

A WinterPromise Nature Theme

Animals & Their Worlds

Guide to Seven Habitats



Social Studies
& Science



Interactive
Journaling



Nature
Experiences



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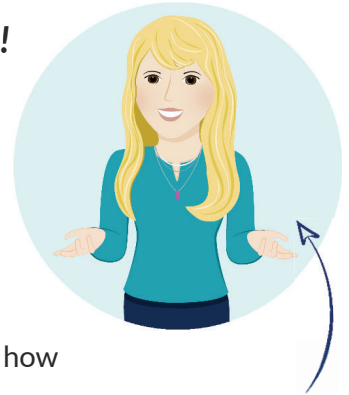
Welcome to ... **WinterPromise**

***I am thrilled -- and humbled --
you've chosen to share your homeschool journey with us!***

I am so pleased to meet you in this way,
connecting over our shared love for our families!

I'm Kaeryn Brooks, the author of WinterPromise. I began WinterPromise to meet the needs of my own family, when some of my children struggled and grew disenchanted with learning. They'd lost their joy!

There just had to be a way to bring the joy of learning to every child, no matter how they preferred learning. So the writing began, trying (sometimes succeeding, sometimes not so much), and pulling together the kinds of experiences I wanted my own family to have, developing new ways of appealing to all the ways children learn. After all, I had one child of every flavor! (Or so it seemed!)



Virtual Me,
a significant
improvement
over the usual
Morning Me...

That's where WinterPromise comes from -- from my family to yours.

My friends and their friends started asking what I used. My husband came home with a website without telling me (*I'm not the only one who has had that happen, am I?*), and next thing I know, I'm sharing WinterPromise with families that want the same thing I wanted:

***interactive, vibrant experiences that created a rich and wonderful
family culture.***



It's the same thing I want for your family this year:

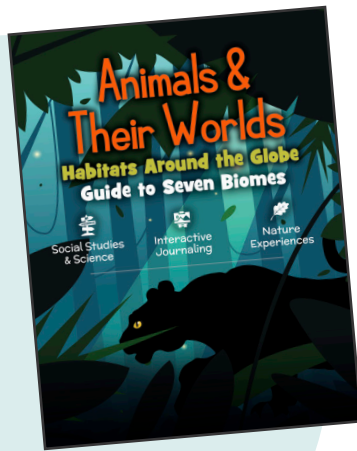
- An adventure that everyone enjoys together
- Rich learning that introduces your family to new interests
- Shared experiences that create a family culture, inside jokes
- Deep discussions that offer opportunities for critical thinking
- A habit of talks that encourage kids to self-reveal and share
- Discovery of people whose walk with God inspire spiritual growth
- Time for real life, not paperwork or busy work
- A year of family memories

You'll find that I'm here with you on the journey, with remarks and sidebars throughout this guide. I hope this has given you a glimpse inside the heart of WinterPromise. I also hope you feel as though you are a part of our family, now. And your new WinterPromise family is just a phone call away for help or support -- or even prayer.

It is my sincere hope that while you explore different times and places this year, you will also have the chance to show your child the opportunities in the here and now that will last an eternity.

Your Adventure Awaits! -- Kaeryn

GETTING STARTED WITH YOUR ADVENTURE!

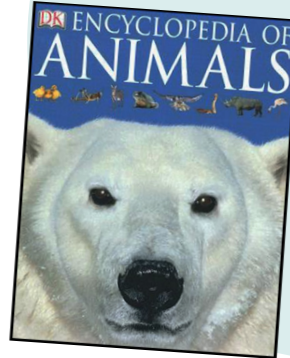


This Guide
Your year-long
“what and why”
headquarters!

Science

Read together and discuss
the design of animals and the
habitats in which they live

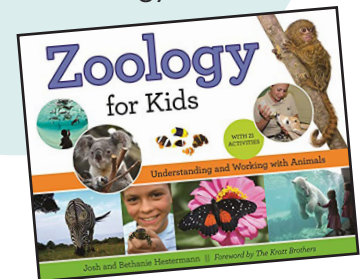
- DK Animal Encyclopedia



Social Science

Understanding &
working with
animals

- Zoology for Kids



Habitats

Investigate biomes
with the
One Small Square
habitat series!

- Woods
- Swamp
- African Savannah
- Arctic Tundra
- Cactus Desert
- Tropical Rainforest
- Coral Reef



Both are
Consumable

Journaling

Create intriguing notebooks
with nature observations
to try and do near you!

- Burrows, Beehives & Beds (Pre-K)
- Habitats, Hollows & Homes (1st-4th)

**Choose the Package with
the Correct Journal Version**



Bonus Ebook Only Resources

- Animal Height Chart
- Animals Diorama Kit
- Deep Into Habitats Page Pack

Plus These Younger Student Resources

- **JOURNALING:** Make-Your-Own Animal Book
- **ACTIVITIES:** Animal Alphabet Fun Pack
- **ACTIVITIES:** At the Zoo
- **DRAWING:** Animal Easy-Shape Drawing Book

**I hope you'll love
this program as I do:**

It helps students understand
that only design explains the
delicate balance of predator,
prey, plants, and climate in a
biosystem.

— Kaeryn

Bible

- God
Designed It
First

Consumable



OPTIONAL RESOURCES YOU CAN ADD



Great Options If You'd Like to Add Read-Together Adventure Books:

BOOK TITLE:

Ereth's Birthday
Lost in the Woods
Christopher Mouse: Tale of a Small Traveler
Ribsy (Henry Huggins Series)
Mr. Popper's Penguins
Look to the North: Wolf Pup Diary
One Day in the Desert
Coyote Autumn
One Day in a Tropical Rainforest
Nature's Green Umbrella
The Tarantula in My Purse

ISBN#

978-0380804900
978-0967174884
978-1582347080
978-0380709557
978-0316186469
978-0064435109
978-0064420389
978-0743428361
978-0064420167
978-0688154110
978-0064462013

Read-Together Adventures are Scheduled on Page 17.

USING YOUR GUIDE



This is Your Guide to Adventure!



YOU CAN CUSTOMIZE WP TO YOUR FAMILY

WP offers many learning experiences, so you can prioritize the ones that support your kids' ways of learning.



YOU WILL DISCOVER THE MULTIPLE INTELLIGENCES

Discover your child's preferred way of learning with information on multiple intelligences in this guide -- then use what you've learned to pick assignments that connect with them as individuals!



THIS GUIDE = HQ

This guide is meant to be your headquarters -- feel free to scribble all over it! Write student initials and grades next to completed items.

Your Program Guide is Here to Come Alongside You As You . . .



PREPARE FOR ADVENTURE!

Discover adventuring resources and plan for this year's experiences!

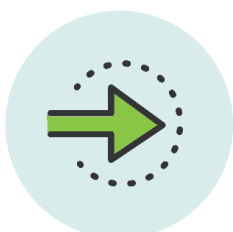
- Using Your Guide
- Learning Goals & Methods
- How to Get the Most from Your Resources
- Preparing for This Adventure
- Planning Your Activities This Year
- Activity Planning Chart
- Consider Adding Family Experiences



ENCOUNTER CHARLOTTE MASON METHODS

Integrate CM methods, grading

- Charlotte Mason's Teaching Methods at Work This Year
- How Does Grading Fit with Charlotte Mason-Inspired Work?
- CM & the Multiple Intelligences
- Utilizing the Timeline Resources
- How Can I Integrate Narration Into Our Day?
- Nature Journaling Pages to Copy & Use



WORK THROUGH THE HEART OF THE GUIDE

Utilize open & go guide pages,

- Overview of Studies
- 36-Week Guide Schedule
- Independent Study Schedules for Students
- Appendix: Resource Answer Key

ANIMALS AND THEIR WORLDS

OVERVIEW OF STUDIES

EXPLORING HABITATS

Week 1

Introduction to the Animal Kingdom
Overview of Habitats & Environments

LIFE IN THE WOODS

Weeks 2 - 6

One Small Square: Woods
Deer
Beaver
Bear
Porcupine
Owl

LIFE IN A WETLAND

Weeks 7 - 11

One Small Square: Swamp
Duck
Alligator
Flamingo
Salmon
Tiger

LIFE IN AN AFRICAN SAVANNAH

Weeks 12-16

One Small Square: African Savannah
Lion
Zebra
Cheetah
Giraffe
Elephant

LIFE IN THE ARCTIC TUNDRA

Weeks 17 - 21

One Small Square: Arctic Tundra
Seal
Penguin
Wolf
Whale
Polar Bear

LIFE IN A DESERT

Weeks 22 - 26

One Small Square: Cactus Desert
Komodo Dragon
Chameleon
Llama
Snakes
Hummingbird

LIFE IN A TROPICAL RAINFOREST

Weeks 27 - 31

One Small Square: Tropical Rainforest
Frog
Gorilla
Chimpanzee
Toucan
Leopard

LIFE IN THE OCEAN

Weeks 32 - 36

One Small Square: Coral Reef
Seahorse
Fish
Dolphin
Shark
Kangaroo

ANIMALS AND THEIR WORLDS

WEEK 1 - EXPLORING HABITATS

LEARNING TO OBSERVE - ANIMAL & BIOME DESIGN



It's time to begin exploring the habitats in which animals live. Habitats are biomes, an environment in which a distinct group of animals and plants live together in a climate that sustains both plants and animals. Weather conditions -- how much it rains or doesn't, how long the sun shines each day, or the daily temperature, for example -- determine all types of things in the biome. It determines what kind of shelters are available for animals of all sizes: caves, burrows, treetops, fallen logs, tall grasses, and so on. It determines what types of plants succeed in growing, whether trees grow tall and lush or short and scrubby, or if wildflowers are abundant or cactus dot the landscape. Every feature in a biome is designed to allow plants and animals to flourish. This year, you'll encounter seven habitats: forests, wetlands, savannahs, arctic tundras, deserts, tropical rainforests, and coral reefs. Are you ready to explore them?

DAY 1

Learning to Explore Habitats

Habitats/Burrows Journal | Read Page 4

DK Encyclopedia | Animal Kingdom, Skeletons,
Exoskeletons, Page 16-23

ACTIVITY OPTIONS

Journal: Habitats/Burrows |
EASY - Starting Observation 1

DAY 2

Learning to Explore Habitats

DK Encyclopedia | Senses, Communication, Pages 24-29

Animal Height Chart | Assemble and Mount the Chart

God Designed It First | Biomes Around the World, Page 4

Journal: Habitats/Burrows |
EASY - Starting Observation 3

Younger | Animal Shape Drawing, Page 2

DAY 3

Learning to Explore Habitats

DK Encyclopedia | Defense & Camouflage, Pages 30-37

Animal Height Chart | Add "Me" and Pet Squares

Zoology for Kids | Forward, Authors' Note, Timeline, Pg v-ix

Journal: Habitats/Burrows |
EASY - Starting Observation 5

DAY 4

Learning to Explore Habitats

Habitats/Burrows Journal | Read Page 10

DK Encyclopedia | Animal Homes, Pages 46-51

Journal: Habitats/Burrows |

Older | Deep Into Habitats, Find Wild Fruit

INDEPENDENT STUDY

COMPLETE THESE DAY 1:

- ☐ **Journaling** | Habitats/Burrows
- ☐ **Math Assignment** | Write In
- ☐ **Other Assignment** | Write In

Hitting the Trails, Page 4

COMPLETE THESE DAY 2:

- ☐ **Bible** | God Designed It First
- ☐ **Journaling** | Habitats/Burrows
- ☐ **Math Assignment** | Write In
- ☐ **Other Assignment** | Write In

God Cares for All Creatures, Page 5

Starting Observation 2

COMPLETE THESE DAY 3:

- ☐ **Bible** | God Designed It First
- ☐ **Journaling** | Habitats/Burrows
- ☐ **Journaling** | MYO Animal Book
- ☐ **Math Assignment** | Write In
- ☐ **Other Assignment** | Write In

Draw a Habitat You Know, Page 5

Starting Observation 4

Habitats, Page 4

COMPLETE THESE DAY 4:

- ☐ **Journaling** | Habitats/Burrows
- ☐
- ☐ **Math Assignment** | Write In
- ☐ **Other Assignment** | Write In

Starting Observation 6

Starting Observation 7

NOTES

ANIMAL OF THE WEEK

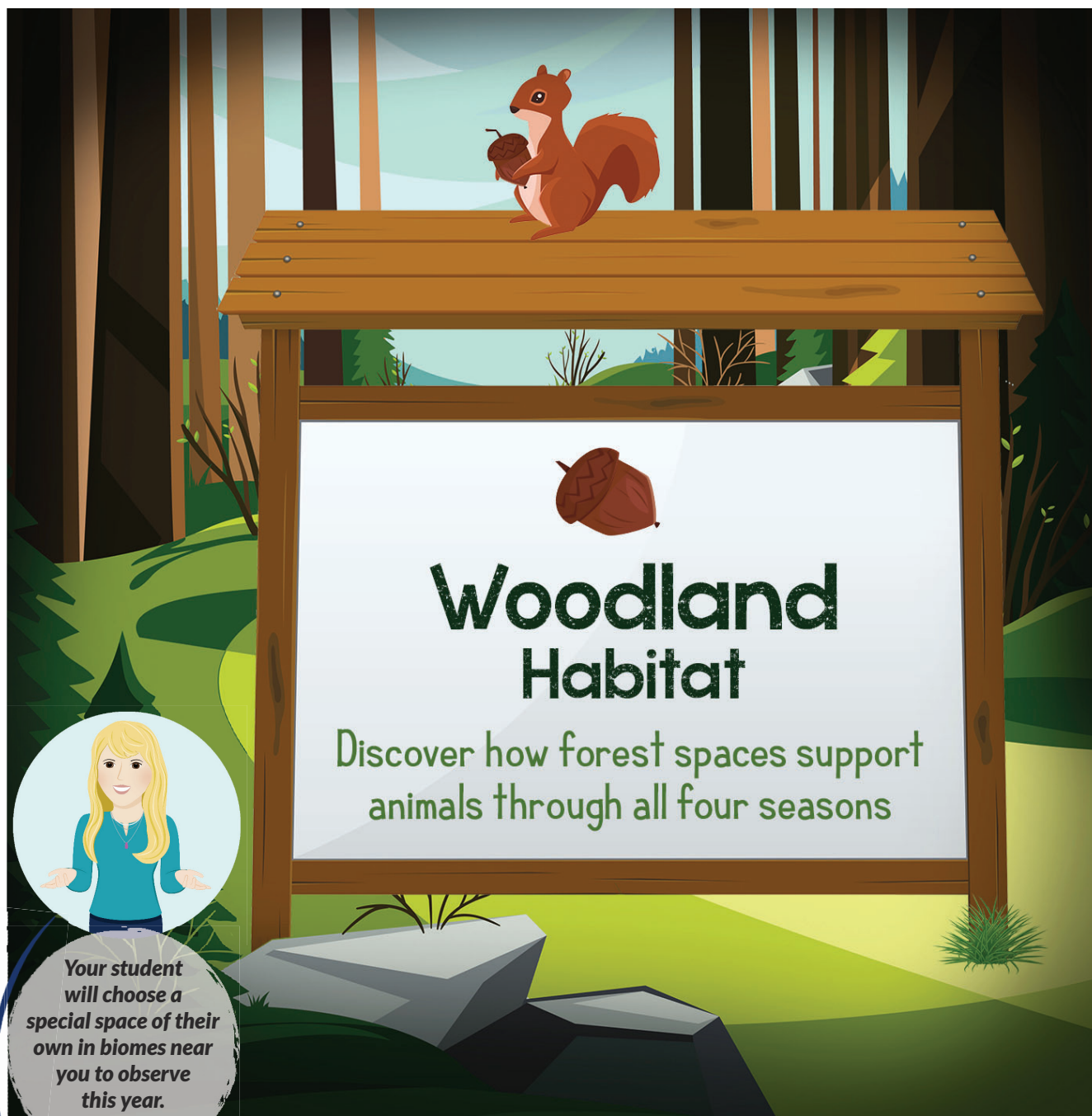
Each week this year your student will focus on learning about one animal. It will be an animal they read about in their Animal Encyclopedia, and they will use that book to help them fill out their "Make-Your-Own" Animal Book. The pages are not in the correct order. This week's page is an overview of animal habitats.

