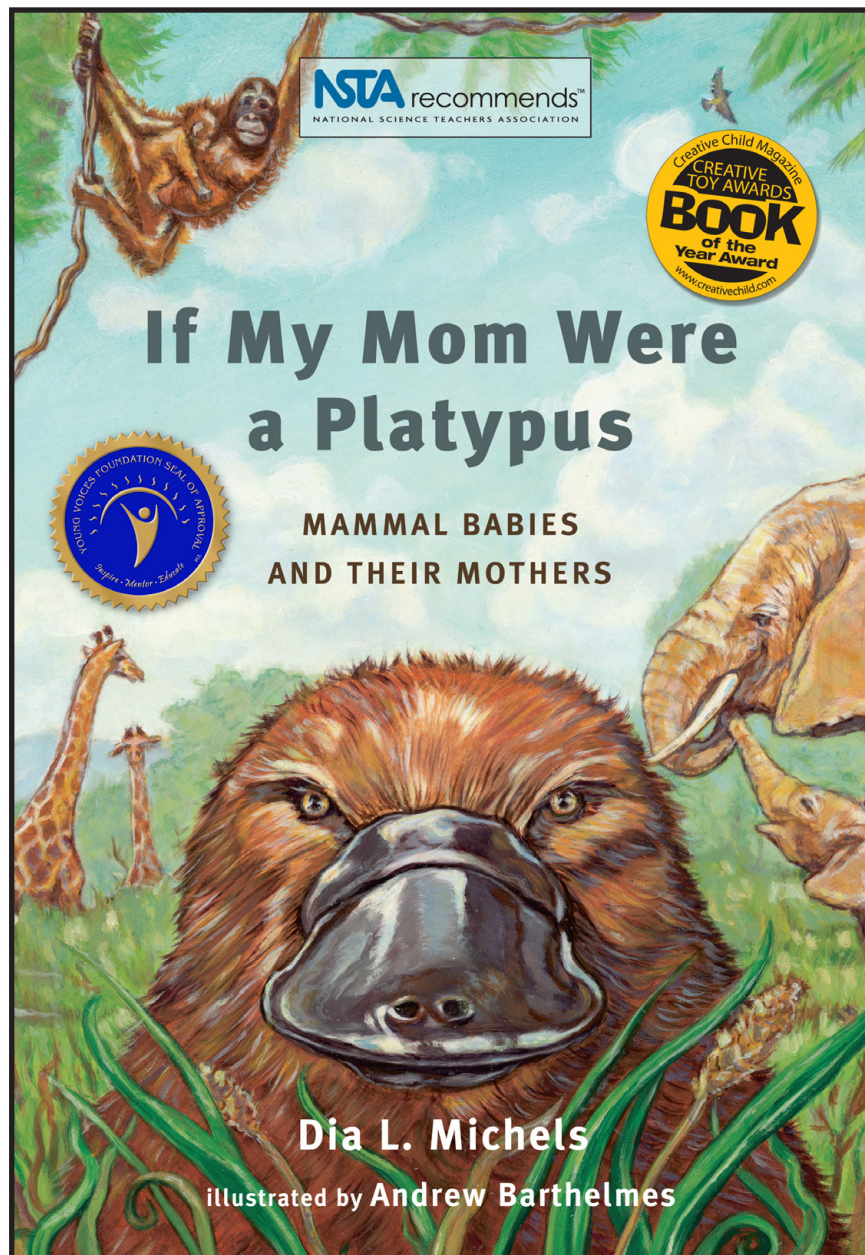
Illustrated by Andrew Barthelmes

Includes pages 5, 6, 7, 8, 9, 22, 23, 24, 25, 26, 27, 28, 29, 58, 59, 60, 61, 62, 63

Paperback (\$12.95) ISBN 13: 978-1-938492-11-2

Ebook (8.99) ISBN 13: 978-1-938492-12-9

April 2014 • 64 Pages



Science, Naturally!

This title is also available in Spanish, Hebrew, and Dutch.
Free, downloadable Teacher's Guide available at ScienceNaturally.com
Contact Info@ScienceNaturally.com for more information.



Contents

Platypus	7
E African elephant	11
E Koala	15
E Golden lion tamarin monkey	19
E Pacific gray whale	22
E Giraffe	27
Least shrew	31
E Hooded seal	35
Mexican free-tailed bat	39
Lion	42
E Polar bear	47
Hippopotamus	51
E Orangutan	54
Human	59
Glossary	62
Index	64

Many mammals are in danger of disappearing from our earth.
The symbol **E** indicates the animals whose existence is currently threatened.

If my mom were a platypus . . .

