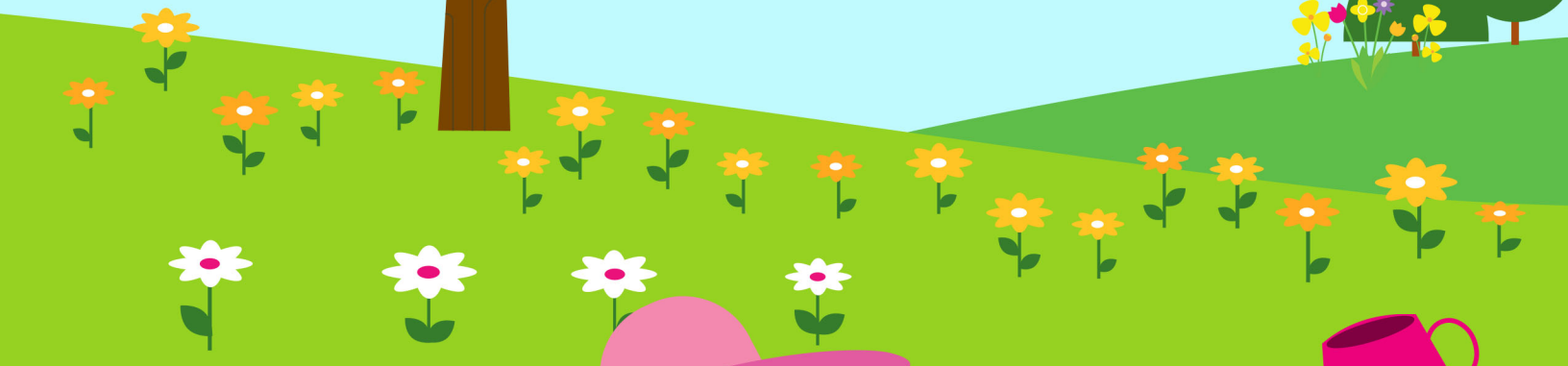
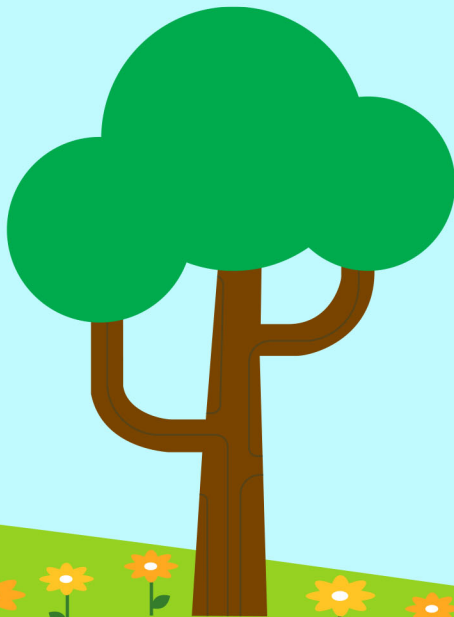
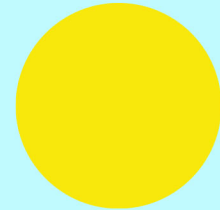




Discover Nature Science Series



Inquiry-Based Nature Activities for Kids Ages 3-8



Carrie Murray Nature Center
Nature connection in Gwynns Falls Leakin Park



Powered by a Ready To Learn Grant

Activity	Page
Amazing Butterfly Garden	1
Animal Habitats	2
Colorful Acorns	3
Magic Vegetable Garden	4
Nesting Birds	5
Sorting Nature	6
Story Map Adventure	7
Through the Looking Glass	8
Who Lives Under the Log?	9
World of Wonder	10
World of Wonder Info Sheet	11
Nature Journal	12

Parents and Caregivers,

Maryland Public Television and Carrie Murray Nature Center are excited to bring you the Discover Nature Science Series! This collection of inquiry-based activities combines PBS KIDS educational media with hands-on, nature-based learning to spark curiosity, promote creativity, and encourage children’s sense of wonder. Activities can be used with groups of children or individually; in the backyard, local park, or any favorite outdoor space.