NOTE! "Make-Your-Own" Animal Book pages have space for information about where the animal lives, what it eats, its enemies, etc. For younger students, they can 'draw' the answers, while older students can write the answers with assistance.

Extra Journaling Pages

You'll find several journal pages you can copy and use throughout the year in the front of the guide. Take a look and make the number of copies you think you'll need, if your older student is interested in adding to his or her "Make-Your-Own" Animal Book!

National Geographic Magazine for Kids would be a great addition to your studies this year. Search for subscription information by visiting www.nationalgeographic.com and searching "subscription."



LOOK INSIDE ONE SPECIAL SPACE IN THE FOREST

Watch each season unfold in a special space you choose in a woodland near you.



SPRING

The forest comes to life after the long winter.



SUMMER

Food is plentiful for woodland creatures.



AUTUMN

Leaves change color and fall to prepare for winter.



WINTER

Animals find different ways to survive the cold.

WHAT WE'LL EXPLORE ON THIS ADVENTURE!

FOREST DISCOVERIES

TYPES OF FORESTS

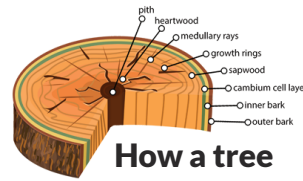
- Temperate forest
- Tropical rainforest
- Boreal forest

DISTINGUISHING LEAVES

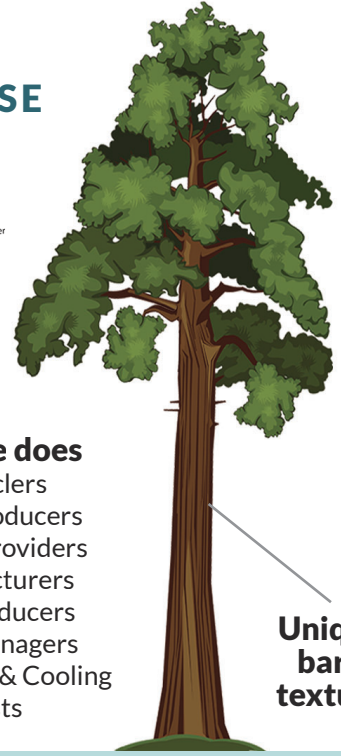
- 3 groups - broadleaf, conifer, palms/yuccas
- 3 conifer shapes - scale-leaf, needle-leaf
- 2 broadleaf types - simple and compound



A TREE UP CLOSE



How a tree grows



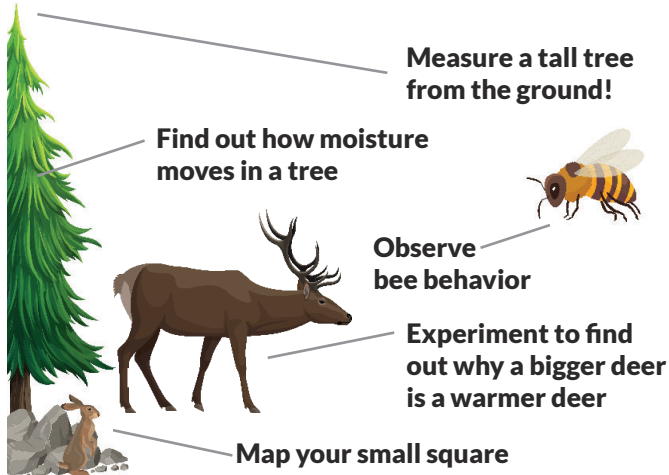
Jobs a tree does

- Air recyclers
- Food producers
- Home providers
- Manufacturers
- Fuel Producers
- Land Managers
- Heating & Cooling Specialists

Unique bark texture

WOODLAND HIGHLIGHTS

OBSERVATIONS LIKE THESE:



What You'll Follow in Your Small Square

- Changing of the seasons
- What's happening to the trees and bushes
- Distinguishing different types of leaves
- Noting color changes in leaves and bushes
- Following what happens in the sky and weather
- Tracking how weather changes affect the forest
- Learning what insects call your square home
- Where insects are busy and what they are doing
- Finding any animal homes or burrows
- Watching for signs of animal activity or tracks
- Learning names of wildflowers or native plants
- Locations of trees, rocks, fallen logs, hills, bushes, webs, and wildflowers



ANIMAL HIGHLIGHTS

Meet 5 Amazing Animals In-Depth

- **Owls**, whose face shape helps them hunt
- **Porcupines**, who really love salt
- **Deer**, whose tail can be an alarm signal
- **Bears**, who like to eat almost anything
- **Squirrels**, who spend a lot of time storing food
- **Beavers**, whose teeth are their favorite tool



ANIMALS AND THEIR WORLDS

WEEK 2 - LIFE IN THE WOODS

TYPES OF FORESTS - PORCUPINES



Woodland Discoveries:

- Forests come in many different kinds
- Mountains are home to forest habitats
- Autumn changes life in woodlands
- Observe animal habitats and homes near you
- Get to know special places by mapping the land
- Observe a tree up close
- Learn how to spot signs of porcupines living near you
- Pick your own one small square in the woods

DAY 1

Types of Forests

Habitats/Burrows Journal | Types of Forests, Page 13

One Small Square: Woods | Pages 3-5

DK Encyclopedia | Woodlands, Vertebrates Pages 60-61, 345

ACTIVITY OPTIONS

Journal: Habitats/Burrows |

EASY - Woodlands Observation 1

Younger | Animal Alphabet Coloring, A Page

Older | Deep Into Habitats, Soil Investigation

DAY 2

Into the Woods

One Small Square: Woods | Pages 6-7

DK Encyclopedia | Mountain Life, Pages 58-59

God Designed It First | Protection on the Go, Page 6

Journal: Habitats/Burrows |

EASY - Woodlands Observation 3

Younger | Alphabet Dot-to-Dot, Page 57

DAY 3

Autumn Comes to the Woods

Habitats/Burrows Journal | Autumn in the Forest, Page 18

One Small Square: Woods | Pages 8-11

DK Encyclopedia | Moles, Page 248

Zoology for Kids | What is Zoology?, Pages 1-3

Journal: Habitats/Burrows |

EASY - Woodlands Observation 5

Younger | Animal Shape Drawing, Page 3

Older | Deep Into Habitats, Identify Trees

DAY 4

Woodland Animal: Porcupine

Habitats/Burrows Journal | Porcupines!, Page 22

DK Encyclopedia | Porcupines, Page 285

Animal Height Chart | Add Porcupine Square

Journal: Habitats/Burrows |

EASY - Woodlands Observation 7, Page 23

At the Zoo | Porcupine, Pages 107-109

Older | Deep Into Habitats, Migration Log

INDEPENDENT STUDY

COMPLETE THESE DAY 1:

- ☐ **Journaling** | Habitats/Burrows
- ☐ **Math Assignment** | Write In
- ☐ **Other Assignment** | Write In

Trek to the Woods, Page 12

COMPLETE THESE DAY 2:

- ☐ **Bible** | God Designed It First
- ☐ **Journaling** | Habitats/Burrows
- ☐ **Math Assignment** | Write In
- ☐ **Other Assignment** | Write In

The Armor of God, Page 7

Woodlands Observation 2

COMPLETE THESE DAY 3:

- ☐ **Bible** | God Designed It First
- ☐ **Journaling** | Habitats/Burrows
- ☐ **Math Assignment** | Write In
- ☐ **Other Assignment** | Write In

Draw an Armored Animal, Page 7

Woodland Observation 4

COMPLETE THESE DAY 4:

- ☐ **Journaling** | Habitats/Burrows
- ☐ **Journaling** | MYO Animal Book
- ☐ **Math Assignment** | Write In
- ☐ **Other Assignment** | Write In

Woodland Observation 6

Porcupine, Page 5

NOTES

ANIMAL OF THE WEEK: **PORCUPINE**

This week your student will focus on learning about porcupines. Use the "Animal Encyclopedia" or the "Take a Look" feature from "Habitats, Hollows and Homes" to help your student fill out their "Make-Your-Own" Animal Book.

Learn More About Porcupines

Go to nationalgeographic.com and search "Porcupine."

Tree Guide

Search a database of trees, explore the layers of the forest, learn about tree classification, the anatomy of a tree, and even find out about "types of swamps." Go to arborday.org and search "tree guide."

Learn About the Changes that Autumn Brings

Go to <https://naturescalendar.woodlandtrust.org.uk/blog/2018/autumn-is-on-its-way/> to learn more about the changes autumn brings to the woodlands. Help create records for season changes!

Habitats, Hollows & Homes Journal

Animals & Their Worlds

**Observe
Animals at Work,
Rest & Play**



Read and discover
what animals do at
home in their habitat



WinterPromise



Go out into nature
to observe similarities
right near you!

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Habitats, Hollows & Homes Journal

Opportunities to Investigate
& Observe Nature at Work, Play & Rest



WinterPromise

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Hitting the Trails -- What's First?

The most important skill to learn as you begin to learn more about animals and the habitats in which they live is this -- OBSERVATION! That's a big word that really just means four things:

1. Take time to be quiet, and truly hear what is around you.
2. Learn to see what's around you by REALLY looking.
3. Find new ways to experience what's around you by touching and smelling.
4. Be committed to writing down/drawing what you experience in detail, so you'll remember!

From these three things we can say that observation is:

1. HEARING
2. SEEING
3. TOUCHING OR SMELLING
4. WRITING & DRAWING

This book will help you develop your hearing and seeing skills, help you to remember to use your other senses, and give you plenty of opportunities to write and draw what you're learning and observing.

So, if you're ready, let's hit the trail!



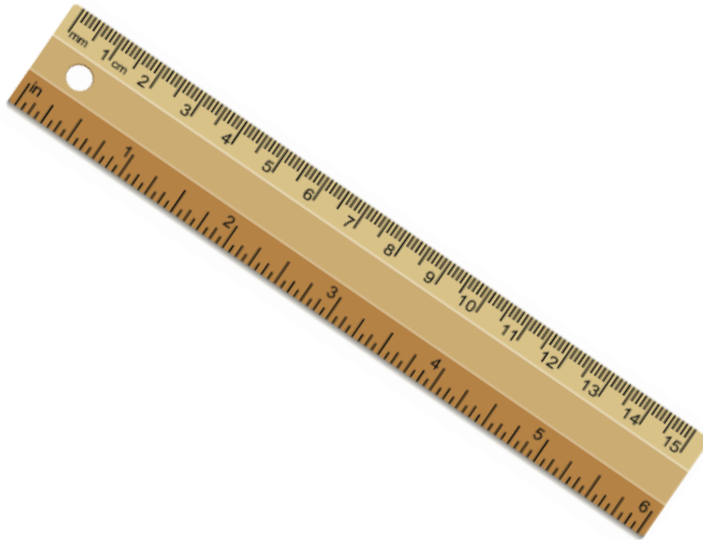
STARTING OBSERVATION 1 - Mount Your Animal Height Chart

It's time to assemble your Animal Height Chart!

Cut each height chart along the solid black lines and the dotted lines. Then, assemble the chart, starting with the chart that has a "1" on it, and adding to it in numerical order. Tape the dotted lined ends together to create a long vertical chart you can mount on a wall.

Once you've assembled your Animal Height Chart, you can add your first two entries to it. This year you'll mark on your Animal Height Chart the height of the different animals you'll study this year. You'll be able to see just how big or how small these creatures are.

For your entries this year, let's start with you!



ENTRY #1 - Measure how tall you are, write down your height on your square, cut it out, and paste it on the chart. Write your name and, if you want, to, add a picture of yourself near the line.

ENTRY #2 - Find an Animal Height Square that matches your pet. If you don't find your pet, use the "My Pet" square instead. Measure how tall your pet is, write down their height on the Animal Square, cut it out, and paste it on the chart. Write their name near the line, with either a picture, or an outline of your favorite friend!



STARTING OBSERVATION 2 - Practice Observation



Keeping a Nature Journal requires good observation skills.

You need to really “see” what is around you.

Let’s practice your observation skills right now. Look around the room you are in. List below all the things in the room, or place where you are, that are out of place or are where they don’t belong.