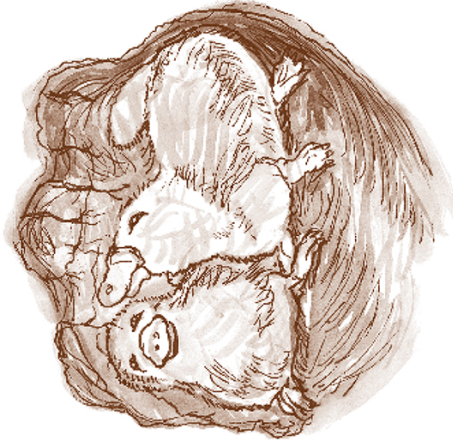
. . . I would have hatched from an egg!

How Were You Born?

To get ready for me, my mom built a nest beside a stream. In it she laid two leathery eggs the size of grapes. Platypus babies usually come in pairs. Our two eggs were stuck together so we wouldn't come apart or roll around. My mom scooped the eggs up with her tail and placed them on her belly. We rested there for ten days until hatching time.

I was bean-sized, bright pink, and hairless when I hatched with my eyes sealed shut. I clung to my mom's fur. Milk began to ooze out from the milk patches on her chest. I lapped the milk up from her fur.





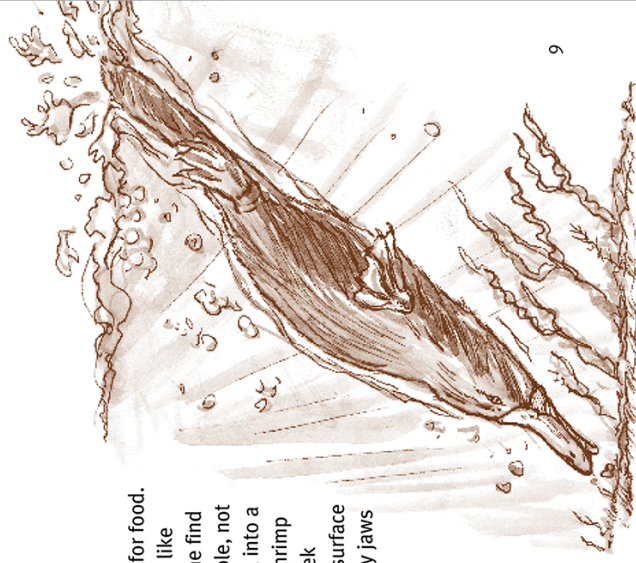
How Did You Grow?

For nearly four months, I lived on my mom's milk. As I grew, my brown fur came in soft and silky. My eyes opened and I could crawl, growl like a puppy, and make kissing sounds. When my mom left the nest to get food for herself, she always plugged the entrance with mud so my twin and I would be safely hidden. Each time she returned she had to dig her way back into the nest.

What Do You Know?

When I was four months old, I left the nest for the first time. I was already over a foot (30 cm) long and weighed about one pound (454 g). My mom led me into the water for my first swim. She showed me how to catch insect eggs, which she crushed between two hard plates in her jaws for me to eat.

Now I am five months old. I still return to my nest to sleep with my mom. Very soon, though, I will leave to dig my own tunnel in another stream. There I will make a nest for my own babies someday.



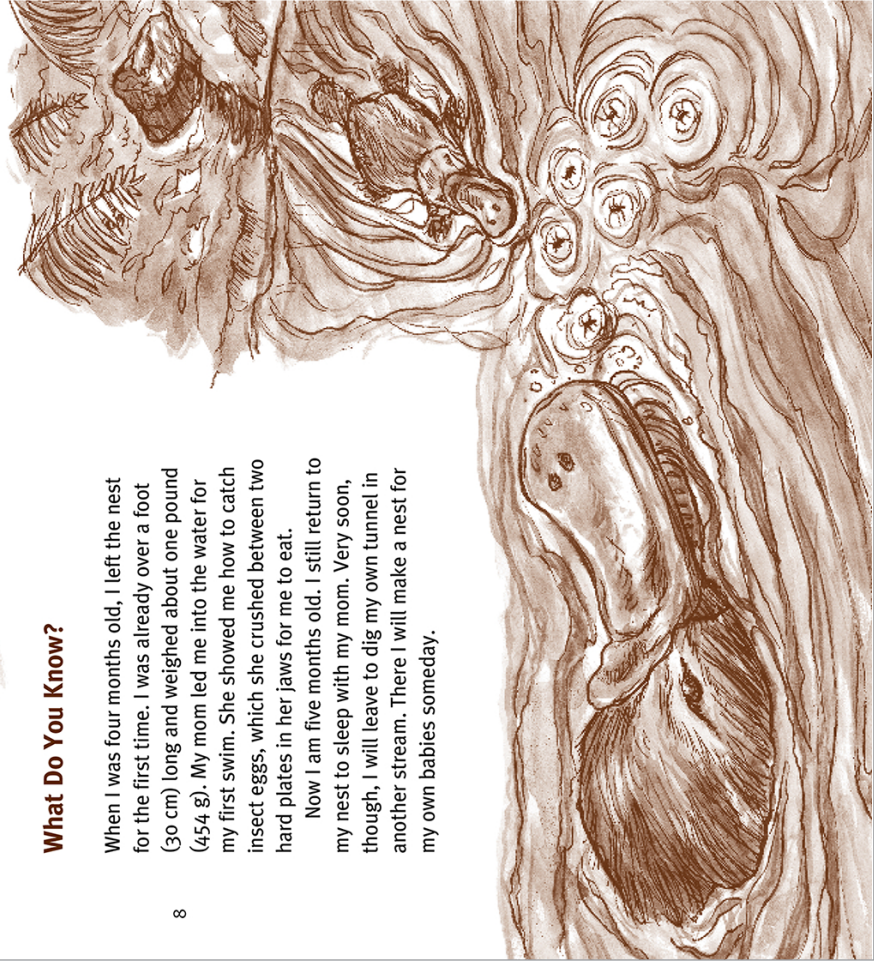
And What Do You Eat?

