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Take-Home Backpack—Grades 4–5

This sample includes the following:

Kids Learn Activity Book

- Table of Contents (1 page)
- Introduction pages (3 pages)
- Student pages (3 pages)

Nonfiction Book Sample

Family Engagement Guide Sample



Table of Contents

Introduction	
Welcome Letter	4
Helpful Family Resources	5
Weekly Activities	
Week 1 Activities	
Week 2 Activities	23
Week 3 Activities	33
Week 4 Activities	
Week 5 Activities	53
Week 6 Activities	63
Week 7 Activities	
Week 8 Activities	
Week 9 Activities	
Appendices	
Appendix A: Activity Cards	
Appendix B: Assessments	
Appendix C: Answer Key	
Appendix D. My Journal	127



Welcome Letter

Dear Family,

Kids Learn! Getting Ready for 5th Grade was designed to help your child solidify the concepts learned in fourth grade and prepare for the year ahead. The engaging activities are based on today's standards and provide practice with essential reading, writing, and math skills for the upcoming grade level. This book will help your child GET READY for fifth grade! Keep these tips in mind as you work with your child:

- Have your child complete one or two pages each time they work, rather than an entire week's worth of activities at one time.
- Keep all practice sessions with your child positive and constructive. If your child gets frustrated, set the book aside and find another time to practice.
- Help your child with instructions, if necessary. If your child is having difficulty understanding what to do, work through some of the problems together.
- Encourage your child to creatively share their thoughts and feelings on the My Journal pages.

Enjoy spending time with your child. Fifth grade will be here before you know it!



Things to Do as a Family

General Skills

- Make sure your child gets plenty of sleep. Children this age need
 9–11 hours of sleep each night. Establish bedtime routines that involve relaxing activities, such as taking a warm shower or reading.
- Help your child become organized and responsible. Have places for your child to keep important things. Take time to set up a schedule together. Use a timer to keep track of time spent on different activities.

Reading Skills

- Set a reading time for the entire family at least every other day. You
 can read aloud or read silently. Help your child choose books that are
 at a comfortable reading level and that are interested to them.
- After reading, be sure to talk to your child about what they have read. Ask questions about the characters, the plot, and the setting. Encourage your child to share details from the books.





Games to Play Together

Yes/No Critical-Thinking Questions

Take any game that is traditionally a guessing game (Guess My Number) and make it a yes/no question game. You say, "I'm thinking of a number from 1 to 200." Children have to ask you yes/no questions with mathematically accurate vocabulary. They might say, "Is the number prime?" If a child asks a question without using mathematical vocabulary, don't answer the question. And definitely don't answer if anyone just takes guesses!

ABC Categories

Think of a category and name an object from that category for every letter of the alphabet. Make it more challenging by choosing more difficult categories or by having every person name an example for every letter. Popular categories are movies, characters from books, or things seen on vacation.

Favorites

Think of a topic, and then everyone names their favorite examples of that topic. Someone might say, "Movies." Everyone would name their favorite movies. Allowing different people to think of the category each time helps keep the game interesting for everyone. It's fascinating to children that everyone enjoys such different things.



It's All Relative!

Directions: Complete each sentence with the correct relative pronoun.



A pronoun is a word that replaces a noun, such as he, me, or we.

A *relative pronoun* introduces a relative clause, which gives more information about a noun. There are five relative pronouns: *that*, *which*, *who*, *whom*, and *whose*.

- 1 The letter _____ you gave me was very thoughtful and kind.
- 2 Babe Ruth, _____ is still considered one of the greatest athletes in all of American sports, will never be forgotten.
- 3 A fifth grader, _____ main job is to work hard in school, is still learning how to be responsible.
- A Ramona ordered the chocolate cake,
 _____ is why her sister made the same choice.
- 5 The library was full of students, almost all of _____ were looking for research books for their reports that are due on Friday.
- 6 My favorite pizza topping is pepperoni, _____ was the most popular response in the class survey.



Calculating Area

Directions: Calculate the area of each rectangle.

Tip

To calculate the area of a rectangle, multiply the length by the width.

18 ft.

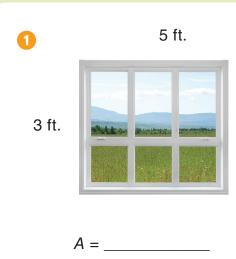
- > Area = length × width
- $A = I \bullet W$



7 ft.