Items That Are Out of Place or Don’t Belong:

STARTING OBSERVATION 3 -

Put Together a Nature Sleuthing Kit

This year you are going to do the job of a naturalist -- study nature! For that job, you really need to use all of your senses -- especially seeing, listening and smelling. Your senses are your most important tools as you study nature.

There are other items, though, that will help you to study nature by taking you up close, down low, or in depth.

As you prepare for your year of studying nature, you'll want to put together as many of these items as you can for a nature "sleuthing" kit. To go out into the field, you'll be most prepared if these items are in a backpack or tote bag.

NOTE: Some of these items, including a top quality magnifying glass, binoculars, flashlight and more -- even a large owl pellet -- are in WinterPromise's Nature Study Kit.

Gather These:

- ❑ A hand lens or magnifying glass
- ❑ Binoculars
- ❑ Plastic zip-locking bags for collecting things
- ❑ A sketchbook, notebook, or scrapbook
- ❑ Pencils and colored pencils for drawing and writing
- ❑ A field guide for animals in your area
- ❑ A field guide for birds in your area
- ❑ A guide to animal tracks
- ❑ A ruler to measure track size, or even the size of a plant, or something else an animal left behind
- ❑ A trowel for digging (or a large spoon)
- ❑ A flashlight, for nighttime viewing
- ❑ A bug net or trap
- ❑ A digital camera to record your wildlife sightings
- ❑ A backpack or tote bag to hold it all



STARTING OBSERVATION 4 - I Spy ...

Here is some space to record the results of wildlife sleuthing right in your own neighborhood. Write down what you see, hear, or smell in these places.

Up High or Down Low:



In Quiet Places:



Up Close Signs:

Small Critters:

Soil Creatures:



STARTING OBSERVATION 5 - What Do You Know About Animals?



You probably already know a lot about animals. For instance, you probably know that there are several different groups of animals -- fish, amphibians, reptiles, mammals, birds, insects and arachnids (which include spiders, scorpions, ticks and mites).

The chart below might give you some information you don't know, though you probably know quite a bit.

You'll learn about which groups live in different habitats, and what characteristics the group shares. After you read about these groups, let's find out what you know about animals that are examples of each of these groups. **Write in examples you know of each animal group.**

Animal Group	Natural Habitat	Characteristics	Common Examples
Fish	oceans, lakes, rivers, streams, ponds	fish live in water, breathe through gills rather than lungs, have a scaly body and move using fins	
Amphibians	hatch from eggs laid in or near water, then develop into tadpoles, grow legs, and spend their adult lives on land near water.	amphibians have a backbone but no hair, feathers, fur or scales, breathing through their moist skin as well as their lungs; cold-blooded	
Reptiles	forests, deserts, tropics, and near or in fresh or salt water	reptiles have dry, scaly skin, lay their eggs on land, and are cold-blooded	
Mammals	forests and fields, deserts and tropics, coasts and polar areas, fresh and salt water regions	mammals have fur or hair, are warm-blooded, give birth to live babies and feed them milk	
Birds	forests and fields, deserts and tropics, coasts and polar areas	birds are the only animal group with feathers; most birds can fly and are warm-blooded	
Insects	forests and fields, caves and below ground, deserts and tropics, near fresh and salt water	adults have six legs and a skeleton that forms a hard exterior armor; they have several stages of growth before adult form and often pass through a larval stage	
Arachnids	forests and fields, deserts and tropics	arachnids have four pairs of legs and babies that hatch from eggs and look like smaller versions of the adult	

OBSERVATION 6 - Safety Guidelines for Terrific Treks!



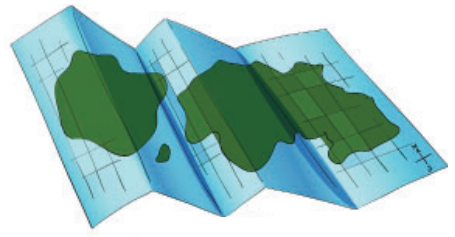
No matter where you are, no matter what environment or habitat you travel to, there are some basic rules of safety you need to remember. Take a look!

1. Don't go near ponds, rivers, lakes or streams unless you have a grown-up with you. There are absolutely no exceptions to this rule! Always obey it! Even if water appears to be solidly frozen, you must have a grown-up with you, as many times ice is not completely frozen, and you could fall through the ice into the water.
2. Never go into a wild area unless you have a grown-up with you to help you find the way back out. It's very easy to get lost in places like swamps or woods.
3. Never, ever touch or try to pick up any wild mammals, or try to feed them out of your hand. Don't try to bring them home as pets, either. They can bite! Plus, in many states it is strictly against the law to make pets out of wildlife.
4. Be aware of the danger of the disease rabies, which humans can get from infected mammals. To prevent rabies you should:
 - Make sure your pets are vaccinated against rabies.
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 - Don't touch the carcasses of dead animals.
 - Rabies is spread by the saliva of an infected animal, usually by a bite, but fresh saliva in a fresh cut can also cause rabies, so don't touch your dog, cat, or other pet if you think it has been around an animal that might have rabies, because your pet's fur might have fresh saliva on it from the infected animal.
 - If you've been bitten by an animal, or think you might have come into contact with any animal that might have rabies, tell a grown-up IMMEDIATELY. There is treatment, but you need to start it soon, so please don't wait.

Write or draw below four things you should remember NOT to do!

What about water?	What about wild places?
What about wild animals?	What about sick animals?

STARTING OBSERVATION 7 - Stake Out a Small Square



One thing you'll be doing a lot of this year is observing nature. You are going to learn about nature in a number of "small squares" throughout the year -- in the woods, out in the desert, under the ocean near a coral reef, and a few others.

Meanwhile, back at home, you will need to watch your own small square. No matter where you live, a small square of ground in the natural world changes with time. Seasons come and go -- plants grow, flowers bloom, and leaves turn color.

You need to find a small square of the natural world to watch and observe this year!

Here Are Some Helps:

It would be best if your "Small Square" were in your backyard, or someplace that you know will be largely left alone by people. If it is in your backyard, you may want to mark out your square with small rocks in each corner. A good small square size is 4-6 feet long on each side. For some students, it might be helpful to use a colored yarn to mark out the square.

If you can, include at least one tree in your "Small Square," and as many other natural elements as you can, such as bushes, small plants, seedlings, a fallen log, rocks, etc.

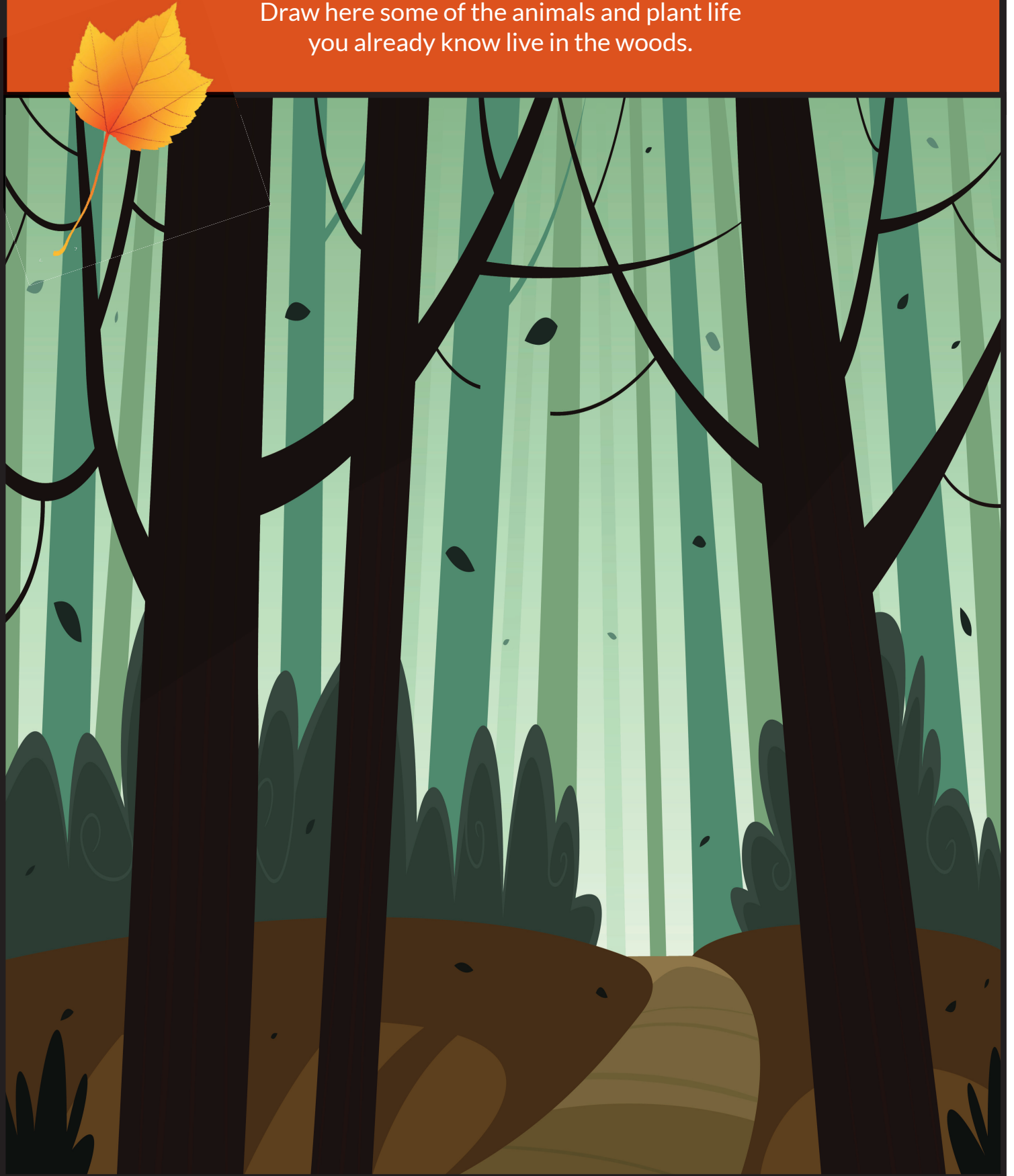
If you don't have an appropriate "Small Square" in your backyard, you could choose a spot at a local park you visit a lot, ask a neighbor to "borrow" one, or plan a visit to a wild spot in the city such as the outskirts of a zoo or botanical garden.

In the space below, describe your personal "Small Square" in words, including what is inside your square.



Trek to the Woods!

Draw here some of the animals and plant life
you already know live in the woods.



Wandering in the Woods

Types of Forests

A **forest** is an area filled with trees, and may be made up of different kinds of trees depending on what kind of forest it is. There are several different types of forests. A **tropical rainforest** is one type of forest, of course, and is found in tropical climates near the equator. Another type of forest is the **boreal forest**, also called a **taiga**. A boreal forest is one made up largely of coniferous (cone-bearing) trees like pines and spruce. These forests occur in the northern zones of continents, and are often associated with cooler places near the Arctic.

However, when most people talk about forests, they usually intend to mean a forest in the sense of “the woods.” In this sense, people usually mean a **temperate forest**, filled with a mixture of **hardwood** and **coniferous** trees. What are some of these trees? They are probably the trees that are most familiar to you. Oak trees and beeches are common in temperate forests, and so are maples and birches. All these are broadleaf trees. But temperate forests also include coniferous trees, such as pines, firs, and spruces.

A temperate forest grows in areas that have both a warm and a cool season. Its trees thrive in moderate average temperatures, getting neither too warm, as it would in a tropical rainforest, nor too cold, as it would in a boreal forest.

Temperate forests need a good amount of rainfall. About 30-60 inches provide the needs of a temperate forest. Much of it comes in the form of rain, but some of the precipitation falls as snow in the winter.

Autumn is an important time in the yearly cycle of the forest. The development of the shrubs and herbs that live below the trees in a forest happens because leaves fall down in the autumn. This lets the sun’s rays reach the ground during the months of the late autumn, all winter, and into spring, until the leaves grow once again. The dead leaves also contribute to the organic matter and mineral salts of the forest floor. Each fertilize the ground and provide important nutrients to plants and insects alike!



But one thing you would certainly notice about a temperate forest is just how many different animal species make their homes in it! If you were able to sit quietly in a forest for a long time, you’d certainly spot birds and rodents, and perhaps even deer or a fox. You might not want to sit quietly long enough for a coyote or a bear to come by, though!



WOODLANDS OBSERVATION 1 - Taking Stock Wildlife Checklist

Use this checklist to explore your outdoor space and make note of any areas that different animals or creatures may like to use as a home, hiding spot or food stop. Look around your outdoor space to find natural spots. They might be along the sides of buildings, or in small weedy or leafy areas on the ground. Look near bushes around your house or apartment, and try to find places that might be safe havens for critters of all kinds. Below, look for all the outdoor areas listed in the left column, and check off what each spot provides. Then, add comments about specific spots and how animals might use them.



Provides:

Outdoor Area:	Nesting spot/ materials	Hiding spot from predators	Protection from weather	Food supply	Drinking water	Spot to cool off	Spot to warm up	Place to keep watch for predators	Comments:
Trees									
Bushes									
Flowers									
Plants with berries, seeds or nuts									
Large or flat rocks, rock walls									
Water source									
Grassy area									
Shady area with cool, moist soil									
Dead standing trees									
Piles of brush or leaves									
Weedy areas									

WOODLANDS OBSERVATION 2

Make a Map of Your Small Square

Head out to your “Small Square,” taking this book with you. Below, draw a map of your Small Square. Be sure you draw any trees or plants, rocks, fallen leaves, and any insects or wildlife you see.





WOODLANDS OBSERVATION 3

Leaves All Fall Down

Deciduous leaves lose their leaves in autumn. Collect a few you've found and either do leaf tracings or leaf rubbings. To trace a leaf, trace the outline of each leaf on paper. To rub a leaf, place a leaf between two sheets of paper; then, put the paper on a hard surface and rub the side of a pencil or crayon back and forth over the top paper. Like magic, the leaf will appear!

On these two pages, mount some fall leaves you've collected, or leaf tracings or leaf rubbings you've made.



Wandering in the Woods

Autumn in the Forest

Autumn is a wondrous time in the woods. As summer days wind down, dusk comes earlier and dawn comes later. The leaves on some trees are starting to change, turning colors. Trees whose leaves turn colors, then fall off, are called **deciduous**.