I look on the bottom of the stream for food. With my bill I find creatures to eat, like shrimp and worms. My bill helps me find food I can't see. It is soft and flexible, not hard like a duck's bill. I curl my bill into a flat tube that I use to suck in the shrimp and worms. I keep them in my cheek pouches until I get back up to the surface of the stream. I grind my food in my jaws while I float in the water.



Fascinating Fact

The male platypus is one of the few poisonous mammals in nature. When another male gets too close, the platypus stabs the offender with a spur on his hind leg. Venom shoots out and stuns the enemy, allowing the platypus to escape. Only the male platypus has poisonous spurs.



If my mom were a Pacific gray whale . . .

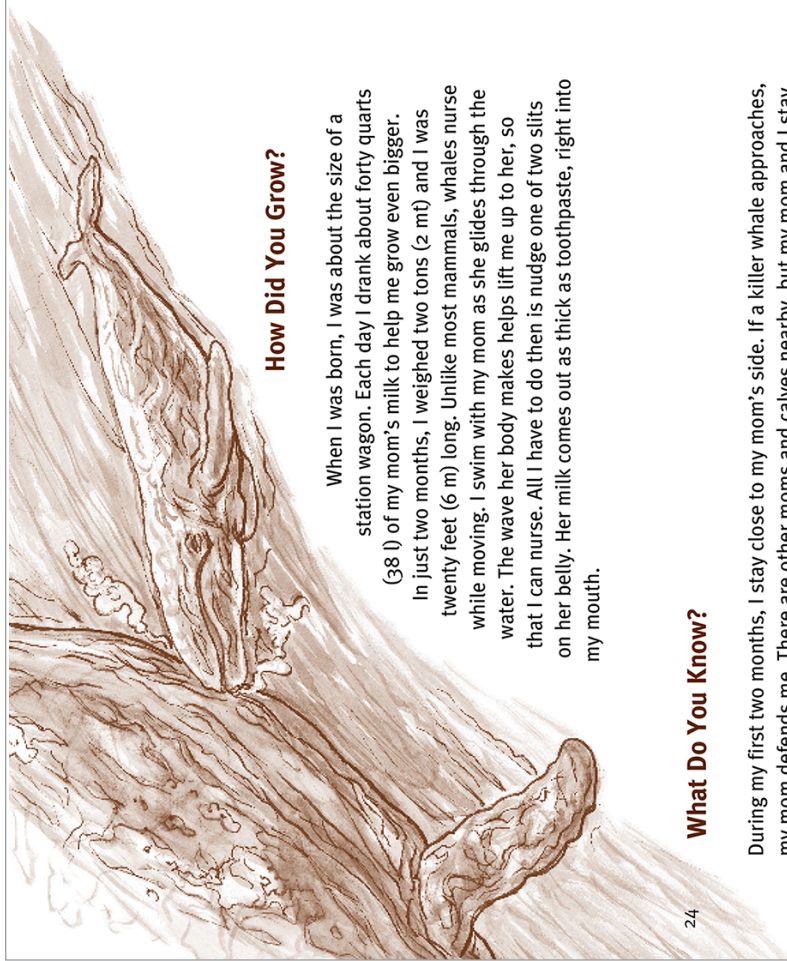
. . . I would have been born underwater!

How Were You Born?

Before I was born, my mom spent the summer off the coast of Alaska, the most northwestern state in America. Big as a school bus and weighing thirty tons (27 mt), she ate nine hundred pounds (400 kg) of worms, crabs, and shrimp-like krill every day to get ready for a long trip south. There wouldn't be anything to eat along the way. The pad of blubber under my mom's skin would keep her—and me, still inside her—alive and warm.

Swimming slowly, my mom and other pregnant female whales spent about three months at sea. They traveled five thousand miles (8,000 km) to lagoons off the coast of Mexico. This journey is the longest-known migration of any mammal. Finally, my mom headed for the shallowest water, and I squirmed out, tail first, into the water. Three hours later, I could float by myself and swim a straight course.