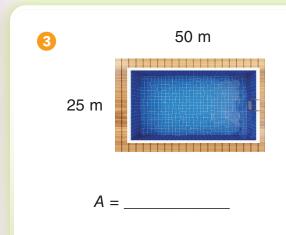
A = 18 • 7

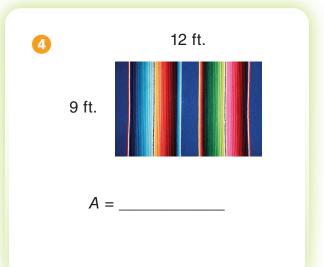
 $A = 126 \text{ square feet } (126 \text{ ft.}^2)$



2 54 cm 43 cm

A = _____





Which Explorer Went Where?

Directions: Use the clues to find out why each explorer is famous. Use the chart to eliminate each one based on what you find out in the clues.

One explorer is famous for sailing with Maria. Another explorer is famous for

One explorer is famous for sailing with the *Niña*, *Pinta*, and *Santa Maria*. Another explorer is famous for conquering the Incas. A third explorer is responsible for the fall of the Aztec empire. And a fourth explorer is famous for traveling around the world.

- Christopher Columbus did not meet the Aztecs or Incas.
- 2 Ferdinand Magellan sailed very far but did not have ships named the *Niña*, *Pinta*, or *Santa Maria*.
- 3 Hernán Cortés defeated some people, but it was not the Incas.
- Francisco Pizarro did not travel around the world.

	Sailed <i>Niña,</i> <i>Pinta</i> , and Santa Maria	Conquered the Incas	Caused the fall of the Aztec Empire	The first to travel around the world
Francisco Pizarro				
Ferdinand Magellan				
Christopher Columbus				
Hernán Cortés				



ARCHITECTS

Skyscrapers made from mud. Underground tunnels. River dams. An exotic human city? No! Enter the world of Animal Architects, where tiny termites construct massive towers, and moles dig deep underground to build storerooms for their food. What will they build next?



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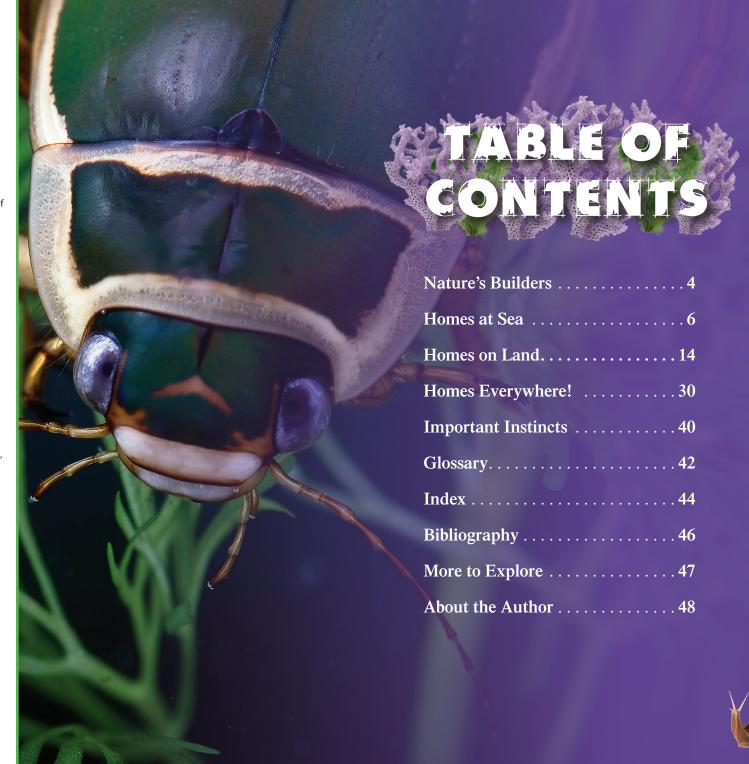
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NATURE'S BUILDERS

Humans build everything from spectacular skyscrapers to tiny tents.

Around the world, people build shelters to protect them from weather and danger. The best buildings make people feel safe and secure.

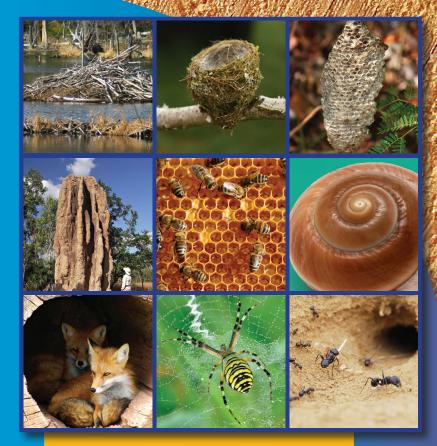
Animals are builders, too. Some, such as snails, use their bodies to build a shelter. Others use the scraps they find around them.

For those who know where to look, the homes built in nature are as amazing as human cities. Travel underground to explore an ant city. Step inside to investigate a busy beehive. And discover the secret **dams** beavers build wherever they go. Even in the wild, there's no place like home.