But why do leaves change color? Trees are designed so that when two things happen in the autumn -- temperatures drop and daylight is shortened -- the signal is sent that begins this change. First, the tree's twigs cut off the supply of water to their leaves. This keeps the chemical **chlorophyll** in the leaves from making food. As this takes place, the dominant green color in leaves breaks down, and we can see the yellows, reds, and oranges. The leaves of some trees like oak turn brown instead, because of the tannin chemicals left in them when they die.

Meanwhile, **coniferous** trees like spruces, cedars, and pines do not lose their green needles, so they stay "dressed up" all winter long. Their needles have a small surface area and their sap contains a form of antifreeze to keep the tree healthy. The branches of conifers are flexible, designed to bend and not break in strong winds and under heavy snows.

Take a look at these trees, all decked out in their autumn leaves.



Yellow Poplar



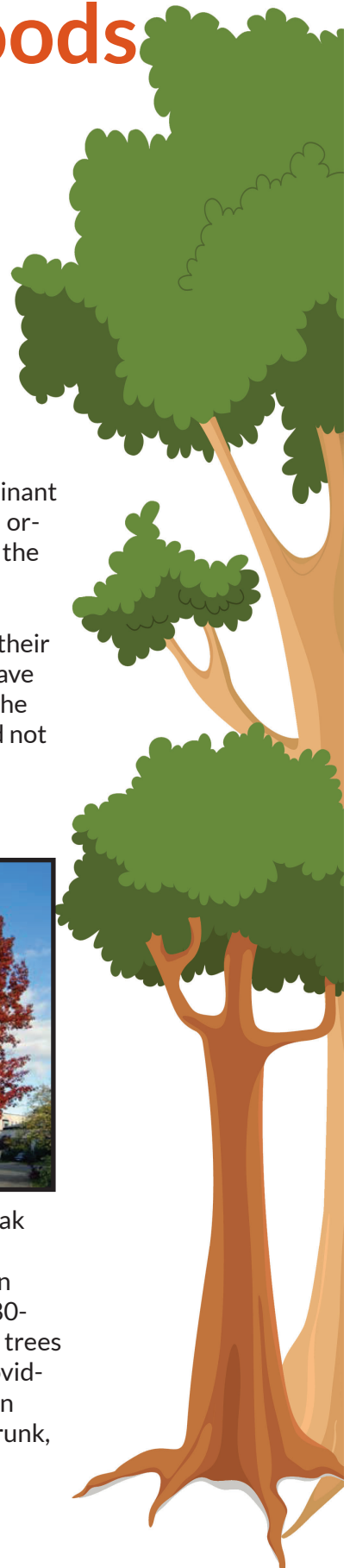
Sugar Maple



Northern Red Oak

Yellow poplars are the tallest trees among the eastern hardwoods. It can grow up to 165 feet tall, and often grows no limbs until after it reaches 80-100 feet in height. This makes them valuable timber trees. Sugar maple trees are found in the northeastern United States, and are best known for providing the sap used to make maple syrup. Northern Red Oaks get very tall in the forest, but when they grow in the open, they develop a stout, thick trunk, some as wide as six feet in diameter!

Photos, courtesy: Left, Crusier ; middle, Boris Crepeau; right, Zygmunt Put.



WOODLANDS OBSERVATION 4

Your Tree in Fall

As part of your observation of the world around you, you should pick an amazing tree in your neighborhood to observe during this school year. The tree should be a nice large tree, and preferably be fairly old. Right now, photograph this tree, which you should think of as “Your Tree,” and mount the photograph below. You’ll also want to write down what you observe about your tree below.



How do you get to your tree from your home?

What kind of tree is it? Consult a field guide if you aren't sure.

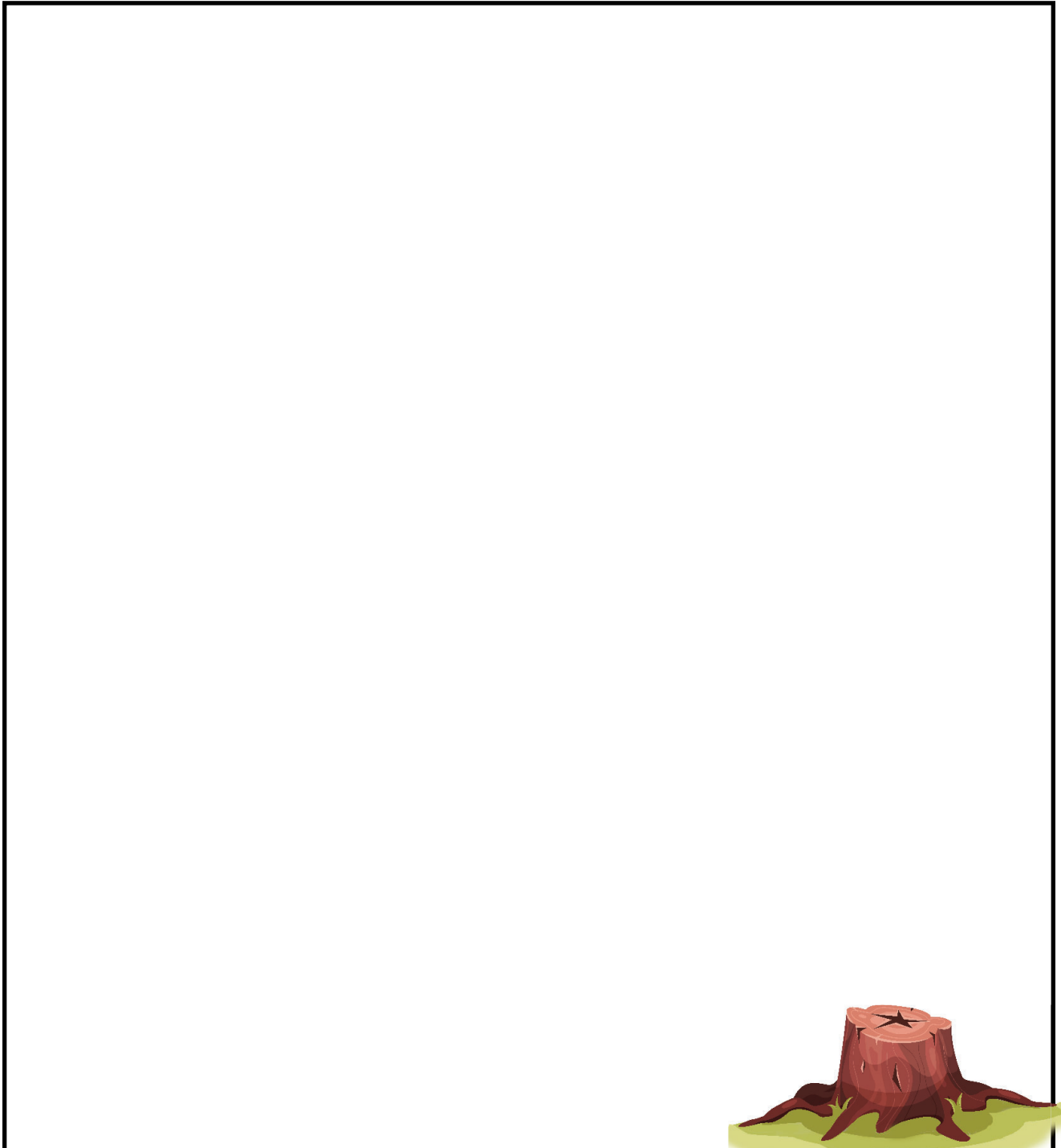


Describe any unusual features your tree has, such as low branches, holes in the trunk, big roots, etc.

WOODLANDS OBSERVATION 5

Draw a Map of Your Yard

As you focus on being aware of the trees in your environment, it is helpful to map out those trees that are closest to you. Take a look at your yard, or, if you live in an apartment, go to a local park. Draw a map of your yard or the park, marking down any landmarks and the positions of trees and bushes you see. If you know what species they are, write that on your map. If not, label them as unknown trees or bushes. You might discover later what they are!





WOODLANDS OBSERVATION 6

Your Tree

Remember how you picked out “Your Tree”? Take some time to observe your tree, then tell about or draw the following features of your tree:

Your tree’s size and shape

Its leaf size, shape and color

Your tree’s flowers, if it has any

Your tree’s fruit, if it has any

The color and texture of the bark



TAKE A LOOK AT PORCUPINES!

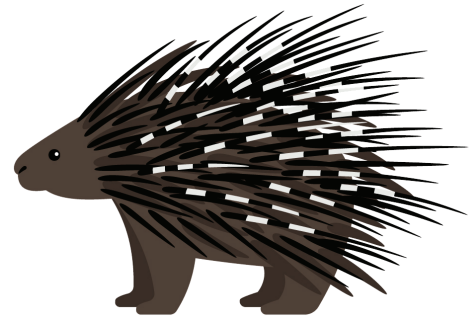
Porcupines are not the most cuddly creatures around!

They have sharp quills that cover their bodies, so beware of getting too close! Porcupines are very common in North American forests. If you spend any time in the woods, you might know that porcupines are fairly easy to spot, as they are quite large. They can be 24-36 inches in length, with an 8-10 inch tail. Porcupines are usually a shade of brown or gray. They weigh between 15-35 pounds, and are quite slow. They don't need to be fast to outrun predators, as the quills that cover their bodies protect them from most of the animals who consider trying to eat them.

The porcupine is known for its quills -- each porcupine has more than 30,000 of them! The quills are designed to defend the porcupine from its enemies. When confronted with an adversary, a porcupine gives a warning that is quite a show! It stomps its feet, clicks its teeth, growls and hisses -- all while vibrating its quills, which make a rattling noise. If the attacker persists, the porcupine will run backward at its enemy, ram it with its tail and drive a bunch of quills into the animal's face or any other part of its body that happens to be in the way!

Each quill has a barbed end like a fish hook, so that once it sinks into another animal's body, it is very hard to pull out and very painful. Any animal in the wild unlucky enough to encounter a porcupine must work to get the quills out, a process so painful that most of the time it never goes near a porcupine again! Only the fisher, a member of the weasel family, makes a habit of killing porcupine. The fisher can move so quickly that it can dart in and bite the porcupine in the face, where it has no quills. But even the fisher occasionally gets hit with quills, too!

Porcupines live in a den they make in a small cave or deep crevice in a ledge or rock pile. They can even make their dens in a hollow tree trunk or another animal's abandoned burrow. Porcupines go out mostly at night, and usually to find food. They like to eat leaves and grasses, twigs and even inner tree bark. They seem to enjoy aspen, willow, cottonwood and ponderosa pine the most! They also like berries and apples, foods you probably like, too!



Strangely, porcupines also LOVE salt! Their habit of looking for a salty treat often brings them into contact with humans. Why? Well, it's all about sweat! Have you noticed how salty your sweat tastes? Human sweat has salt in it, and even after the water in sweat dries out, the salt remains. So, porcupines will chew on almost anything a human has touched with sweaty hands -- things like ax handles, boat paddles, gloves, door, boots. And, since humans use salt to melt icy roads, porcupines have even been known to chew on tires coated in salt! How funny!

A mother porcupine raises just one baby a year. This baby porcupine is actually called a porcupette. It is born with soft quills which harden in just a few minutes. It usually stays in the den during the day, but may accompany its mother out at night.

A porcupine's foot prints are about 2 1/2 to 3 1/2 inches long. The front prints show four toes, and the hind prints show five. Claw marks usually show, but the prints themselves may be marred by the porcupine's tail, which drags behind it.

WOODLANDS OBSERVATION 7

Spy on a Porcupine

Here's some space to record the results of wildlife sleuthing expedition to the woods. How about trying to find clues to the presence of a porcupine? Here's some pointers:

- Look for places where the bark has been chewed off trees.
- Look for chewing near rocky places where a porcupine den might be nearby.
- Go out in late fall to early spring, when they are easier to spot.

If you can, take pictures of the "clues" and mount them below, adding notes about what you saw and where it was. Otherwise, draw pictures and take some field notes about what you observed.



Burrows, Beehives & Beds Journal

Animals & Their Worlds

Observe
Animals
at Work,
Rest & Play



Read and discover
what animals do at
home in their habitat



WinterPromise



Go out into nature
to observe similarities
right near you!

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Burrows, Beehives & Beds Journal

Opportunities to Investigate
& Observe Nature at Work, Play & Rest



WinterPromise

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Hitting the Trails -- What's First?

The most important skill to learn as you begin to learn more about animals and the habitats in which they live is this -- OBSERVATION! That's a big word that really just means four things:

1. Take time to be quiet, and truly hear what is around you.
2. Learn to see what's around you by REALLY looking.
3. Find new ways to experience what's around you by touching and smelling.
4. Be committed to writing down/drawing what you experience in detail, so you'll remember!

From these three things we can say that observation is:

1. HEARING
2. SEEING
3. TOUCHING OR SMELLING
4. WRITING & DRAWING

This book will help you develop your hearing and seeing skills, help you to remember to use your other senses, and give you plenty of opportunities to write and draw what you're learning and observing.

So, if you're ready, let's hit the trail!



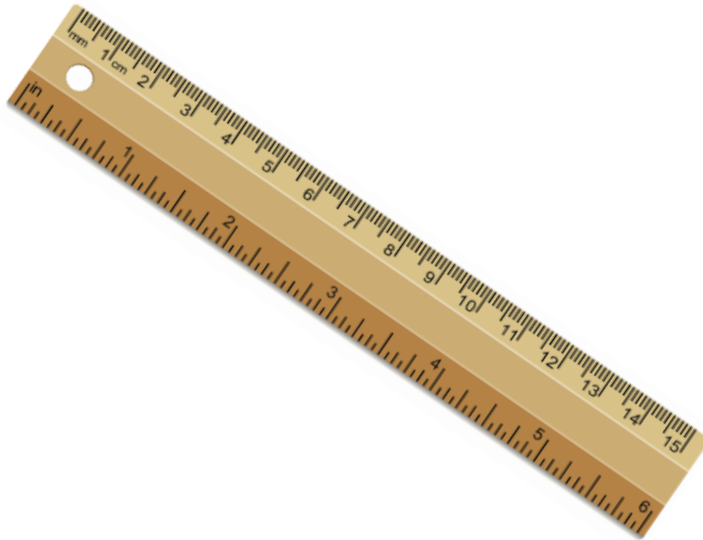
STARTING OBSERVATION 1 - Mount Your Animal Height Chart

It's time to assemble your Animal Height Chart!