How Did You Grow?

When I was born, I was about the size of a station wagon. Each day I drank about forty quarts (38 l) of my mom's milk to help me grow even bigger.

In just two months, I weighed two tons (2 mt) and I was twenty feet (6 m) long. Unlike most mammals, whales nurse while moving. I swim with my mom as she glides through the water. The wave her body makes helps lift me up to her, so that I can nurse. All I have to do then is nudge one of two slits on her belly. Her milk comes out as thick as toothpaste, right into my mouth.

24

What Do You Know?

During my first two months, I stay close to my mom's side. If a killer whale approaches, my mom defends me. There are other moms and calves nearby, but my mom and I stay by ourselves.

The warm water is lovely, but we need food, so Mom and I begin the journey north. I am still nursing, so I'm not hungry yet. I have even grown my own pad of blubber. We will reach our Arctic feeding grounds in June. I will keep nursing for another couple of months. By that time, my mom will have given me six thousand quarts (about 57,000 l) of milk. I will be ready to start eating worms and crabs of my own.



And What Do You Eat?

Instead of teeth, gray whales have yellow bristles called baleen inside their mouths. The baleen works like a sieve. We swim along the ocean bottom, sucking up mud to get the small animals that live in it. We let the mud and water strain out, then we eat the worms and krill that remain.

25



Fascinating Fact

After their babies are born, most mammal moms lean down and break the umbilical cord with their teeth. Whales can't do that because they can't bend that far. Instead, they spin while giving birth, steering with their flippers. This spinning causes tension that helps the umbilical cord to snap.

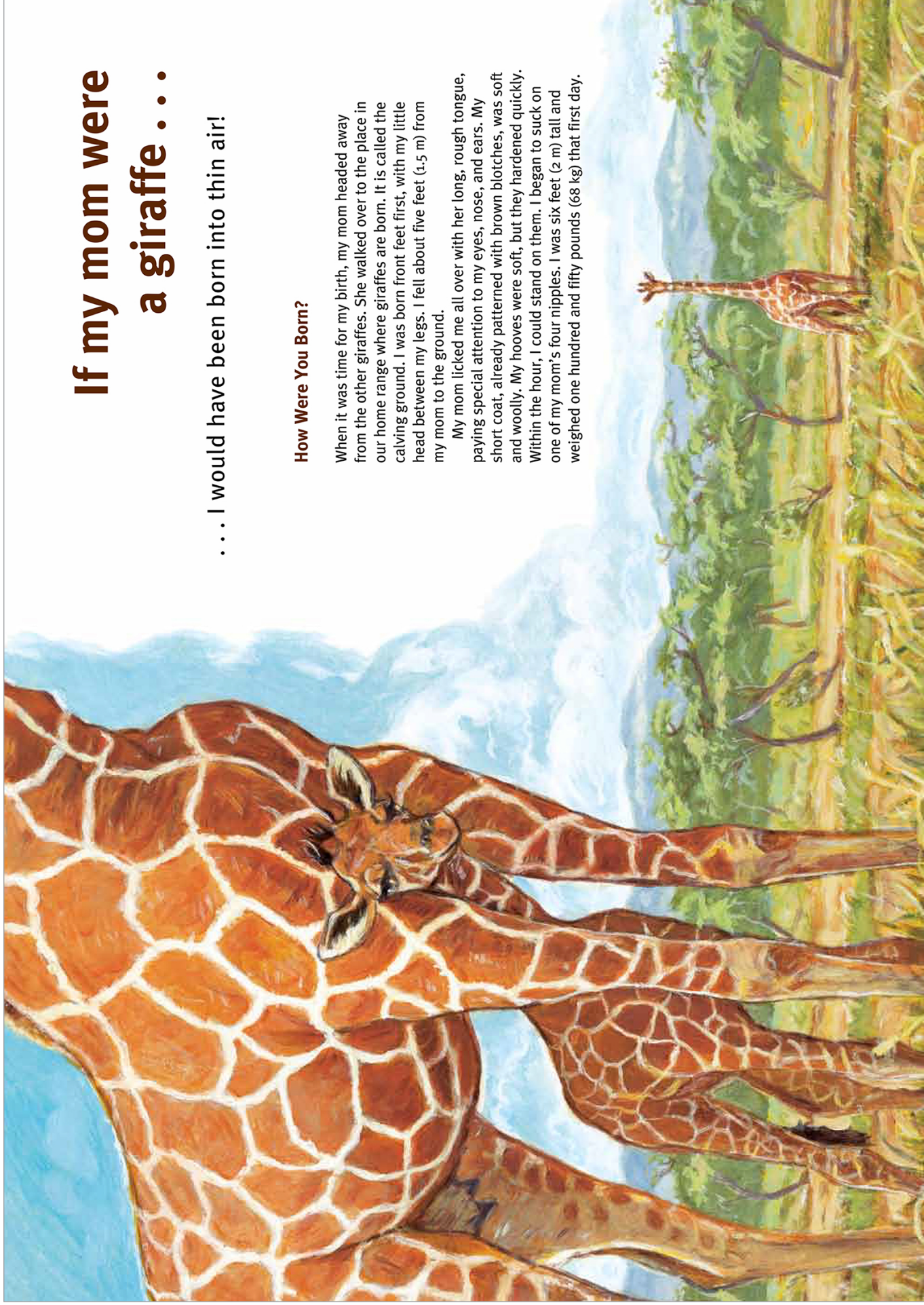
If my mom were a giraffe . . .