Animal Architects

An **architect** is someone who designs and plans houses, skyscrapers, and other buildings. Animals don't plan their work in the same way humans do, but they still need safe places to live. As they work to stay safe, many animals create stunning structures.



There are over 1,300,000 different types of animals in the world!



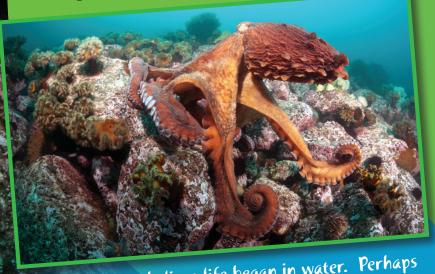
- Where do animals make their homes?
- How do animals defend their homes?
- What can we learn from animals?

HOMES AT SEA

About 70 percent of Earth is covered in water. Most of that water is in the oceans.

Animal life in the ocean is **diverse.** There are more than 200,000 species that live in the ocean. Every species has a unique home.

Just like humans, animals want a home that will keep them safe. The ocean is a big place. And, there is plenty of room for every creature. But it is a dangerous place. Every creature must protect itself from **predators**.



Scientists believe life began in water. Perhaps the first animal homes were built in water.

2010 Marine Census

The Marine **Census** is a collection of information about the ocean. It took 10 years and more than 2,700 scientists to create it. But now we can learn about all the plants and animals that have been discovered in the ocean. The Census tells us where each species lives and how many there are. The ocean is so large that scientists are still finding new species to add to the list.



CHAMBERED NAUTILUS

The chambered nautilus is related to the octopus and squid. Like its relatives, it has many arms—up to 90! But the nautilus has something the others don't have. It has a beautiful shell that protects it from predators. The shell offers **camouflage**. The top of the shell is dark. It blends in with the dark sea. It is light on the bottom. This blends in with the light coming from above the water. The shell is divided inside. New rooms, or **chambers**, are added to the shell as the animal grows. The nautilus can pull itself inside the shell if it feels threatened.

Protection from Predators The nautilus's hard shell offers protection from the sharp teeth of predators. Snails and

The nautilus's hard shell offers protection from the sharp teeth of predators. Snails and hermit crabs also use shells for protection. In this same way, humans once built walls around castles. These tall rock walls protected the people inside the castle from arrows and cannons.

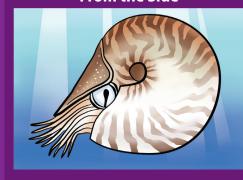
Clever Colors

From Above



The top of the shell is dark and blends in with the dark sea.

From the Side

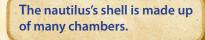


The nautilus's blended colors hide it from predators swimming above and below.

From Below



The shell is light on the bottom and blends in with the light coming from above the water.





HERMIT CRABS

Hermit crabs don't have a hard shell like other crabs. Hermit crabs must find an empty shell. They may use a snail's old shell for protection. Their legs grip the shell. When a predator attacks a hermit crab, it pulls its entire body into the shell.

When a human family grows, it moves into a larger house. As the hermit crab grows, its "house" can become too small. The crab must go in search of a new, larger shell. It may even choose a piece of wood or a tin can. If there are not enough empty homes nearby, hermit crabs may fight over a shell.



Finding a New Home

Would you rather live in a house, an apartment, a castle, or a spaceship? Well, hermit crabs have a favorite place to live, too. They prefer snail shells. But if they can't find a snail shell, they will use other types of shells.



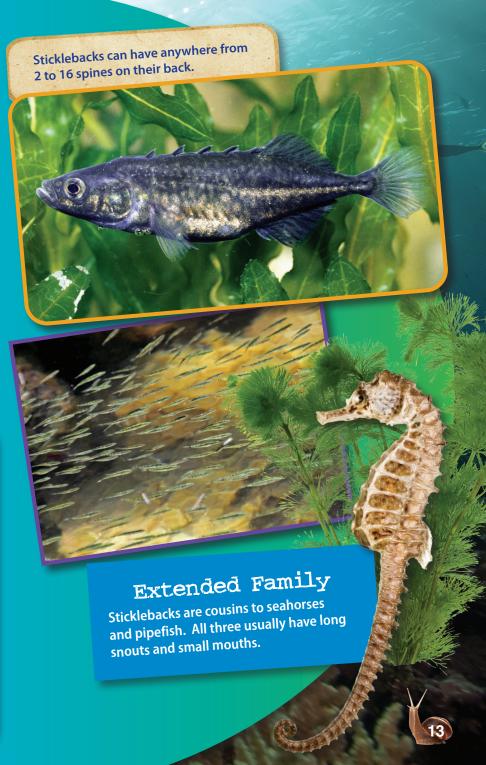


STICKLEBACKS

Sticklebacks are small fish. They live in oceans and freshwater. The name refers to the sharp spines sticking out from their backs. They don't have scales like other fish.