Cut each height chart along the solid black lines and the dotted lines. Then, assemble the chart, starting with the chart that has a "1" on it, and adding to it in numerical order. Tape the dotted lined ends together to create a long vertical chart you can mount on a wall.

Once you've assembled your Animal Height Chart, you can add your first two entries to it. This year you'll mark on your Animal Height Chart the height of the different animals you'll study this year. You'll be able to see just how big or how small these creatures are.

For your entries this year, let's start with you!



ENTRY #1 - Measure how tall you are, write down your height on your square, cut it out, and paste it on the chart. Write your name and, if you want, to, add a picture of yourself near the line.

ENTRY #2 - Find an Animal Height Square that matches your pet. If you don't find your pet, use the "My Pet" square instead. Measure how tall your pet is, write down their height on the Animal Square, cut it out, and paste it on the chart. Write their name near the line, with either a picture, or an outline of your favorite friend!



STARTING OBSERVATION 2 -

Practice Observation



Keeping a Nature Journal requires good observation skills.

You need to really “see” what is around you.

Let’s practice your observation skills right now. Look around the room you are in. List below all the things in the room, or place where you are, that are out of place or are where they don’t belong.

Items That Are Out of Place or Don’t Belong:

STARTING OBSERVATION 3 -

Put Together a Nature Sleuthing Kit

This year you are going to do the job of a naturalist -- study nature! For that job, you really need to use all of your senses -- especially seeing, listening and smelling. Your senses are your most important tools as you study nature.

There are other items, though, that will help you to study nature by taking you up close, down low, or in depth.

As you prepare for your year of studying nature, you'll want to put together as many of these items as you can for a nature "sleuthing" kit. To go out into the field, you'll be most prepared if these items are in a backpack or tote bag.

NOTE: Some of these items, including a top quality magnifying glass, binoculars, flashlight and more -- even a large owl pellet -- are in WinterPromise's Nature Study Kit.

Gather These:

- ❑ A hand lens or magnifying glass
- ❑ Binoculars
- ❑ Plastic zip-locking bags for collecting things
- ❑ A sketchbook, notebook, or scrapbook
- ❑ Pencils and colored pencils for drawing and writing
- ❑ A field guide for animals in your area
- ❑ A field guide for birds in your area
- ❑ A guide to animal tracks
- ❑ A ruler to measure track size, or even the size of a plant, or something else an animal left behind
- ❑ A trowel for digging (or a large spoon)
- ❑ A flashlight, for nighttime viewing
- ❑ A bug net or trap
- ❑ A digital camera to record your wildlife sightings
- ❑ A backpack or tote bag to hold it all



STARTING OBSERVATION 4 - I Spy ...

Here is some space to record the results of wildlife sleuthing right in your own neighborhood. Write down what you see, hear, or smell in these places.

Up High or Down Low:



In Quiet Places:



Up Close Signs:

Small Critters:

Soil Creatures:



STARTING OBSERVATION 5 -

What Do You Know About Animals?



You probably already know a lot about animals. For instance, you probably know that there are several different groups of animals -- fish, amphibians, reptiles, mammals, birds, insects and arachnids (which include spiders, scorpions, ticks and mites).

The chart below might give you some information you don't know, though you probably know quite a bit.

You'll learn about which groups live in different habitats, and what characteristics the group shares. After you read about these groups, let's find out what you know about animals that are examples of each of these groups. **Write in examples you know of each animal group.**

Animal Group	Natural Habitat	Characteristics	Common Examples
Fish	oceans, lakes, rivers, streams, ponds	fish live in water, breathe through gills rather than lungs, have a scaly body and move using fins	
Amphibians	hatch from eggs laid in or near water, then develop into tadpoles, grow legs, and spend their adult lives on land near water.	amphibians have a backbone but no hair, feathers, fur or scales, breathing through their moist skin as well as their lungs; cold-blooded	
Reptiles	forests, deserts, tropics, and near or in fresh or salt water	reptiles have dry, scaly skin, lay their eggs on land, and are cold-blooded	
Mammals	forests and fields, deserts and tropics, coasts and polar areas, fresh and salt water regions	mammals have fur or hair, are warm-blooded, give birth to live babies and feed them milk	
Birds	forests and fields, deserts and tropics, coasts and polar areas	birds are the only animal group with feathers; most birds can fly and are warm-blooded	
Insects	forests and fields, caves and below ground, deserts and tropics, near fresh and salt water	adults have six legs and a skeleton that forms a hard exterior armor; they have several stages of growth before adult form and often pass through a larval stage	
Arachnids	forests and fields, deserts and tropics	arachnids have four pairs of legs and babies that hatch from eggs and look like smaller versions of the adult	

OBSERVATION 6 - Safety Guidelines for Terrific Treks!



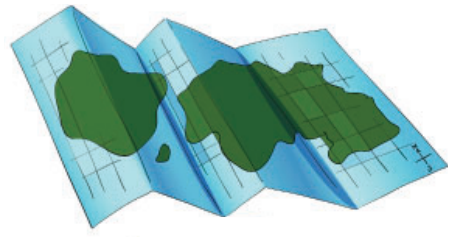
No matter where you are, no matter what environment or habitat you travel to, there are some basic rules of safety you need to remember. Take a look!

1. Don't go near ponds, rivers, lakes or streams unless you have a grown-up with you. There are absolutely no exceptions to this rule! Always obey it! Even if water appears to be solidly frozen, you must have a grown-up with you, as many times ice is not completely frozen, and you could fall through the ice into the water.
2. Never go into a wild area unless you have a grown-up with you to help you find the way back out. It's very easy to get lost in places like swamps or woods.
3. Never, ever touch or try to pick up any wild mammals, or try to feed them out of your hand. Don't try to bring them home as pets, either. They can bite! Plus, in many states it is strictly against the law to make pets out of wildlife.
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 - Make sure your pets are vaccinated against rabies.
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STARTING OBSERVATION 7 - Stake Out a Small Square



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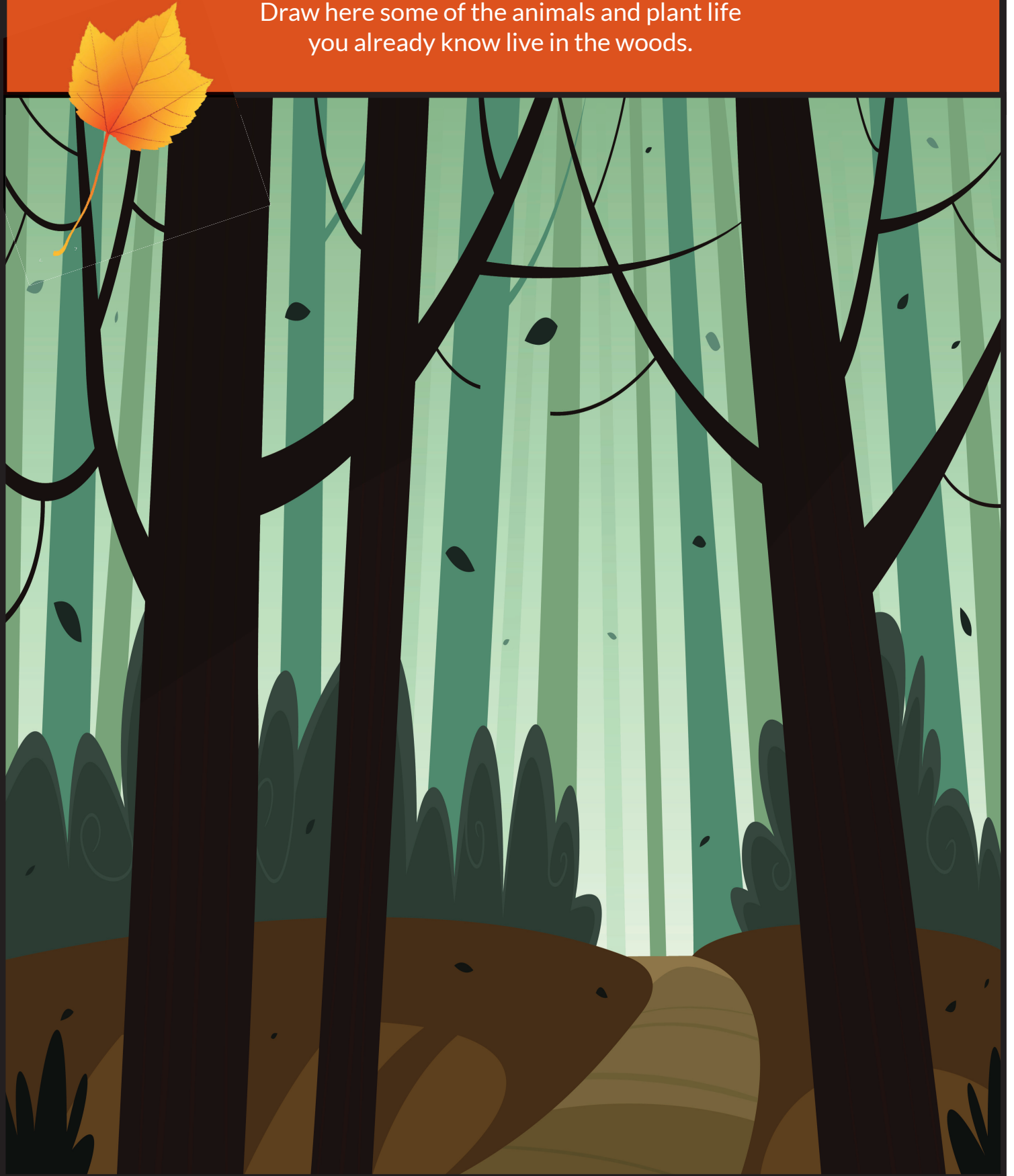
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Autumn is an important time in the yearly cycle of the forest. The development of the shrubs and herbs that live below the trees in a forest happens because leaves fall down in the autumn. This lets the sun’s rays reach the ground during the months of the late autumn, all winter, and into spring, until the leaves grow once again. The dead leaves also contribute to the organic matter and mineral salts of the forest floor. Each fertilize the ground and provide important nutrients to plants and insects alike!

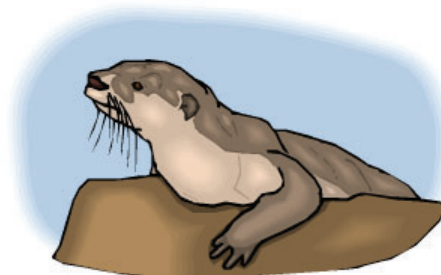


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Bushes									
Flowers									
Plants with berries, seeds or nuts									
Large or flat rocks, rock walls									
Water source									
Grassy area									
Shady area with cool, moist soil									
Dead standing trees									
Piles of brush or leaves									
Weedy areas									

WOODLANDS OBSERVATION 2

Make a Map of Your Small Square

Head out to your “Small Square,” taking this book with you. Below, draw a map of your Small Square. Be sure you draw any trees or plants, rocks, fallen leaves, and any insects or wildlife you see.





WOODLANDS OBSERVATION 3

Leaves All Fall Down

Deciduous leaves lose their leaves in autumn. Collect a few you've found and either do leaf tracings or leaf rubbings. To trace a leaf, trace the outline of each leaf on paper. To rub a leaf, place a leaf between two sheets of paper; then, put the paper on a hard surface and rub the side of a pencil or crayon back and forth over the top paper. Like magic, the leaf will appear!

On these two pages, mount some fall leaves you've collected, or leaf tracings or leaf rubbings you've made.



Wandering in the Woods

Autumn in the Forest

Autumn is a wondrous time in the woods. As summer days wind down, dusk comes earlier and dawn comes later. The leaves on some trees are starting to change, turning colors. Trees whose leaves turn colors, then fall off, are called **deciduous**.

But why do leaves change color? Trees are designed so that when two things happen in the autumn -- temperatures drop and daylight is shortened -- the signal is sent that begins this change. First, the tree's twigs cut off the supply of water to their leaves. This keeps the chemical **chlorophyll** in the leaves from making food. As this takes place, the dominant green color in leaves breaks down, and we can see the yellows, reds, and oranges. The leaves of some trees like oak turn brown instead, because of the tannin chemicals left in them when they die.

Meanwhile, **coniferous** trees like spruces, cedars, and pines do not lose their green needles, so they stay "dressed up" all winter long. Their needles have a small surface area and their sap contains a form of antifreeze to keep the tree healthy. The branches of conifers are flexible, designed to bend and not break in strong winds and under heavy snows.

Take a look at these trees, all decked out in their autumn leaves.



Yellow Poplar



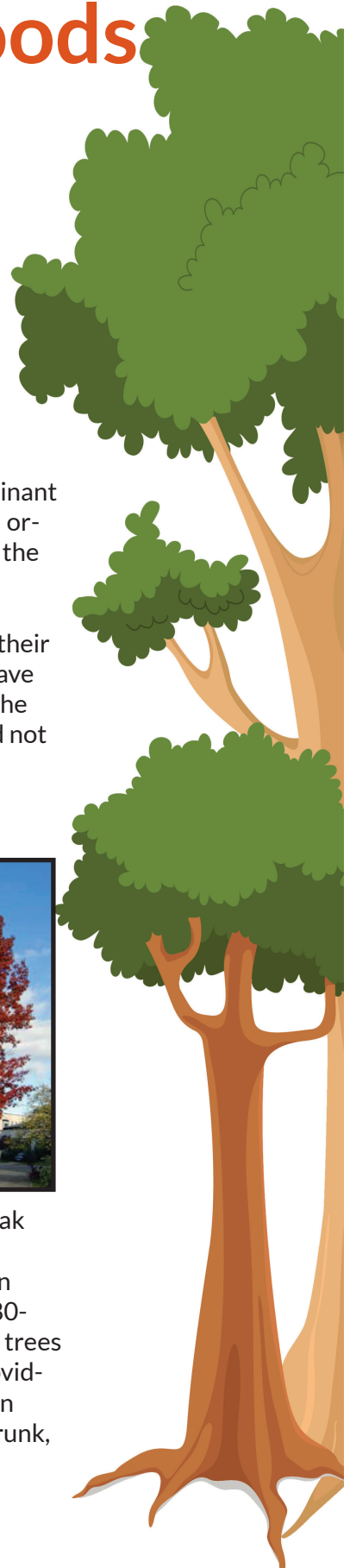
Sugar Maple



Northern Red Oak

Yellow poplars are the tallest trees among the eastern hardwoods. It can grow up to 165 feet tall, and often grows no limbs until after it reaches 80-100 feet in height. This makes them valuable timber trees. Sugar maple trees are found in the northeastern United States, and are best known for providing the sap used to make maple syrup. Northern Red Oaks get very tall in the forest, but when they grow in the open, they develop a stout, thick trunk, some as wide as six feet in diameter!