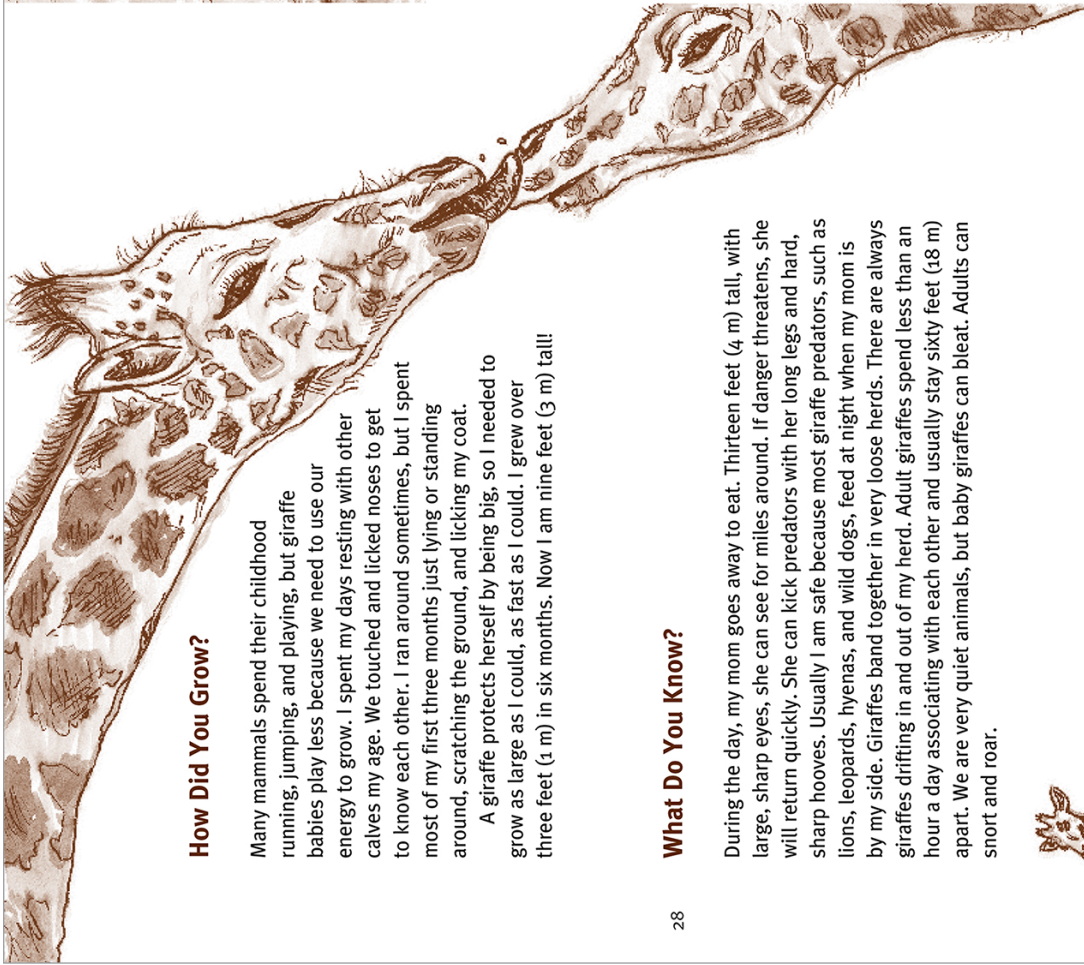
. . . I would have been born into thin air!

How Were You Born?

When it was time for my birth, my mom headed away from the other giraffes. She walked over to the place in our home range where giraffes are born. It is called the calving ground. I was born front feet first, with my little head between my legs. I fell about five feet (1.5 m) from my mom to the ground.

My mom licked me all over with her long, rough tongue, paying special attention to my eyes, nose, and ears. My short coat, already patterned with brown blotches, was soft and woolly. My hooves were soft, but they hardened quickly. Within the hour, I could stand on them. I began to suck on one of my mom's four nipples. I was six feet (2 m) tall and weighed one hundred and fifty pounds (68 kg) that first day.





How Did You Grow?