To attract a female, male sticklebacks build a nest. They make it out of water plants. They use a sticky fluid made in their kidneys to hold it together. The nest attracts females, who lay their eggs there. The nest hides the eggs from predators. Once the eggs hatch, the male keeps looking after the babies. When they are old enough, the babies will swim out on their own.



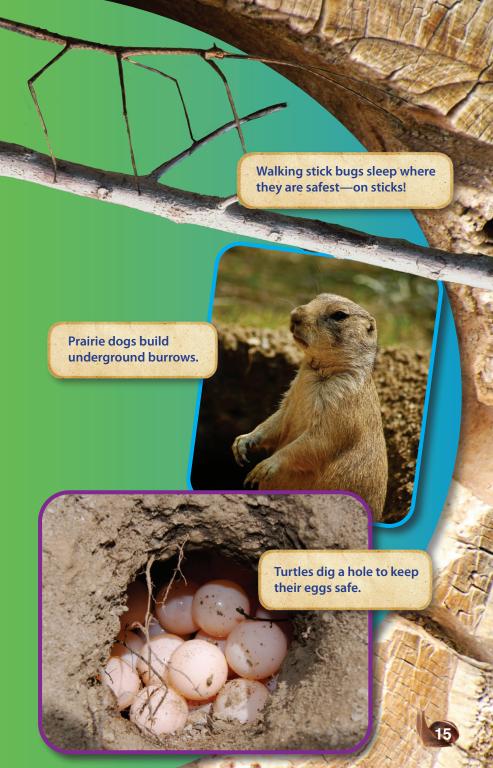




Land offers animals many places to call home. They can build their homes in plants. They may choose trees, bushes, or shrubs. Some animals find shelter in caves. Others live between rocks.

There are nearly as many kinds of animal homes as there are animals. Walking stick bugs live on tree branches and between leaves. Groundhogs dig tunnels. They **burrow** underground in open fields or along roadsides. Sometimes there is not enough space for every animal. Human homes and businesses are taking up more room. They are moving into areas that animals call home.





SPIDERS

Many types of spiders weave complex webs to catch their **prey**. Spiders make their webs from a special kind of silk. The silk is made in the **spinnerets**. These organs are located on the underside of the abdomen. Spiders can spin different kinds of silk for different uses. Some threads are sticky. Others are not. Some spider silk is used for wrapping prey. Some webs are small. Other webs can be large enough to catch birds. Some spiders even build their webs in an underground tunnel.

Strong as Steel

Imagine holding a thin thread of spider silk. You would have about as much luck pulling that thread apart as you would pulling apart a thread of steel. Although it feels soft to the touch, it is impossible to rip apart.







Wild Weavers

Spiders have been spinning webs for 140 million years. Different types of spiders spin different kinds of webs. There are orb weavers, funnel weavers, sheet weavers, and more.

Orb Weavers

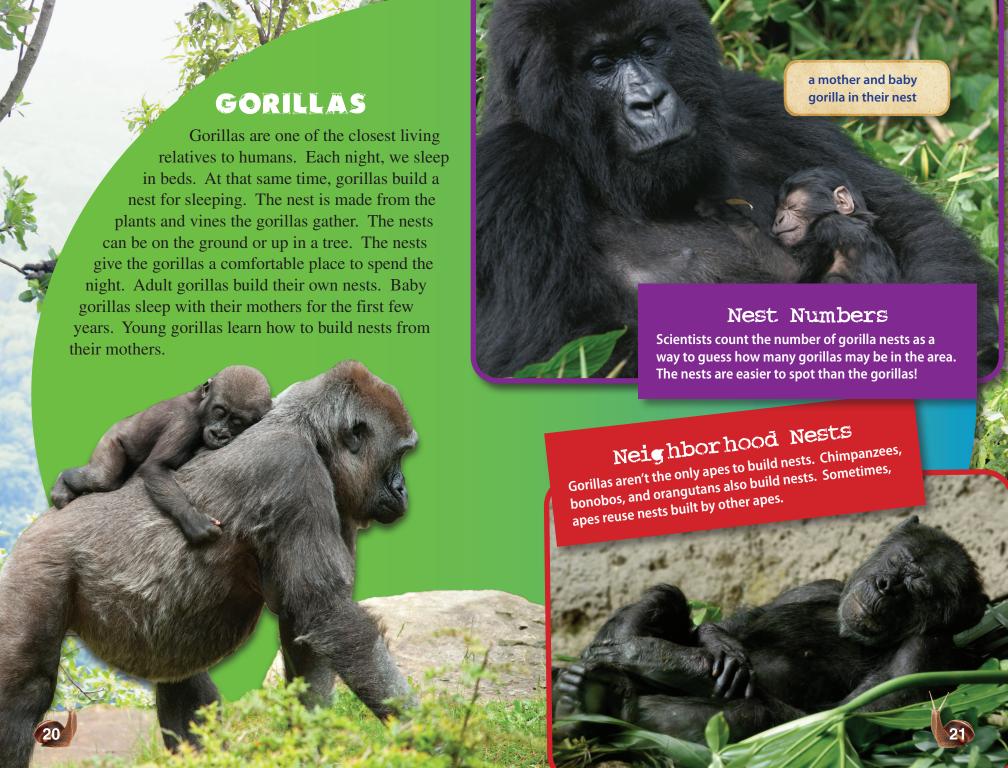
Orb weavers spin spiral-shaped webs. These types of webs are commonly found in gardens, forests, and fields. When prey is caught in the web, it is quickly bitten and wrapped in silk.