Photos, courtesy: Left, Crusier ; middle, Boris Crepeau; right, Zygmunt Put.



WOODLANDS OBSERVATION 4

Your Tree in Fall

As part of your observation of the world around you, you should pick an amazing tree in your neighborhood to observe during this school year. The tree should be a nice large tree, and preferably be fairly old. Right now, photograph this tree, which you should think of as “Your Tree,” and mount the photograph below. You’ll also want to write down what you observe about your tree below.



How do you get to your tree from your home?

What kind of tree is it? Consult a field guide if you aren't sure.

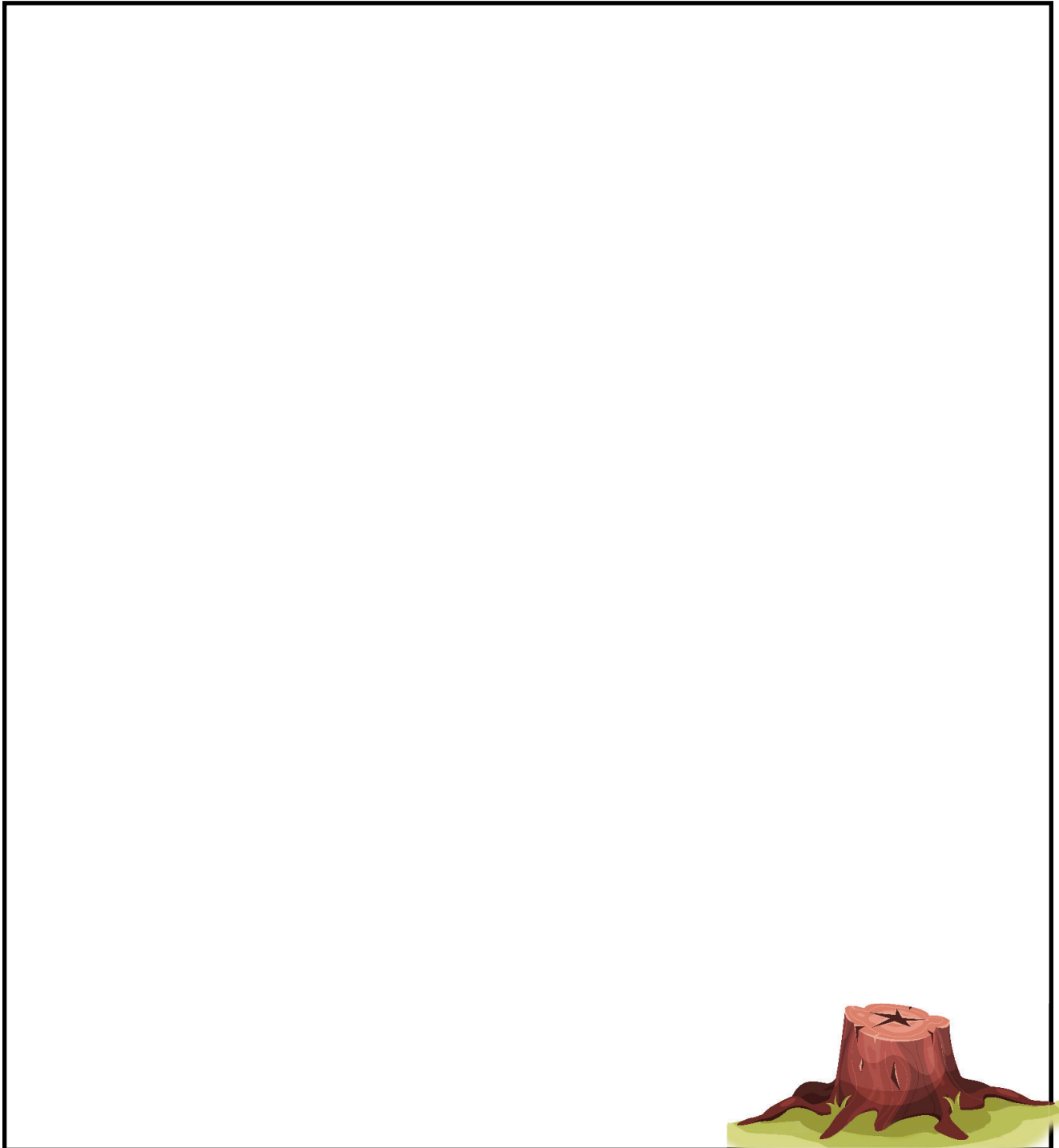


Describe any unusual features your tree has, such as low branches, holes in the trunk, big roots, etc.

WOODLANDS OBSERVATION 5

Draw a Map of Your Yard

As you focus on being aware of the trees in your environment, it is helpful to map out those trees that are closest to you. Take a look at your yard, or, if you live in an apartment, go to a local park. Draw a map of your yard or the park, marking down any landmarks and the positions of trees and bushes you see. If you know what species they are, write that on your map. If not, label them as unknown trees or bushes. You might discover later what they are!





WOODLANDS OBSERVATION 6

Your Tree

Remember how you picked out “Your Tree”? Take some time to observe your tree, then tell about or draw the following features of your tree:

Your tree’s size and shape

Its leaf size, shape and color

Your tree’s flowers, if it has any

Your tree’s fruit, if it has any

The color and texture of the bark



TAKE A LOOK AT PORCUPINES!

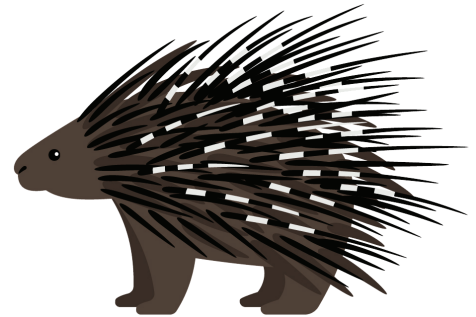
Porcupines are not the most cuddly creatures around!

They have sharp quills that cover their bodies, so beware of getting too close! Porcupines are very common in North American forests. If you spend any time in the woods, you might know that porcupines are fairly easy to spot, as they are quite large. They can be 24-36 inches in length, with an 8-10 inch tail. Porcupines are usually a shade of brown or gray. They weigh between 15-35 pounds, and are quite slow. They don't need to be fast to outrun predators, as the quills that cover their bodies protect them from most of the animals who consider trying to eat them.

The porcupine is known for its quills -- each porcupine has more than 30,000 of them! The quills are designed to defend the porcupine from its enemies. When confronted with an adversary, a porcupine gives a warning that is quite a show! It stomps its feet, clicks its teeth, growls and hisses -- all while vibrating its quills, which make a rattling noise. If the attacker persists, the porcupine will run backward at its enemy, ram it with its tail and drive a bunch of quills into the animal's face or any other part of its body that happens to be in the way!

Each quill has a barbed end like a fish hook, so that once it sinks into another animal's body, it is very hard to pull out and very painful. Any animal in the wild unlucky enough to encounter a porcupine must work to get the quills out, a process so painful that most of the time it never goes near a porcupine again! Only the fisher, a member of the weasel family, makes a habit of killing porcupine. The fisher can move so quickly that it can dart in and bite the porcupine in the face, where it has no quills. But even the fisher occasionally gets hit with quills, too!

Porcupines live in a den they make in a small cave or deep crevice in a ledge or rock pile. They can even make their dens in a hollow tree trunk or another animal's abandoned burrow. Porcupines go out mostly at night, and usually to find food. They like to eat leaves and grasses, twigs and even inner tree bark. They seem to enjoy aspen, willow, cottonwood and ponderosa pine the most! They also like berries and apples, foods you probably like, too!



Strangely, porcupines also LOVE salt! Their habit of looking for a salty treat often brings them into contact with humans. Why? Well, it's all about sweat! Have you noticed how salty your sweat tastes? Human sweat has salt in it, and even after the water in sweat dries out, the salt remains. So, porcupines will chew on almost anything a human has touched with sweaty hands -- things like ax handles, boat paddles, gloves, door, boots. And, since humans use salt to melt icy roads, porcupines have even been known to chew on tires coated in salt! How funny!

A mother porcupine raises just one baby a year. This baby porcupine is actually called a porcupette. It is born with soft quills which harden in just a few minutes. It usually stays in the den during the day, but may accompany its mother out at night.

A porcupine's foot prints are about 2 1/2 to 3 1/2 inches long. The front prints show four toes, and the hind prints show five. Claw marks usually show, but the prints themselves may be marred by the porcupine's tail, which drags behind it.

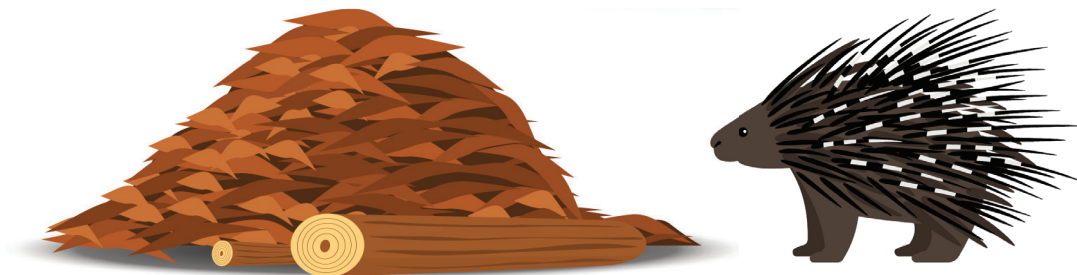
WOODLANDS OBSERVATION 7

Spy on a Porcupine

Here's some space to record the results of wildlife sleuthing expedition to the woods. How about trying to find clues to the presence of a porcupine? Here's some pointers:

- Look for places where the bark has been chewed off trees.
- Look for chewing near rocky places where a porcupine den might be nearby.
- Go out in late fall to early spring, when they are easier to spot.

If you can, take pictures of the "clues" and mount them below, adding notes about what you saw and where it was. Otherwise, draw pictures and take some field notes about what you observed.





GOD DESIGNED



FIRST

Discover the Glory of God
in Nature's Design



WinterPromise

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GOD DESIGNED IT FIRST

Table of Contents

EXPLORING HABITATS

Week 1

Biomes Around the World

LIFE IN THE WOODS

Weeks 2-6

Protection on the Go
Summer & Winter, Spring & Fall
Spreading Seeds
Busy Bees
Birds Are Created to Fly

LIFE IN WETLANDS

Weeks 7-11

Birds, Fish, Mammals and More
Communication From Afar
Headed for Home
East or West, Home is Best
Animal Moms and Dads

LIFE IN AN AFRICAN SAVANNAH

Weeks 12-16

Animals Helping Animals
Animal Niches
Sight at Night
A Way to Listen
Animal Leaders and Followers

LIFE IN THE ARCTIC TUNDRA

Weeks 17-21

Safety for Animal Babies
Insider or Outcast?
Patterns in Nature
Blood Gives Life
Rough Journeys

LIFE IN A DESERT

Weeks 22-26

Changing Slow or Changing Fast
Staying Cool or Warm
Water in a Desert
Beautiful Sights and Smells
Loads of Help

LIFE IN A TROPICAL RAINFOREST

Weeks 27-31

A Place of Refuge
It's Time to Change
Imitation Game
A Need for Sunlight
The Right Roots

LIFE IN THE OCEAN

Weeks 32-36

Communicating Without Words
Bioluminescence
Getting Cleaned Up
A Dutiful Dad
There is Nothing New



It Was God's Idea: Habitats



Biomes Around the World

ROOMS OF THE WORLD

Imagine walking through a big house. In it there are lots of rooms: a kitchen, a bedroom, a living room, a garage. These are all different types of rooms and have unique things in them. The natural world has different rooms too.

There are deserts, tundra, tropical rain forests, grasslands, and many others! Instead of calling them rooms scientists call them biomes. Each biome has unique features just the same as rooms do. Rather than being defined by pots and pans and countertops, biomes are identified based on temperature, sunlight, and rainfall!

What might be your favorite biomes to live in? Let's talk a bit about them! If you love to sweat and be in the sun, the desert may be the place for you. But be careful, it has the prickly cactus too!

What about the arctic tundra? Well, the tundra has less sunlight than the desert. A lot less. The winters here are extremely long -- so long that the ground has a permanent layer of frozen soil called permafrost. If you can stand the cold, though, there is plenty of snow to build a snowman!

Have you heard of a tropical rainforest? In this biome there are no seasonal changes. Imagine living in a place where the summer is almost the same as the winter! What would happen to summer break? Monkeys, jaguars, and snakes alike abound in this warm and moist place.

A grassland is another type of biome, and inside this room there is also a closet! This closet is part of the grassland biome but is different than some other grasslands in this room. It is a savanna. The most famous savanna is in Africa. Did you know it was part of the grasslands biome? Most people think of Africa as being just one big desert, but Africa actually contains a lot of grass, too.

God made all of these biomes and all of his creatures uniquely so that they would thrive in their biomes. Psalm 104:16-18 says that God made something as great and big as mountains for His goats and the rocks for His badgers!

Even more amazing than God's love for animals is His love for you. Matthew 6:26 talks about how God takes care of birds, but that we are worth much more than birds! If God loves His mountain goats enough to make mountains, then how much must He love you? He loves you enough for his Son to die to save you from your sins and give you a room in His kingdom. No love is greater than that!