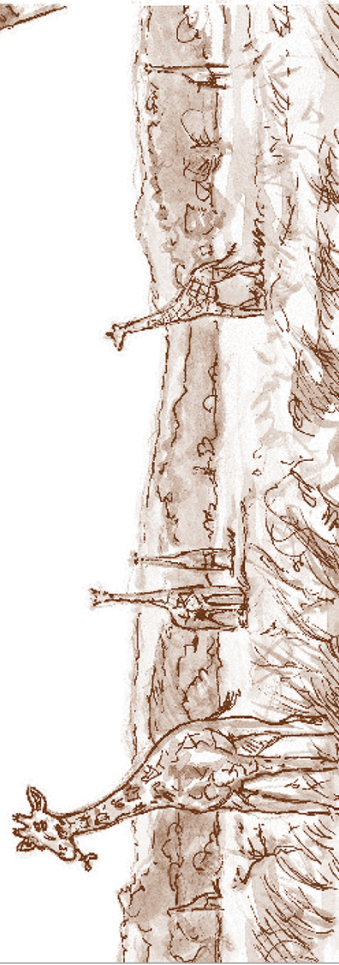
Many mammals spend their childhood running, jumping, and playing, but giraffe babies play less because we need to use our energy to grow. I spent my days resting with other calves my age. We touched and licked noses to get to know each other. I ran around sometimes, but I spent most of my first three months just lying or standing around, scratching the ground, and licking my coat.

A giraffe protects herself by being big, so I needed to grow as large as I could, as fast as I could. I grew over three feet (1 m) in six months. Now I am nine feet (3 m) tall!

28

What Do You Know?

During the day, my mom goes away to eat. Thirteen feet (4 m) tall, with large, sharp eyes, she can see for miles around. If danger threatens, she will return quickly. She can kick predators with her long legs and hard, sharp hooves. Usually I am safe because most giraffe predators, such as lions, leopards, hyenas, and wild dogs, feed at night when my mom is by my side. Giraffes band together in very loose herds. There are always giraffes drifting in and out of my herd. Adult giraffes spend less than an hour a day associating with each other and usually stay sixty feet (18 m) apart. We are very quiet animals, but baby giraffes can bleat. Adults can snort and roar.



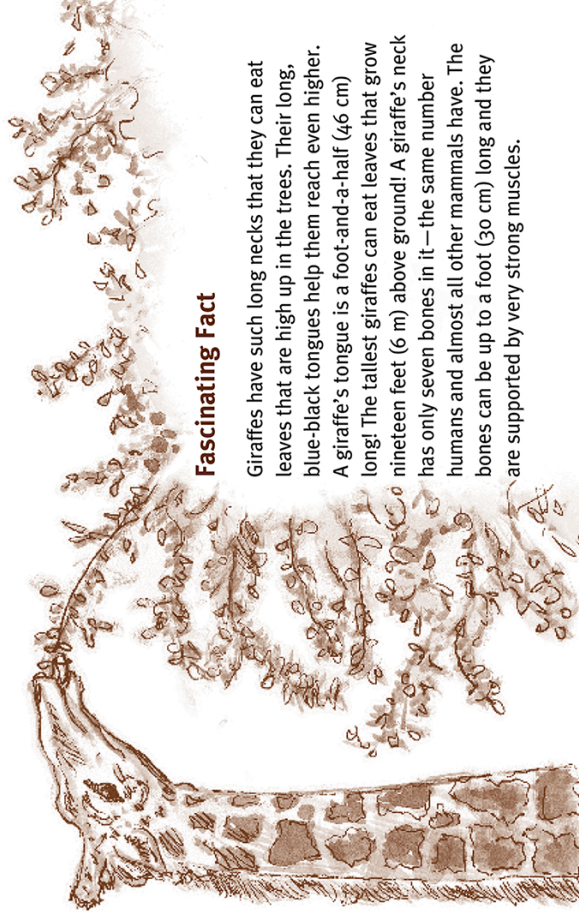
And What Do You Eat?

Now that I am six months old, I have started following my mom as she feeds. She shows me how to strip the leaves off acacia trees with my long, flexible tongue.

Drinking water is hard—I have to bend my legs and then lower my neck to drink. It would be easy for a lion to attack me in this awkward position. Luckily, I can go for weeks without drinking because I get most of my water from leaves.

Toward the end of my first year, I will eat more leaves and nurse less. Just after my first birthday, I will stop nursing entirely. I will stay near my mom for another two months before beginning life on my own.

29



Fascinating Fact

Giraffes have such long necks that they can eat leaves that are high up in the trees. Their long, blue-black tongues help them reach even higher. A giraffe's tongue is a foot-and-a-half (46 cm) long! The tallest giraffes can eat leaves that grow nineteen feet (6 m) above ground! A giraffe's neck has only seven bones in it—the same number humans and almost all other mammals have. The bones can be up to a foot (30 cm) long and they are supported by very strong muscles.