Funnel Weavers

Funnel weavers spin webs in the shape of funnels. The web is spun over animal burrows. When prey is caught in the web, it is pulled into the funnel of the web and eaten.

Sheet Weavers

Spiders hide under a sheet of silk, waiting for prey to fall. When it does, the spider bites the prey through the web and pulls it under. Later, the spider will patch up that part of the web.







Building the Perfect Lodge

The dam hides the beaver's home. But how do the beavers build a lodge? They work together!

A beaver lodge includes an eating chamber, a sleeping chamber, a place to store food, and canals for moving materials.



The beavers find a large river and use their sharp teeth to cut down trees for logs.



The crew works together to position the cut trees. They create a dam, layering the logs to block the flow of the river.



Nearby, the beavers layer trees to create a frame for the lodge.



The family gathers twigs and stones. These are stuck into the holes in between the trees.



The beaver uses its broad, flat tail to slap mud down into a thick layer over the twigs and trees.

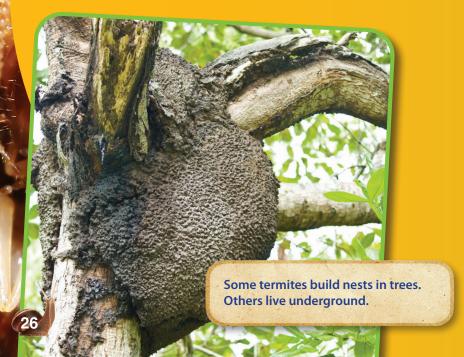


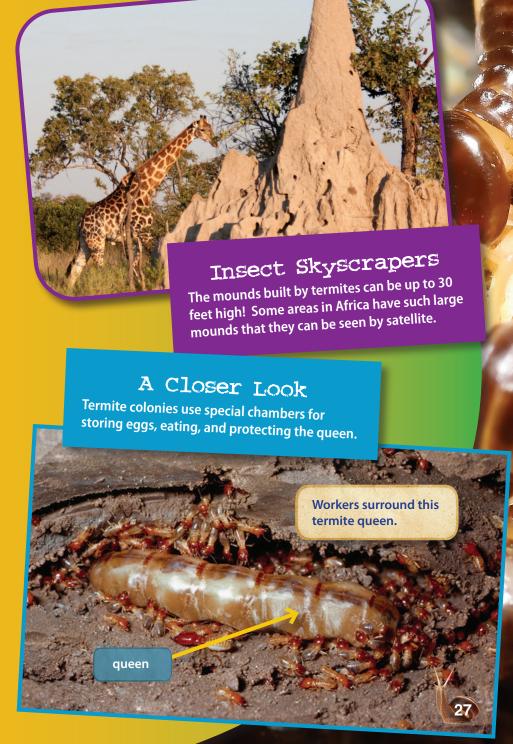
The beaver swims underwater and chews through the branches to make an entrance to the lodge.

TERMITES

Termites are tiny insects that live together in large colonies. Some termites build nests in trees. They dig into the tree to avoid harsh weather and predators. Termites in Africa and Australia build huge, strong mounds. They use soil, **saliva**, and **dung** to make a tall mound. The mounds look solid, but air can easily flow in and out.

Termites store food in the mound. But they don't live in it. Tunnels lead underground into a nest. This is where the termites live. The tunnels keep the inside cool.