Investigate nature any time of year with this easy-to-follow activity format:

Watch and Learn: PBS KIDS characters help introduce science concepts and themes through video clips and interactive games.

Explore and Wonder: Background information and thinking questions make it easy to guide children’s learning.

Play and Create: Children learn best when they are playing and using their imagination to apply their new knowledge.

Show What You Know: Use the Nature Journal to build literacy skills by writing, drawing and talking about what happened.

Have fun exploring, asking questions, testing out solutions and recording your findings!

What will you discover about science and nature right in your own backyard?



PBS KIDS and the PBS KIDS Logo are registered trademarks of PBS. Used with permission. The contents of this graphic were developed under a grant from the Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. The project is funded by a Ready To Learn grant (PR/AWARD No. U295A150003, CFDA No. 84.295A) provided by the Department of Education to the Corporation for Public Broadcasting

Amazing Butterfly Garden



Butterflies are amazing and beautiful!

Learn how butterflies transform and grow, and discover how to attract butterflies to your yard.

What You'll Need

- Leaves
- Flower petals
- Nature Journal
- Sticks
- Flower seeds

Watch and Learn

Watch Nature Cat and his pals build a butterfly garden.

- Why do butterflies need flowers?
- How many legs do they have?
- What shapes or patterns do you see on the butterfly?



Explore and Wonder

Make a butterfly art collage with leaves, sticks, and flower petals.

Plant butterfly-friendly plants in your garden to have more butterflies around your house. Plant seeds to grow flowers that bring butterflies to your garden.

- The **dill plant** attracts swallowtail butterflies.
- The **milkweed plant** supports monarch butterflies.

Take a picture of the patch of ground where you planted the seeds. Be sure to water the seeds once a week. What do you think will happen?

Play and Create

Explore how butterflies change and grow throughout their life cycle in this interactive lesson. Observe the transformation from a tiny caterpillar into a beautiful butterfly.

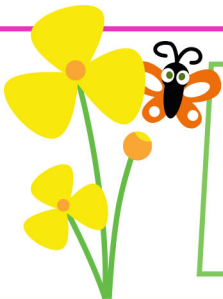
Use this Wild Kratts activity to learn how to raise and release your own monarch butterflies!



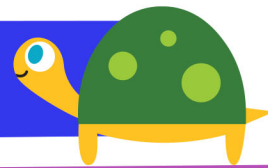
Share and Show What You Know!

What would you do if you were a butterfly for the day?

Write a butterfly adventure story or draw a picture in your Nature Journal.



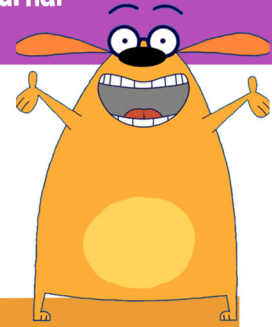
Animal Habitats



Do you ever wonder where animals live outside? Where do they go to keep warm or to stay safe from predators? Explore animal shelters in your own backyard.

What You'll Need

- Magnifier
- Nature Journal



Watch and Learn

Watch Ruff Ruffman as he helps his friends build a safe and secure structure. Pay attention to the design and shapes used to build the structure.

Explore and Wonder

Go on an adventure walk! Use your magnifier to find camouflage animal shelters and hidden animals.

Follow these clues to discover evidence of an animal shelter.

- Nooks and holes in logs are homes for toads.
- Birds find shelter in the branches of bushes and trees and make nests for shelter and laying eggs.
- Groundhogs and chipmunks have front doors that look like holes in the ground.
- Squirrel nests (called dreys) look like large clumps of leaves in a tree.

Play and Create

Download the Wild Kratts Creature Math App! Children practice addition and subtraction as they create their very own animal habitat, filled with cool creature pals!

Create your own special habitat with materials that you find inside, such as pillows, sheets, clothes pins, and yarn.