But my mom is a human . . .

. . . and I was born in a birthing center!

How Were You Born?

After I had been inside my mother's womb for nine months, she began to have contractions, which meant that I was ready to be born. My mom and dad went to the birthing center, where the midwife was waiting for us.

Several hours after we arrived, my mom felt it was time for me to come out. With my dad at her side, she gave a few mighty pushes. The midwife guided my head so my shoulders and body could slide out. Then she placed me on my mom's warm belly. I took my first breath of air and gave a cry. I heard my dad say my name. He cut the umbilical cord that had provided nourishment to me in the womb.

From now on, I would have to breathe with my lungs and eat through my mouth. I heard my mom's familiar voice as she lifted me to her breast. I snuggled right in and began to suckle.



How Did You Grow?

My mom's breastmilk gave me everything I needed to grow big and strong and healthy. She let me nurse whenever I was hungry. By the time I was two weeks old, I was drinking nearly a quart (1 l) of milk a day.

I grew slowly, compared to most other mammals. After a month, I began to smile and laugh. In the next few months, I learned to hold up my big heavy head and, later, to roll over. At six months, I sat all by myself for the first time. By nine months, I could crawl and, by my first birthday, I had learned to walk a little.

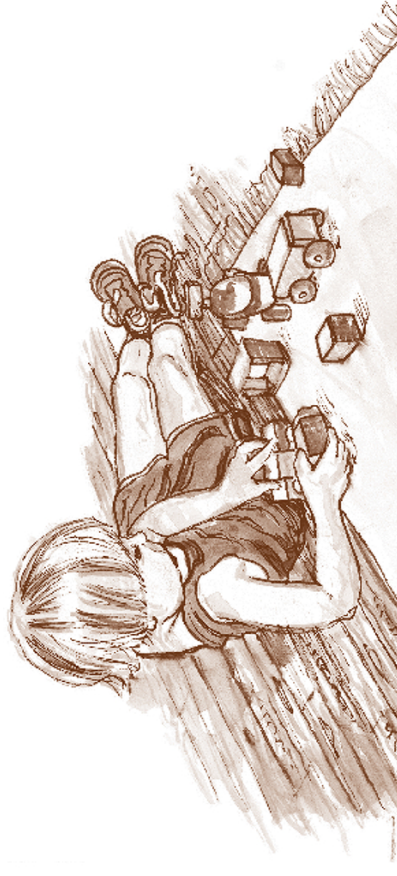
By the time I was a few years old, I lost interest in nursing, but I still wasn't ready to take care of myself. Most baby mammals leave their moms and become adults soon after they stop nursing, but human children need their parents to watch over them long afterward.



What Do You Know?

As I grew up, I learned about all kinds of things: how to find food, how to talk, and how to walk. Humans have large brains. They also have hands that can do many different things, like pitching a ball, changing a channel, or picking up a pin. Since humans have to learn many things in order to survive, human babies usually stay with their parents for about twenty years.

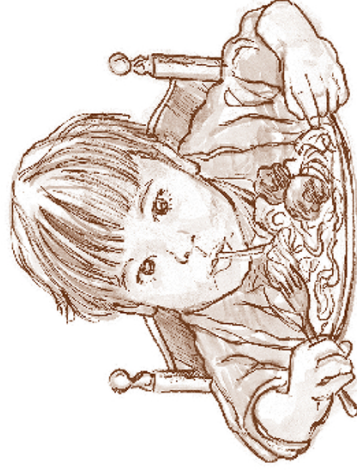
Humans walk on just two feet, so our hands are free to do lots of things. When I was three months old, I started to use my hands to hit at things, and three months later, I could reach for things and grab them. Now I can use my hands to paint a picture, put a puzzle together, or build a birdhouse.



And What Do You Eat?

At about six months, I started eating little spoonfuls of soft food, but my mom's milk was still my main meal. My teeth began to grow one after another. I had my first full set of teeth at two-and-a-half, so I could eat the same food as my parents, but first they cut it into very small pieces for me.

Unlike other mammals, humans cook their food. Cooking kills germs and softens tough fibers so that humans can eat a greater variety of foods than any other mammal.



Fascinating Fact

A baby grows inside her mom's uterus, or womb. The baby is connected by the umbilical cord to the placenta, an organ attached to the lining of the uterus. The placenta gives the baby the oxygen and food she needs while she grows inside her mom. Once the baby comes out of the mom, the placenta comes out too. Then the connecting umbilical cord is no longer needed, so it is cut off. It leaves a stump that falls off after a few weeks. What's left is called the belly button.