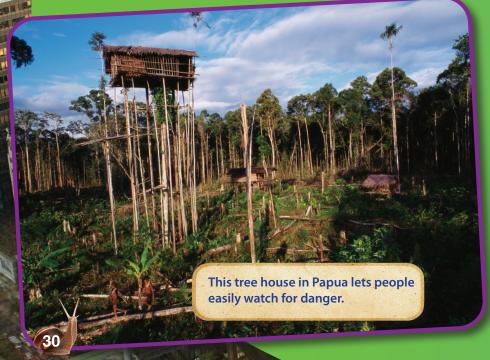


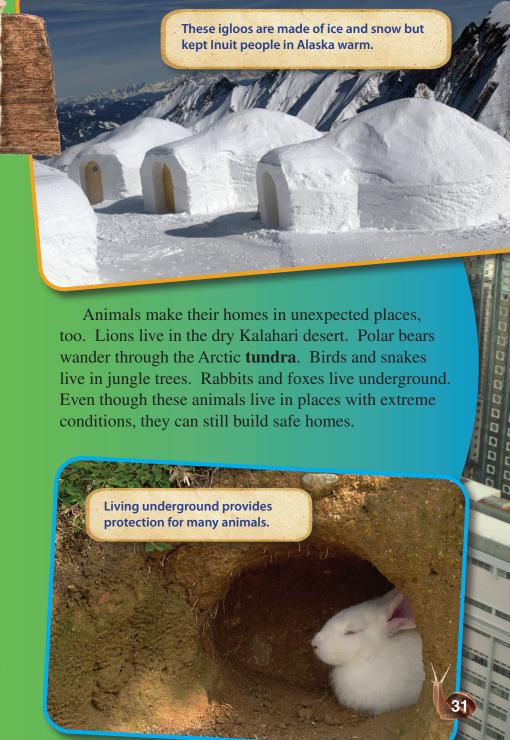


People live in all different kinds of places.

Some live high in skyscrapers with 100 floors.

Others live below ground to avoid the heat. The Inuit people of North America lived in icy **igloos** to survive the cold. Some American Indians built canvas teepees to live in. Today, the Korowai people of Papua build their houses high in the trees. Some of these tree houses are perched 115 feet above the jungle floor!





BIRDS

Human parents set up a nursery
for a new baby. They buy a crib and
plenty of diapers. Just like humans, each
species of bird knows how to build the best
kind of nest for its babies. A bird's nest is
built to shelter the baby birds from bad weather.
The nest should also be difficult for predators to
reach. Birds use things like twigs and grass to build
a nest for their eggs. They weave a strong nest using
just their beaks and their feet. Females are the nest
builders in most bird species. But, in some species,
males help to build the nest.



The size of a bird's nest can tell you something about the bird's size. Smaller birds make smaller nests and larger birds make larger nests.

Nest Hunters

Some people collect nests.
One good way to find a nest is to follow a bird. If you see a bird traveling back and forth, it is probably bringing supplies to its nest. If you find a nest with eggs or birds in it, you should look, but don't touch it!



Neat Nests

Different kinds of birds build different kinds of nests. Nests can vary from a **shallow** dugout in the sand to mounds of soil and plants. Others build underground burrows or hanging **pendant** nests. Some birds even use mud to build their nests against walls.





Seasonal Dwellings

One main reason animals build homes is to prepare for the changing seasons.

Some need a safe, warm place to spend the winter.

Others want to escape the hot sun in summer.

Fall

Chipmunks dig burrows to keep warm and store food for the winter months.

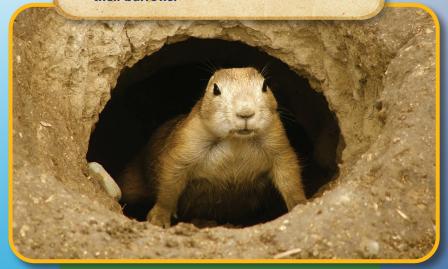


Winter



Summer

Prairie dogs escape the summer heat in their burrows.



Spring In the spring, birds often build nests before



HONEYBEES

These insects can be found buzzing through gardens around the world. Bees carry **nectar** and **pollen** from the flowers back to their hive. There, it is made into honey. As they fly between the flowers, pollen is carried back and forth. The bees pollinate the flowers. This helps new plants grow.

Bees build elaborate hives. This is where a **colony** can live for years. The hives are filled with six-sided chambers. Honey is made in the upper part of the hive. The center part of it is filled with cells where new bees are born and grow. Queen bees are raised in special chambers called *queen cups*. Bees often use sheltered areas to build their hives. They may build them in holes in trees or even electrical boxes.