Cactus Desert



Arctic Tundra



Tropical Rainforest



Talk About God's Idea: God Cares for All Creatures

DISCUSS HOW MUCH GOD DOES FOR THOSE HE LOVES.

What does God give you to show you that he loves you? God loved us so much that he gave us his Son for our sins. This shows how great God's love for us is!

Can anybody love us more than God does?

Bible Verses:

VERSES TO DISCUSS

Psalms 145:15-17

Psalms 147:8-9

Psalms 136:25

Matthew 10:29-31

Philippians 4:19

Verses: Romans 8:31-39; Psalm 104; Matthew 6:25-34; John 14:1-7; Deuteronomy 22:1-4.



What You See: Draw a Habitat You Know

UNIQUE HABITATS ALL OVER THE WORLD

Habitats are all around us. From the forests or grasslands or mountains near your home, to more exotic habitats that might be farther away: polar places, lush rainforests, coral reefs, or dry deserts. Draw a habitat you know well, either because it is near your home or you have visited it often. Include plants and some animals you know live there.



It Was God's Idea: Armor



Protection on the Go

GOD'S ARMOR ALWAYS PROTECTS US

Armor is super helpful if you are doing something that is dangerous. Knights used armor in the Middle Ages to defend themselves from swords, pikes, and javelins. Astronauts used a type of armor to protect themselves from space, too. Even tasks like gardening require gloves to protect our hands from harm! Not every animal has the comfort of gloves, though. God designed each of his creatures with the armor they need for the biome where they live.

Some animals have extremely tough skin for their armor. Human skin can get cut relatively easily. But animals like the rhinoceros—or rhino, for short—have skin that is as thick as two inches in certain places! Crocodiles and alligators have scales for protection much like knights used scales in their armor. The staggered scales help to keep them safe from injury.

Have you ever heard of the phrase, “the best defense is a good offense”? Porcupines and sea urchins take this saying to heart. Instead of having scales that provide protection from harm, they possess prickly spikes that are dangerous to any predators looking for a meal. Imagine trying to eat something that could poke you! It certainly would not be fun! Many predators feel the same way and leave these prickly animals alone.

Exoskeletons also serve as armor. Exoskeleton is a large word that means these animals' bones are on the outside of their bodies! This provides animals like crabs, shrimp, and even ladybugs with amazing armor. Crabs even use this exoskeleton as part of their claws to capture prey.

Animals and insects are not the only things God has designed with armor. Roses have thorns to protect them from scavenging animals. The prickly cactus also has sharp thorns that are enough to make anyone nervous to scavenge it for food.

All these animals, insects, and plants need their armor to survive. If the crab did not have its exoskeleton, it would get eaten by birds or predatory fish. If the mighty crocodile did not have its scales, even it would be in great danger from other predators looking for a big snack. But God designed each of them with the armor they need to survive.

In the same way, God has given us His armor to help us survive the attacks of Satan and our own sinful nature. We can resist temptation by putting on the belt of truth, who is Jesus. We can put on the breastplate of righteousness because in Jesus we are given God's goodness despite our sin. We can read and hold the sword of the Holy Spirit: the Bible. All this is God's special armor for us and we would be wise to put it on!



Crocodile Tail



Sea Urchins



Crab



Talk About God's Idea: The Armor of God

DISCUSS HOW WE PUT ON GOD'S ARMOR

God gives us armor to protect us from to resist the temptations of Satan, but we have to put his armor on. How do we put on God's armor?

What are some things that God's armor protects you from every day?

Zechariah 3:1-10; Ephesians 6:10-22; John 14:6; Isaiah 59:17

Bible Verses:

VERSES TO DISCUSS

Isaiah 52:7

Isaiah 59:17a

Zechariah 4:6

Romans 8:31

Ephesians 6:10-18



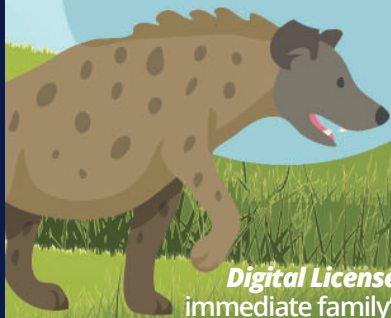
What You See: Draw an Armored Animal



Animal Alphabet

Fun Pack

Alphabet Fun for Young Learners



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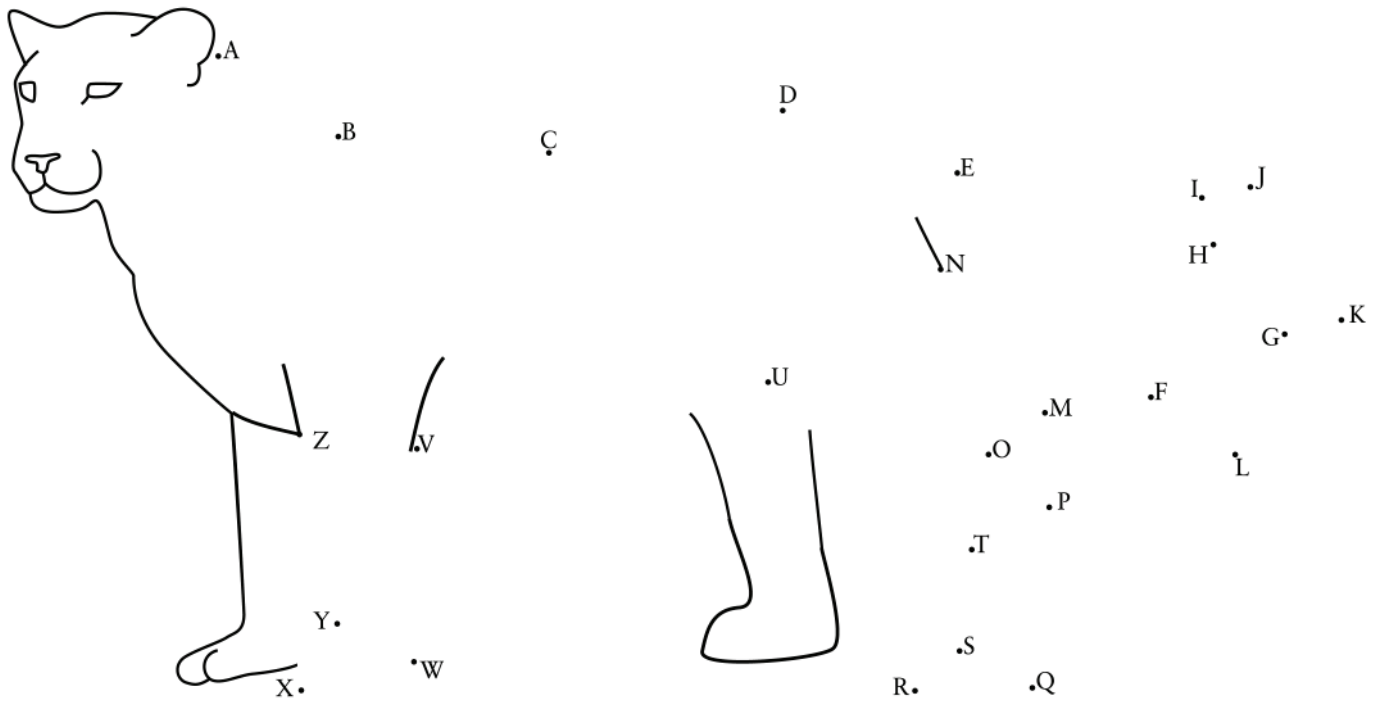
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What Animal Am I?

I am a _____ .



Animal Easy-Shape Drawing Book

Draw Fun Animals with Simple Shapes



Use simple
shapes to draw
35 animals!

Doodles and
lines provide
fine motor practice

WinterPromise

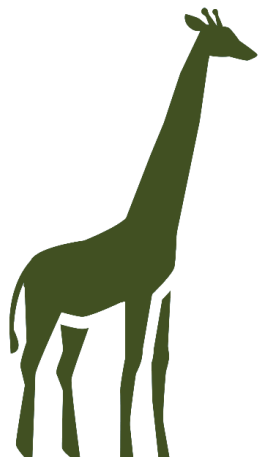
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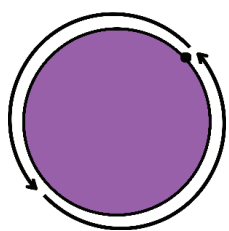
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Animal Easy-Shape Drawing Book: How To Use This Resource

Each of the basic shapes below are used to create simple animal drawings. The arrows will show you how to create each shape.

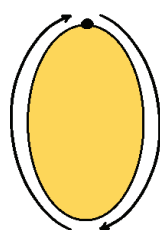
Follow along on each page, seeing how each animal is created by drawing one shape and then another. Draw the same shapes in the same order, and see your animal come to life!



Circle



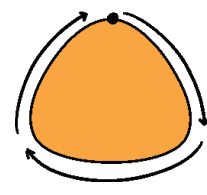
Half-Circle



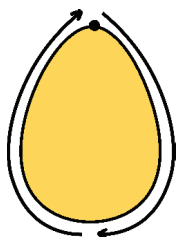
Wide Oval



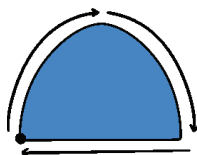
Thin Oval



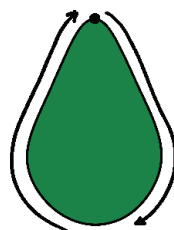
Guitar Pick



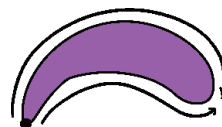
Egg



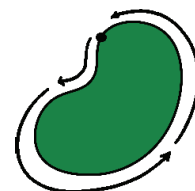
Half-Egg



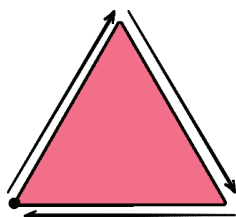
Drop



Eyeblink



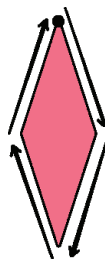
Bean



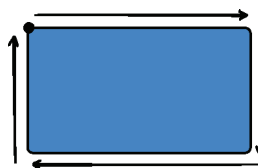
Wide Triangle



Short Triangle



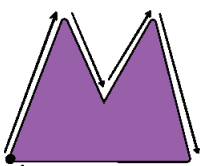
Diamond



Rectangle



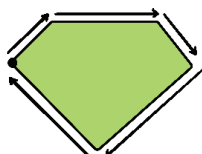
Check Mark



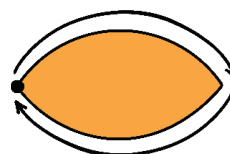
Cat Ears



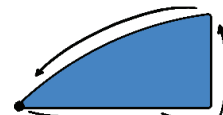
Crown



Gem

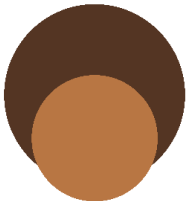


Football

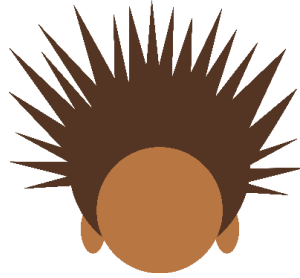


Airplane Wing

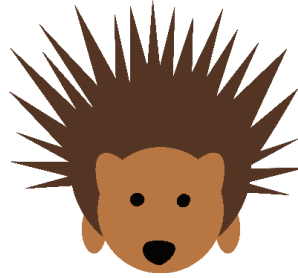
Let's Make an Easy-Shape Porcupine



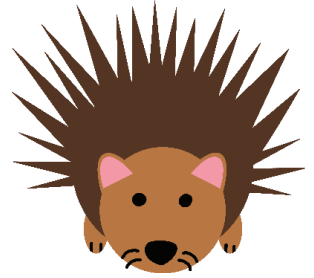
Start with 2 circles.



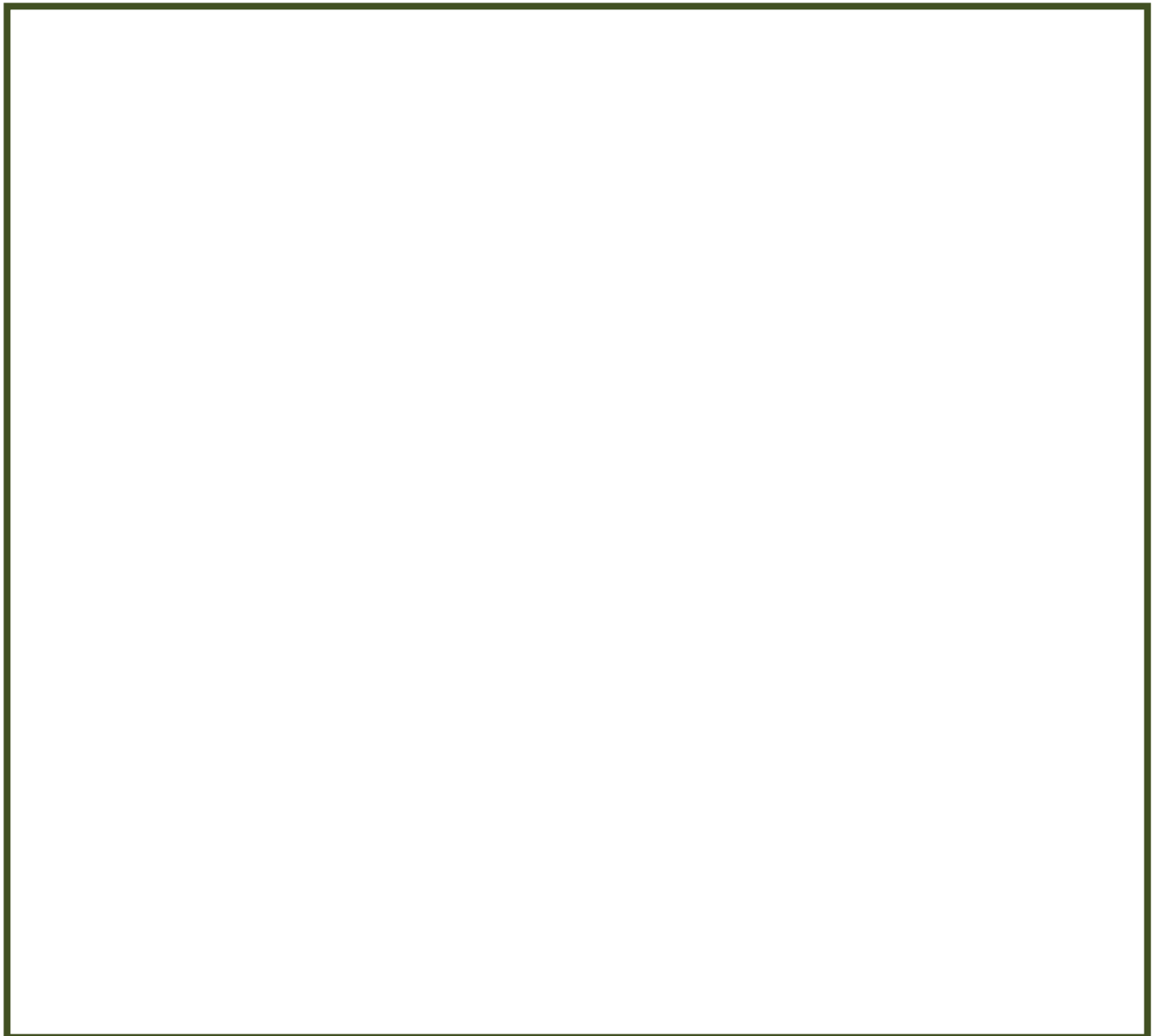
Add ovals for legs.
Add tall zigzags for
the porcupine quills.



