Nature Play

Exploration Packet

Thank you to the following organizations for their contributions:
<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Create a hopscotch board on your driveway or sidewalk, with sets of 10.</td>
</tr>
<tr>
<td></td>
<td>Go from 10 - 120 or more, with squares: 10 - 20 - 30.</td>
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<tr>
<td></td>
<td>Using a clear cup/jar, place it outside to collect rain water. Measure how much was collected &amp; then repurpose the water for a plant.</td>
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<tr>
<td>Tuesday</td>
<td>Take a ride on your bike, scooter or a walk, and try to find one thing that starts with each letter from your first name.</td>
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<tr>
<td></td>
<td>Get outside and have some fun with blowing bubbles or bouncing a ball. Count bubbles you make or bounces made.</td>
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<tr>
<td></td>
<td>Complete a Neighborhood Safari exploring for both living and non-living things. Use the guide provided.</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Take a walk around your neighborhood, looking for signs of animals in our environment. Look up and down and all around. Use the animal guide to help.</td>
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<tr>
<td></td>
<td>Create a round map by finding a spot to listen quietly to the outdoor world around you. Record where you hear that sound and label it.</td>
</tr>
<tr>
<td></td>
<td>Care for our Earth! Walking around your neighborhood, using a disposable bag, collect as many pieces of litter as you can. Dispose in landfill bin.</td>
</tr>
<tr>
<td></td>
<td>Take a bike or scooter ride or walk in your neighborhood to look for symbols. Examples: street signs, logos, numbers.</td>
</tr>
<tr>
<td></td>
<td>Grab a blanket or beach towel and lay down in your backyard to look up at the sky for at least 15 minutes. What images do you see in the clouds?</td>
</tr>
<tr>
<td></td>
<td>Explore the textures of trees by making a rubbing of the tree bark.</td>
</tr>
<tr>
<td></td>
<td>Complete a Neighborhood Safari exploring for both living and non-living things. Use the guide provided.</td>
</tr>
<tr>
<td>Thursday</td>
<td>Explore your yard and home for as many SOMETHINGS as you can find. Record what you discovered.</td>
</tr>
<tr>
<td></td>
<td>Using your numbers 1 - 10, see if you can locate that quantity of an item outdoors. Use the Outdoor Number Hunt guide to help you.</td>
</tr>
<tr>
<td></td>
<td>Together with your family, use an empty, clean jar, plant a few seeds with soil, &amp; water. Place the container in the Sun to watch it grow!</td>
</tr>
<tr>
<td></td>
<td>After a storm or even during a light one with no thunder or lightning, put on some shorts and sandals to splash in the puddles found.</td>
</tr>
<tr>
<td></td>
<td>Search for flowers in your neighborhood, on trees, bushes or in pots.</td>
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<tr>
<td>Friday</td>
<td>Explore your senses, take an exploration walk. Take pictures or create sketches of what you hear, see, smell and touch.</td>
</tr>
<tr>
<td></td>
<td>Using items already found on the ground (twigs, rocks, leaves, petals) CREATE your name or a special word to you.</td>
</tr>
<tr>
<td></td>
<td>Care for our Earth! Using an empty, clean jar, plant a few seeds with soil, &amp; water. Place the container in the Sun to watch it grow.</td>
</tr>
<tr>
<td></td>
<td>Search for flowers in your neighborhood, by looking for flowers in your neighborhood, on trees, bushes or in pots.</td>
</tr>
<tr>
<td>Sunday</td>
<td>Play your choice of a game, indoors or outdoors, with a friend or sibling.</td>
</tr>
<tr>
<td></td>
<td>Complete a Neighborhood Safari exploring for both living and non-living things. Use the guide provided.</td>
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</tbody>
</table>
ANIMAL SIGNS

What animal signs can you find outside your home? Around your neighborhood? In a nearby park? Search for animals and signs of animals. Here are some ideas to get you started.

Reference: Who Eats What Guide

1  IN THE AIR - up high

2  IN SHRUBS AND TREES - on branches and on trunks and in holes and crevices in bark

3  AMONG LOW PLANTS - in moss clumps for tiny animals; in grass for trails, clipped leaves, and matted bedding; on stems and leaves

4  ELSEWHERE - on and around tree stumps, fence posts, walls, wet areas and rocks

5  ON THE GROUND - between plants, under rocks, boards, logs, bricks, and trash; in leaf litter and surface soil; in rotting logs, stumps, and under bark
Take a Walk!