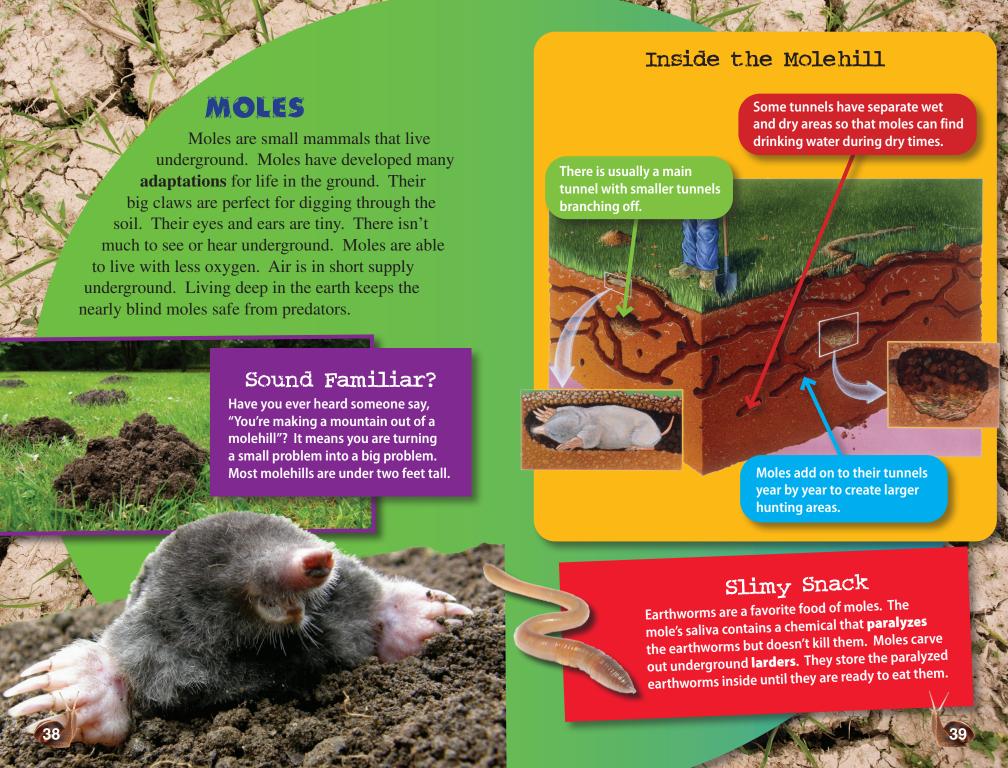


Man-made Beehives

Humans have been building beehives for thousands of years. These hives provide easy access to honey. Temples from ancient Egypt show drawings of workers removing honey from hives. Modern hives are built so that the honey can be removed without damaging the hive.



Many people use honey to ease a sore throat when they have a cold.



IMPORTANT INSTINCTS

Some animals use their bodies as houses. Other animals work together to build a safe place to live. It takes years for humans to learn how to build houses. But animals are born knowing how. They build their homes by **instinct**. They know how to find the right materials and put them together. Around the world, scientists are studying these amazing animals to see what they can teach human architects.





CLOSSARY

adaptations—traits that have developed in animals and plants to help them survive in their habitatarchitect—a person who designs buildingsburrow—to tunnel or dig

camouflage—color or texture that helps a plant or animal blend into its environment

census—an official counting of the population **chambers**—enclosed spaces

colony—a group of organisms of the same type living together

dams—barriers preventing the flow of waterdiverse—a number of things or creatures differingfrom one another

dung—solid animal waste

igloos—dome-shaped houses made of blocks of snow and ice

instinct—natural abilities and responses

larders—places to store food

lodge—a beaver's home

nectar—a sweet liquid found in flowers

nursery—a baby's bedroom

paralyzes—makes something unable to movependant—something that hangs downpollen—a yellow, powdery substance produced by plants in order to reproduce

predators—animals that kill and eat other animals
prey—organisms that are consumed by others for
energy

saliva—a fluid made by the mouth

shallow—not deep

shelters—places that house and protect animals

spectacular—exciting to see

spinnerets—specialized organs a spider uses to produce silk for webs

tundra—a treeless arctic area



INIDEX

Africa, 26–27 Alberta, Canada, 22 American Indians, 30 anemones, 10 ant, 4 architect, 4, 28–29, 40 Arctic tundra, 31 Australia, 26 bears, 31, 34 beavers, 4, 22–25, 40 bees, 36 beehive, 4, 37, 41 birds, 16, 31–33, 35 bonobos, 21 camouflage, 8 chambered nautilus, 8–9 Chicago, Illinois, 28 chimpanzees, 21 chipmunks, 34 colony, 36 Colosseum, 28