GLOSSARY

anus – The opening through which solid waste (poop) leaves the body.

baleen – The plates that hang from the upper jaws of whales which are used as a sieve to strain food from mud and water.

birthing center – A place designed to look and feel like a home that provides care for mothers before, during, and after the birth of their babies.

blubber – The layer of fat below the skin of whales and other marine animals.

bull – The name for an adult male of certain large animals such as a cow, alligator, elephant, hippopotamus, or moose.

burrow – To dig a hole in the ground that will be used to hide or live in.

calf – The young of certain large mammals such as an elephant, whale, cow, giraffe, or hippopotamus.

calving ground – The site where certain large mammals give birth.

child – A human being between birth and puberty.

contraction – The rhythmic tightening of the uterus which helps push the baby out of the mother's body during birth.

crustacean – An aquatic arthropod that has a segmented body with a hard outer shell such as a lobster, crab, krill, or barnacle.

cub – The young of certain meat-eating animals such as a bear, wolf, or lion.

dung – The solid waste of an animal; poop.

durian – The fruit of a tree that grows in Southeast Asia. It has a hard, prickly rind and soft pulp.

echolocation – A system which bats and some other animals use to find their way around. They make high-pitched noises that echo off objects and return to their ears, telling them where those objects are.

eucalyptus – A tall tree, native to Australia, known for its strong-smelling leaves.

flipper – A wide, flat limb adapted for swimming that is seen in aquatic animals such as a platypus, seal, whale, or sea turtle.

ice floe – A large, flat sheet of floating ice.

infant – A baby in the earliest period of life.

joey – A baby marsupial such as a kangaroo or a koala.

krill – A small marine crustacean (aquatic animal that has jointed legs and a hard outer shell). Krill are the main food of baleen whales.

lagoon – A shallow body of water separated from the sea by low sandy dunes.

mammal – A warm-blooded animal that has a backbone, hair or fur, and makes milk to feed its babies.

midwife – A person who helps mothers give birth.

migration – The process of periodically moving from one area or climate to another. Some whales, birds, and fish migrate.

nursing – To feed at the breast; to suckle; to breastfeed.

nutrient – A source of nourishment, especially in food.

pap – A soft, dark greenish substance made of leaves that a mother koala chews and swallows. It then leaves her body through her anus and is eaten by her baby.

placenta – An organ in most mammal mothers formed in the lining of the uterus. It provides nutrients and oxygen to the unborn baby through the umbilical cord and also receives the baby's waste. *See also* **uterus**.

predator – An animal that hunts and eats other animals.

pregnant – Used to describe a female mammal who is carrying a developing baby within the body.

pride – A group of lions.

primate – Any member of the subcategory of mammals comprising apes, monkeys, and humans. Chimpanzees, gorillas, gibbons, lemurs, and orangutans are all primates.

pup – The young of certain animals such as a dog, wolf, fox, bat, or seal.

suckle – To nurse or breastfeed; *see also* **nursing**.

tension – The state of being stretched tight.

umbilical cord – The flexible cord that connects a developing unborn baby with the placenta in his mother's uterus, or womb. The umbilical cord carries oxygen and nutrients to the baby and removes his waste. *See also* **nutrient**, **placenta**, **uterus**.

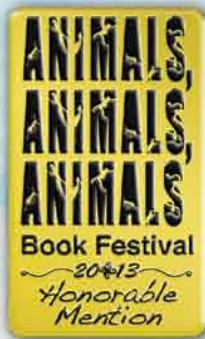
uterus – In most mammals, the organ in which the baby develops before birth; the womb.

venom – The poisonous liquid that some animals put into their victims' bodies by biting, stinging, etc. Spiders, snakes, and platypuses all have venom.

womb – In most mammals, the organ in which the baby develops before birth; the uterus.

All over the world, in all kinds of habitats, mothers bring forth new life. For many animals, such as reptiles and amphibians, mothering responsibilities end before the babies are even born. But mammal babies need their mothers—they need to be nurtured and nourished long enough to learn how to survive on their own.

All mammal mothers feed, protect, and teach their young, even though these tasks often challenge their own needs for survival. But a mammal baby's journey to maturity varies dramatically depending on whether it is a bear or a bat, a shrew or a seal, a hippopotamus or a human. This fascinating introduction to the world of mammals reveals how fourteen mammal babies travel the path from helpless infants to self-sufficient adults.



“Completely engrossing! Most readers are sure to be surprised by something they learn about these seemingly familiar animals... A wonderful gift book for expectant parents or families with children.”

—Carolyn Bailey, *ForeWord Magazine*

“As engaging visually as it is verbally!”

—Dr. Inés L. Cifuentes, Director, Carnegie Academy for Science Education

“This is one of the most engaging nonfiction books I have ever read! It correlates so well with our science curriculum and the supplemental resources are especially teacher friendly.”

—Sonya Smith, Science Coordinator, ATOMS2XP and IMPACT2, Miss. State, MS

Activity Guide available at ScienceNaturally.com.

Ages 8-12 • Grades 3-6 • ISBN 978-1-938492-11-2 • \$12.95