- What is the name of your habitat?
- Make a welcome sign, or label the sections of your fort using sticky notes.
- What features are you most proud of?

Share and Show What You Know!

Pretend to be your favorite animal. Draw pictures or answer these questions in your Nature Journal.

- Where do you live?
- Do you like playing in the rain, or do you take shelter when it is wet?
- Can you fly? Do you dig holes?
- What materials do you use to build your shelter?



Colorful Acorns



Kids love to collect acorns, but do they know where acorns come from?

Learn about acorns and use them to create colorful art!

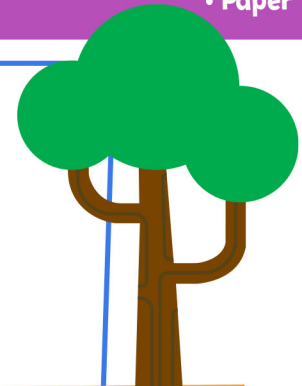
What You'll Need

- Acorns
- Paint (different colors)
- Glue
- Bag
- Pencil
- Paper

Watch and Learn

Did you know that acorns come from oak trees? An acorn is the nut from an oak tree.

Watch Wild Kratts together, and discover who is the best acorn planter - blue jays or gray squirrels! Pay close attention to the different acorn planting techniques for each animal.



Explore and Wonder

Take a nature walk in your neighborhood or in a park to find oak trees and collect acorns.

- Observe the different types of trees you see.
- Make a note or draw a picture of the items that grow on each tree.
- Gather all your acorns and remove the tops.
- Pour quarter-size drops of paint on paper.
- Roll the acorn in your favorite colors to create mosaic acorn artwork and let dry.
- Use the glue to replace acorn tops.

Play and Create

Molly of Denali has some cool ideas for your Colorful Acorns. Play the Beading Art Game and use Molly's design cards to create different beading patterns. Or, create your own designs!



Share and Show What You Know!

Create and label your own acorn design cards. Share the cards with your friends and see if they can complete your designs.

Write a motion story and use motion words as you practice reading with a nutty squirrel.



Magical Vegetable Garden



Start a simple vegetable garden at home by regrowing vegetables and using recyclables around the house.

What You'll Need

- Vegetable Seeds
- Soil
- Toilet paper tubes or egg cartons
- Nature Journal

Watch and Learn

Watch as Nature Cat and his pals help Daisy with her Magic Mystery Garden.

Observe the growth of a seed to a flower.

Explore and Wonder

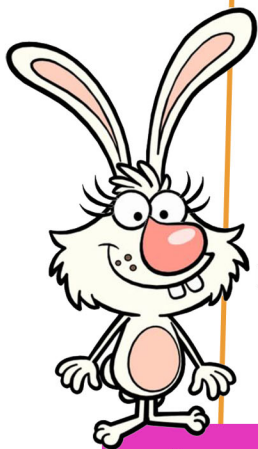
Create Your Own Magic Vegetable Garden

Household items like paper cups, egg cartons and toilet paper tubes can be used to start seedlings.

- Add soil and seeds to your container.
- Place the container in a sunny area.
- Water your garden once or twice a week.

No seeds at home? No worries! Celery, romaine lettuce, or green onions are easily regrown:

- Cut 1 inch above the base with roots and place in ½ inch of water.
- Once new green growth occurs, transfer the seedling to soil.
- Follow the same planting steps when you plant a seed.



Play and Create

Play the Seed Soaring game, and help Nature Cat spread dandelion seeds. Learn more about how forests grow through seed dispersal.

Dance like a growing seed:

- Start balled up tight like a seed.
- Slowly unroll and reach up towards the sun.
- Keep your roots (feet) planted on the ground.
- Wiggle from to left to right, and stretch your arms like a new plant.



Share and Show What You Know!



In your Nature Journal **draw a picture** of your seedling, or new plant, each time you water it.

- What do you notice about the growing plant or seedling?
- What colors do you see? What changes do you notice?
- What do you think will happen?