dams, 4, 22–24 Dumbo octopus, 7 Earth, 6 earthworms, 39 Egyptians, 28 Eiffel Tower, 29 foxes, 14, 31 funnel weavers, 18–19 gorillas, 20-21 Great Wall of China, 29 groundhogs, 14 hermit crabs, 8, 10–11 instincts, 40 Inuit, 30–31 Kalahari desert, 31 Korowai, 30 lions, 31 lodge, 22–25, 40 Marine Census, 7 moles, 38–39

mounds, 26–27, 33

nectar, 36 nest, 12, 20–22, 26, 32–33, 35 North America, 30 oceans, 6, 12 octopus, 6–8 orangutans, 21 orb weavers, 18 Papua, 30 Paris, 29 pipefish, 13 polar bears, 31 pollen, 36 prairie dogs, 15, 35 predators, 6, 8–9, 12, 22, 26, 32, 38 pyramids, 28 queen, 27, 36 rabbits, 31 Rome, Italy, 28 seahorses, 13

seasons, 34–35 sheet weavers, 18–19 shelters, 4 silk, 16–19 snails, 4, 8 snakes, 31 spiders, 16–19 spinnerets, 16–17 squid, 8 sticklebacks, 12-13 termites, 26–27 tunnels, 14, 26, 39 turtles, 15 walking stick bugs, 14–15 Willis Tower, 29 yeti crab, 7



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This book is filled with easy-to-make projects that help kids understand architecture and construction.

Robinson, W. Wright. Animal Architects How Insects Build Their Amazing Homes. Blackbirch Press, 1999.

Learn all about how insects such as bees, termites, and ants construct their homes. Some homes are simple, and others are very complex.

Salvadori, Mario, Saralinda Hooker, and Christopher Ragus. The Art of Construction: Projects and Principles for Beginning Engineers and Architects. Chicago Review Press, 2000.

Learn about the basic principles of building and architecture in this book written for kids ages 10 and up. Instructions for using everyday materials to build basic structures are also included.

Stonehouse, Bernard, and Esther Bertram. The Truth About Animal Builders. Tangerine Press, 2003.

Discover the secrets and myths about animal builders. Learn how and why animals fit into categories based on how they build places to live.

National Geographic Really Wild Animals Awesome Animal Builders DVD

This video follows many different animal builders and investigates the special tools they use to build their homes.

ArchKIDecture

http://www.archkidecture.org

ArchKIDecture is a website that was created to explain architecture, as well as math, science, and visual arts.

Encyclopedia Britannica for Kids

http://kids.britannica.com

Encyclopedia Britannica Online provides a searchable database of information on any content you are studying in class or that you would like to know more about, including bugs. Encyclopedia entries are written for kids ages 8–11 or 11 and up.

BioKids

http://biokids.umich.edu/guides/tracks_and_sign

Many animals build homes for themselves or their offspring. You might encounter some of these homes in real life. Read about them on this website so you will know what to watch out for.





ABOUT THE AUTHOR



Timothy J. Bradley grew up near Boston, Massachusetts, and spent every spare minute drawing spaceships, robots, and dinosaurs. He enjoyed it so much that he started writing and illustrating books about natural history and science fiction. Timothy also worked as a toy designer for Hasbro, Inc., and designed life-size dinosaurs for museum exhibits. Timothy loves looking at bugs and the amazing things they can build.

Timothy lives in sunny Southern California with his wife and son.





5th Grade Family Engagement Guide

Welcome to fifth grade! What an exciting time for your child. This year, students begin to understand how they learn best as they process new information. Fifth grade is an important milestone as they prepare to meet greater challenges in school.

Your child's understanding at this stage of development allows them to read and write longer, tackle complex math problems, delve into research, and better handle planning for long-term projects. Supporting your child through their journey to independence makes a positive difference as your fifth grader makes new friends. Concerns about fitting in may be increasing as well. Be patient when it comes to their social concerns, and be aware of your child's social media usage. You will need to help your fifth grader balance school expectations with friendships, extracurricular activities, family, and time using digital devices.

Maintaining communication with your child's teacher helps provide clear expectations for success. Find out how your fifth grader's teacher prefers to communicate with families. During this year, it is important that your fifth grader has your support as they continue to learn how to solve complex problems, reason, and process information.



Top 10 Things Your Fifth Grader Needs to Know

- How to identify themes in books and stories
- Character development and the conflict, climax, and resolutions in a story
- Word decoding strategies using roots, prefixes, and suffixes
- 4 Operations with fractions and decimals to the thousandths place
- Measurement of plane figures, area, ratio, volume, rate, and speed

- 6 Graphing of points on the coordinate plane
- Basic understandings about Earth and space science, physical science, and life science
- The four states of matter (solid, liquid, gas, and plasma)
- 9 Early history, geography, and economics of the United States
- 10 Civics, including the U.S. states and capitals