Add triangle ears.
Add circle eyes.
Add a triangle nose.



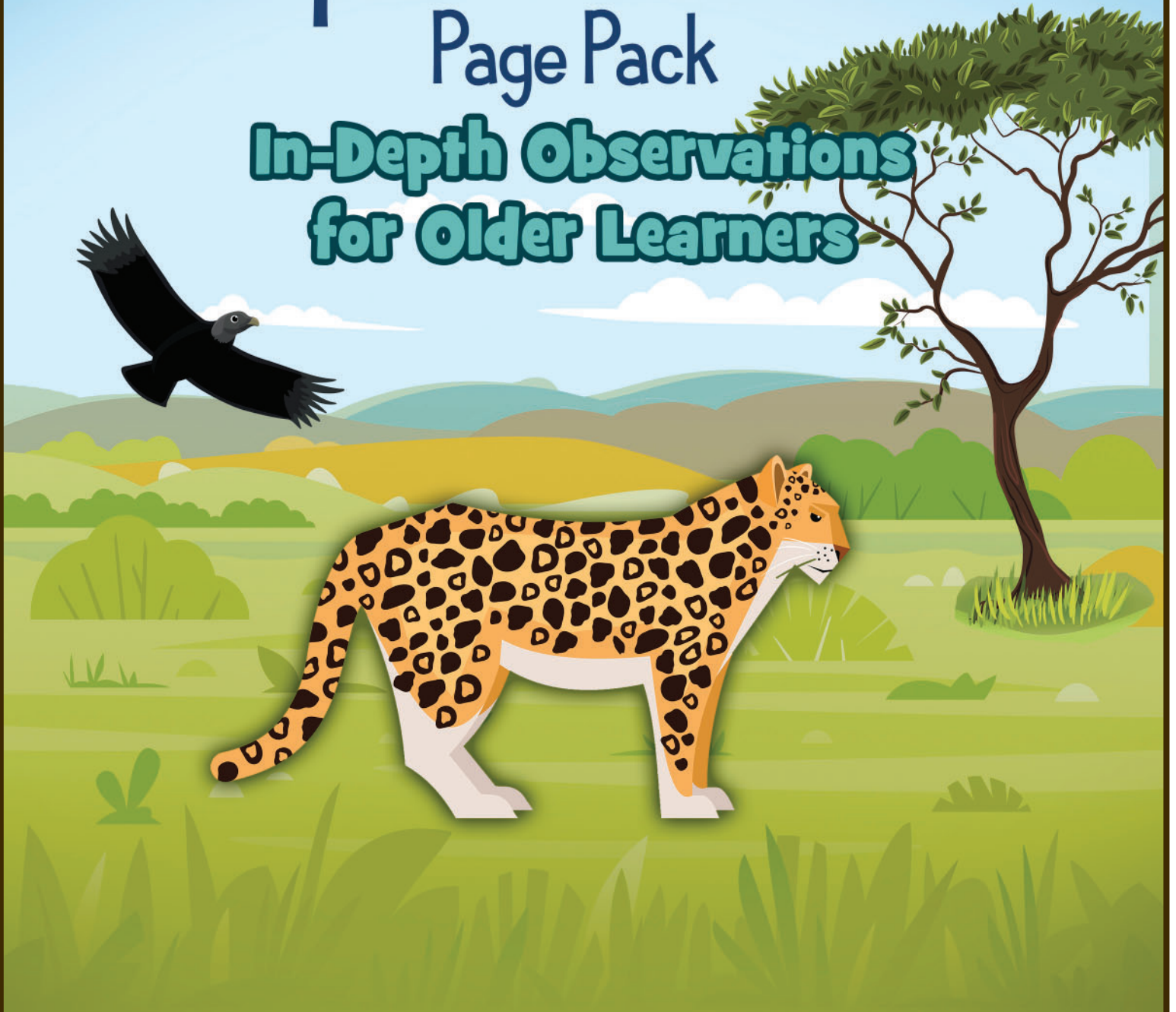
Add triangle ear insides.
Add whiskers.
Add claws.



Deep into Habitats

Page Pack

In-Depth Observations for Older Learners



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Deep Into Habitats Page Pack:

How To Use This Resource

For older students who really want to dive deep into their animal study, these pages can be added to their “Habitats, Hollows, and Homes” journaling pages.

These pages provide additional interactive experiences, journaling, and experiments that delve deeper into the seven biosystems your student will explore this year. They are perfect for students who have a great love for animals, or who already know a lot about animals -- or even if they are just super-curious!

NOTE! There are more pages for the “Woodlands” and “Wetlands” biomes, since most students are likely to have easiest access to these biomes, and these are scheduled during moderate weather if you are following a traditional school schedule.

Your student can complete these activities and insert them into their “Habitats, Hollows, and Homes” journal, and even add pictures of animals as well, if they really want to make it their own!



WOODLANDS

Create a Migration Log



Create and keep a seasonal log of wildlife you spot.

In the fall, bird migration is taking place. Now is the time to create a Migration Log that you can keep from year to year and watch the goings on each autumn.

What You'll Need:

- A small notebook or journal
- A field guide for birds

Label each page as a week and write down the birds you see. When you write, include information about the day, time, the weather, the identification of the bird, how long they stay, and what they are doing when they are here. Remember to keep records in the spring, too, when birds are migrating back up north.

Then, look for patterns. Do the same birds come by from year to year? Are the dates the same?

IDENTIFY SEVERAL TREES

Use your skills of observation to identify the species of several trees.

In another observation in your "Habitats, Hollows, and Homes" journal, you made a map of your backyard. Were there a few trees whose species you don't know? Begin a list of the trees below, and for each one, note their shape, bark traits and leaf shape. Then, use a field guide for trees in your area to identify what species they are. You can probably use a field guide from the library, or get your own!





WOODLANDS

Find Some Wild Fruit

Hunt for fruits in your “Small Square” or out in the wild.

Look for fruits growing in the wild. Take notes on your finds below.



Did the fruits fall from a tree or a bush?

Was the fruit carried in from somewhere else? If so, do you know where from?

Draw the fruit as it appears below, then break it open, and try to count how many seeds it has.
DO NOT eat the fruit!

Describe the fruit’s color, condition, and other features.

Does your fruit have any bite marks on it, as if an animal had been nibbling on it?
Describe what you see.



What else is unusual about your find?



WOODLANDS

Mushroom Spores Galore

Observe mushroom spores and draw what you observe.



After a good rain, mushrooms may appear in Your Small Square. Mushrooms are fungi that don't make chlorophyll but live off of nutrients in dead plants and animals. Mushrooms reproduce with spores. When you've had rain, go out and see if you can collect some mushrooms. Carefully pick them up and carry them in a small bucket, but **NEVER** eat them -- many wild mushrooms are poisonous!

Once home, cut the stem off of the cup-shaped cap. Lay a piece of paper on a hard surface, then turn the cap over onto the paper so that the round part of the cap faces up. Cover the cap with a glass jar or bowl overnight. In the morning, remove the jar or bowl and gently lift up the cap. Thousands of spores may have fallen out onto your paper. Draw below the pattern of spores you see on the paper. Then, take the paper outside and shake the spores off of it.

Can you see a print on the paper?

What can you deduce about how mushrooms scatter their spores in the woods?



WOODLANDS

Chipmunk Snacks

Create a snacking spot for chipmunk friends.

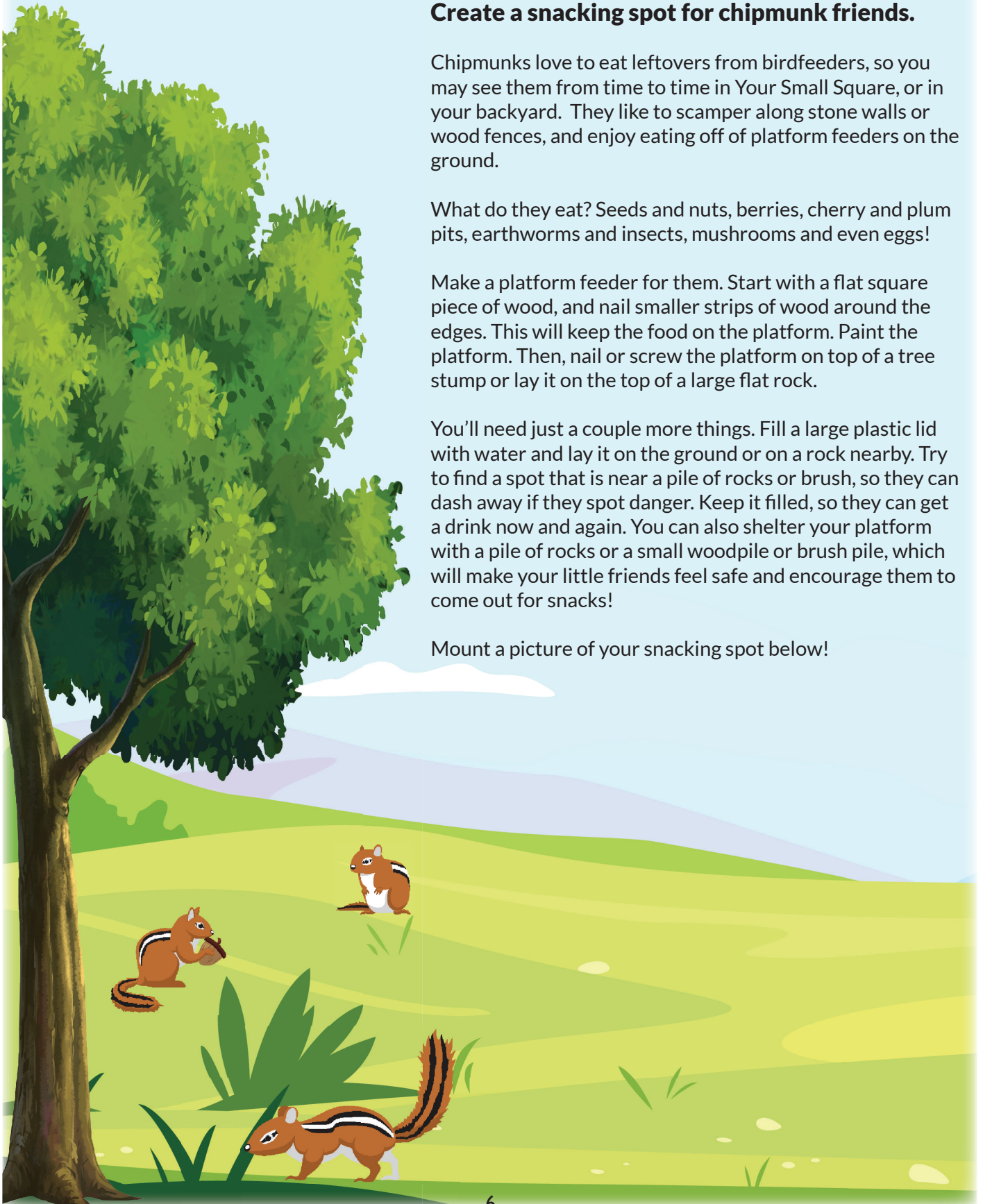
Chipmunks love to eat leftovers from birdfeeders, so you may see them from time to time in Your Small Square, or in your backyard. They like to scamper along stone walls or wood fences, and enjoy eating off of platform feeders on the ground.

What do they eat? Seeds and nuts, berries, cherry and plum pits, earthworms and insects, mushrooms and even eggs!

Make a platform feeder for them. Start with a flat square piece of wood, and nail smaller strips of wood around the edges. This will keep the food on the platform. Paint the platform. Then, nail or screw the platform on top of a tree stump or lay it on the top of a large flat rock.

You'll need just a couple more things. Fill a large plastic lid with water and lay it on the ground or on a rock nearby. Try to find a spot that is near a pile of rocks or brush, so they can dash away if they spot danger. Keep it filled, so they can get a drink now and again. You can also shelter your platform with a pile of rocks or a small woodpile or brush pile, which will make your little friends feel safe and encourage them to come out for snacks!

Mount a picture of your snacking spot below!





WOODLANDS

Soil Investigation

What kind of soil is on the forest floor?

Head out to Your Small Square or a patch of the forest floor. Brush aside the leaf litter on the ground and take a look at the soil. Let's get digging with a trowel to learn about the soil.



Last year's leaves should have been turned into a dark mush called humus that is nutrient rich. Now, dig down farther into the soil. Under the humus, there should be a dark layer of topsoil. Keep digging down. Below the dark topsoil should be a lighter layer called the subsoil. Finally, a rocky third layer called the substratum should be underneath all these layers. This is where new soil is forming.

Write below what you observe about each layer of soil, including notes about what kind of insects you find as you dig. When you are done, replace the soil.

Humus

Topsoil

Subsoil

Substratum