Nesting Birds



Do you see a lot of birds in your neighborhood?
Do you ever wonder what kind of birds they are?
This is your chance to know more about them!

What You'll Need

- Bucket or totebag
- Acorns (you can use your colorful acorns)
- Kid-safe scissors
- Sticks, twigs and grass
- Pencil
- Paper
- Crayons

Watch and Learn

Watch as Molly of Denali, and her friend Tooeey, discover an owl. Notice how they use a wildlife guide to learn more about the owl.

Listen to different bird sounds, and figure out which are songs, which are companion calls, and which are alarms.



Explore and Wonder

Have you ever heard a bird sing? **Take a nature walk, and listen for bird sounds.**

- Observe and write down the different types of birds you see.

Collect nesting materials such as sticks, twigs, and tall grass to build a bird nest.

- Sort nesting materials and describe the differences with words like: *longer, shorter, smoother, bumpier, softer, and rougher.*
- Arrange sticks in a circular shape to make a bird nest.
- Use your colorful acorns as bird's egg.



Play and Create

Use Molly of Denali's Field Guide to Birds to identify and learn about birds in your neighborhood.

Enjoy these coloring sheets as you learn about birds you might see in Maryland.

Share and Show What You Know!

Create and design your own bird wildlife guide using the birds you observed.

Draw a picture of the bird and write its name. Where did you see it? What was it doing? Describe the color of the feathers and legs, the shape of the beak and the food it eats.



Sorting Nature



Observe, explore and investigate items in nature, and find different ways to sort them according to their similarities and differences.

What You'll Need

- **Natural items:** *pine cones, sticks, rocks, leaves, shells, and nuts*
- Totebag or Basket
- Muffin pans or egg cartons to sort items
- Magnifying Glass
- Nature Journal

Watch and Learn

Is there a right way to sort things?

Watch Sally, Nick, and the Cat in the Hat as they visit Toborrowland and learn all about sorting!

Explore and Wonder



Take a nature walk in your neighborhood or a local park. **Collect a variety of natural items** that are already on the ground.

- Sort your natural items by length, width, color, or texture.
- Use a muffin pan or egg carton to arrange items in matching pairs.

Make this a regular practice throughout the year. Will you find different items during each season?



Play and Create

Play Sorta-ma-Gogo with the Cat in the Hat, and help Nick and Sally sort items by size, color, and shape to put into the borrow truck!

Share and Show What You Know!

In your Nature Journal, **draw a picture and write** about your favorite natural treasure.

- What do you like most about it?
- What color is it?
- How does it feel?
- What does it smell like?



Story Map Adventure



Go on an outdoor adventure and learn about animal habitats. Make a simple story map together to show the beginning, middle and end of your adventure.

What You'll Need

- Bucket or totebag
- Pencils or chalk
- Nature Journal

Watch and Learn

Did you know that a habitat is a place where animals live and find food? There are many different habitats like ponds, forests, oceans and mountains.

[Watch the Cyberchase squad](#) and find out what happens when an animal gets separated from its habitat.



Explore and Wonder

Play in the backyard or go on a hike to explore the nature around you.

Use your senses to take notice of your surroundings

- What do you See? Smell? Hear? Feel?
- What type of animals do you see?
- What is man-made and what is natural?

Collect one special item from each area you explore. Think about how you can draw the locations on a map.

- What colors and shapes would you use?



Play and Create

[Play the Habitat Mapping game](#), and discover how man-made construction can separate animals from the things they need.

Share and Show What You Know!

There are many ways to do mapping activities.

Draw a Story Map! Story maps move from left to right and show the beginning, middle and end of your adventure. Encourage your child to **draw a picture** in the Nature Journal to show each area you explored.

Create a Representational Object Story Map:

- Sort the items you collected on your adventure.
- Ask your child, "Where did we find this object?" Place each item in the right order on your map.



Through the Looking Glass



Make a water viewer/ magnifier to use as you explore and discover parts of nature that can be hard to see with just your eyes.

What You'll Need

- Magnifying glass
- One half-gallon milk carton
- Kid-safe scissors
- Duct tape or a sturdy rubber band
- Heavy, clear plastic wrap
- Nature Journal

Watch and Learn

Watch Sid the Science Kid investigate how small rolie polie bugs move. Pay special attention to how objects look under his magnifying glass. Are objects bigger or smaller? Do objects appear closer to you or farther away?

Explore and Wonder



Use your magnifying glass to explore different items.

Inside

- fibers in different kinds of fabric
- plastic and glass
- salt and sugar
- hair

Outside

- insects
- feathers
- leaves
- rocks

Play and Create

Use this Sesame Street coloring sheet to imagine what Detective Elmo is looking at through his magnifying glass, and draw a picture of it.

Make your own water magnifier to look underwater and explore aquatic habitats. What will you find?



Share and Show What You Know!

In your Nature Journal, answer these questions about using your magnifying glass:

- What did you see?
- What colors did you notice? Was it all one color? Or, did different parts have different colors?
- How many legs did it have? How many eyes did it have?
- Did it have any markings on it? What shapes or patterns did you observe?



Who Lives Under a Log?



Look under a few logs and take a peek at what's underneath. Keep an eye out for small spiders, worms, millipedes, snails, slugs, beetles, fungus, insect eggs, and (if you're lucky) a salamander!

What You'll Need

- 1 empty two-liter bottle
- Sharp knife & nail
- Shredded newspaper
- Dirt (from outside not potting soil)
- Small handful of dead leaves
- Flat dish to hold composter
- Spray bottle with water
- Discover Nature Journal

Watch and Learn

Did you know that worms are great soil farmers? They have the power to break down food scraps and turn them into more soil.

[Watch Wild Kratts](#) and learn how worms help the environment through composting.

Explore and Wonder



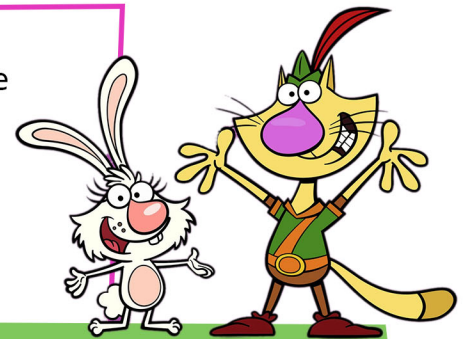
How to safely **explore** under a log:

- Look for a log with wood that is breaking down, moss growing on it, or a dark color indicating that it's damp.
- Stand on one side of the log, then gently roll it towards you (in case there is anything that wants to dart out!)
- Use your best observation skills to check out what's going on under the log. You can use a magnifying glass to take a closer look!
- Carefully roll the log back to its original resting spot so everyone who lives there will be safe in their home.

Play and Create

Worms at Work! Get close-up and grossed-out as you learn about the wonderful way worms work in our environment and learn about vermicomposting.

Nature Cat has a great idea for you - make a composter to create healthy, fresh soil for growing plants.



Share and Show What You Know!



In your Nature Journal draw the wonderful world that you discovered under the log. Label each item in your picture.

World of Wonder



Some animals use camouflage to blend into their surroundings and stay safe from predators. If you look closely, you may find some creatures hiding in your neighborhood.

What You'll Need

- Magnifying Glass
- World of Wonder sheet
- Nature Journal

Watch and Learn

Watch Nature Cat master the art of camouflage by using the techniques that some animals use in the wild.

How did he hide himself and blend into his surroundings?



Explore and Wonder

It's time for an outdoor adventure!

Use your magnifying glass and World of Wonder sheet to discover small creatures that like to camouflage - insects, worms, millipedes, and snails.

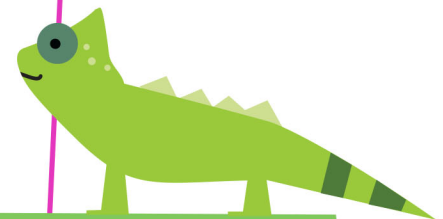
- What makes a creature easier or harder to see?
- Why might it want to hide? Why might it want to stand out?
- Is it easier to see a creature when it is still or when it is moving?
- Why might creatures want to live under a log?
- How can you dress to camouflage in the environment?

What do you wonder about? **Write your questions** in your Nature Journal.

Play and Create

Join Nature Cat for an interactive road trip from Yellowstone National Park to the Grand Canyon.

Blend Like a Chameleon and experience the effects of camouflage firsthand with this simple experiment.



Share and Show What You Know!

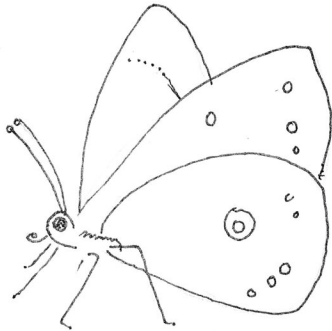
Use iNaturalist to explore, observe, track, share and discuss your discoveries with a community of fellow naturalists.

Draw and write about what you see in your Nature Journal.



World of Wonder Info Sheet

Fluttering just above the ground or near a bush you may find a butterfly. Take a closer look. What is it doing? I wonder how it eats? What do you wonder? Does it fly away when you get near? Take a close look at a patch of grass or even a crack in the sidewalk. You might spot insects, like a grasshopper, clinging to the blades of grass. What colors and patterns do you see?



BUTTERFLY

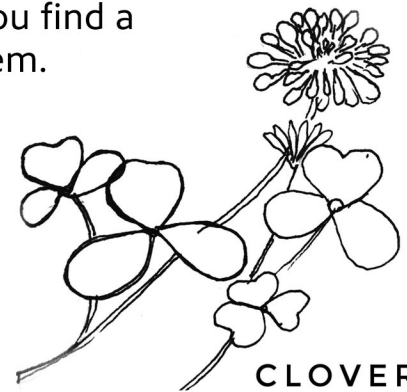


GRASSHOPPER

Look for flowers nearby. You might find dandelions, clover, or violets. Butterflies drink sweet nectar from flowers like these. Do the flowers have a smell? If you find a dandelion or clover, feel free to pick them. How can you play with these flowers? Can you make art with them?

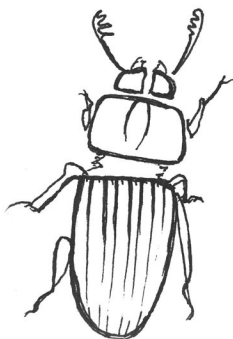


DANDELION

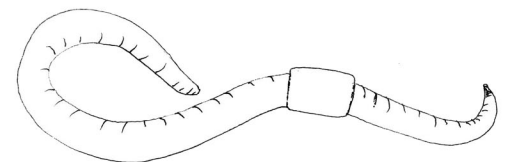


CLOVER

There is a world of life underground and under things. Some creatures make their home in soil or in rotting logs. Some examples of what you might find when digging or looking under a log include: beetles, earthworms, millipedes, snails, slugs, ants, velvet mites, and spiders. If you find a rotted tree log in a park and want to look underneath, work with your family to roll it towards yourself. If a creature underneath a log feels scared, they escape quickly, and if the log opens away from you, they can scurry, slither, or jump away from you. We are much bigger than these creatures and sometimes that makes them feel scared.



BEEBLE



EARTHWORM

Draw something that you see. A tip: Sometimes drawing ants is tricky. You could use a marker dot to represent an ant, and draw a line of ants around the outside edge of this paper. Ants are everywhere!

Nature Journal



Notes about My Nature Walk

Location: _____

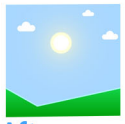
Today is:



Time of Day:



Morning



Afternoon

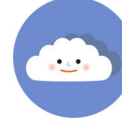


Evening



Night

Today's Weather:



Observations

I See _____

I Hear _____

I Feel _____

I Smell _____

I Wonder _____

Draw a picture and show what you know!