How did your senses help you enjoy your walk?
Draw pictures of some of the things you experienced through your senses of seeing, hearing, smelling, and touching.

<table>
<thead>
<tr>
<th>See</th>
<th>Hear</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Smell</th>
<th>Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>ball-shaped</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>sharp/spiky</td>
<td></td>
</tr>
<tr>
<td>soft/squishy</td>
<td></td>
</tr>
<tr>
<td>smooth</td>
<td></td>
</tr>
<tr>
<td>nice smelling</td>
<td></td>
</tr>
<tr>
<td>bad smelling</td>
<td></td>
</tr>
<tr>
<td>furry</td>
<td></td>
</tr>
<tr>
<td>feather-like</td>
<td></td>
</tr>
<tr>
<td>eaten</td>
<td></td>
</tr>
<tr>
<td>animal-made</td>
<td></td>
</tr>
<tr>
<td>5 or more ants</td>
<td>A bird HOPPING on the ground</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td><img src="image1" alt="Ant" /></td>
<td><img src="image2" alt="Bird" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A leaf BIGGER than your hand</th>
<th>A WHITE flower</th>
<th>An animal MAKING a sound</th>
<th>A leaf with SMOOTH edges</th>
<th>An animal with 6 legs</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image6" alt="Leaf" /></td>
<td><img src="image7" alt="Flower" /></td>
<td><img src="image8" alt="Animal" /></td>
<td><img src="image9" alt="Leaf" /></td>
<td><img src="image10" alt="Animal" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>An animal with 2 legs</th>
<th>A FLYING animal</th>
<th>A flower with 6 or more PETALS</th>
<th>An animal with 8 legs</th>
<th>A leaf with POINTY edges</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image11" alt="Animal" /></td>
<td><img src="image12" alt="Animal" /></td>
<td><img src="image13" alt="Flower" /></td>
<td><img src="image14" alt="Animal" /></td>
<td><img src="image15" alt="Leaf" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>An animal EATING a plant</th>
<th>A tree with SMOOTH bark</th>
<th>A flower with 2 or more COLORS</th>
<th>A warm</th>
<th>A tree with ROUGH or BUMPY bark</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image16" alt="Animal" /></td>
<td><img src="image17" alt="Tree" /></td>
<td><img src="image18" alt="Flower" /></td>
<td><img src="image19" alt="Warm" /></td>
<td><img src="image20" alt="Tree" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A tree TALLER than you are</th>
<th>A moth or butterfly</th>
<th>Grass</th>
<th>A leaf SMALLER than your hand</th>
<th>A leaf divided into SMALLER leaves</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image21" alt="Tree" /></td>
<td><img src="image22" alt="Moth" /></td>
<td><img src="image23" alt="Grass" /></td>
<td><img src="image24" alt="Leaf" /></td>
<td><img src="image25" alt="Leaf" /></td>
</tr>
</tbody>
</table>
Sound Map

Pick a spot in your yard to sit and listen, while keeping silent. This spot is represented with the star on this paper. Sit down in your spot in your yard for 10 - 15 minutes. Try and keep your eyes closed to listen closely. You will mark around your star where you hear a sound. You can use a small wavy line, circle or another representation to show where you heard a sound come from.

Sounds could include: wind blowing, bird chirping, leaf ruffling, etc.

See how much you can hear while being silent!

- How many different sounds did you hear?
- Draw a circle around the sounds you have heard before.
- Do you know what made those sounds?
- Draw a line under the sound that you like the least. Why did you like that the least?
- Draw two lines under the sounds you like the best. Why did you like that the best?
#1 - 10 Outdoor Hunt

<table>
<thead>
<tr>
<th>How many:</th>
<th>Items</th>
<th>Check off here if you locate that number of items, outside.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>red Cardinal bird</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>puddles of water</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Daffodils</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>rocks of different colors</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>flower buds that are pink or purple</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Sweetgum balls</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>brown sticks on the ground</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>leaves that have fallen from a tree</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Dandelion flowers</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>blades of grass</td>
<td></td>
</tr>
</tbody>
</table>

What did you like finding the most? ________________________________

Why did you like finding those things?

_________________________________________________________________

_________________________________________________________________

What did you think of this activity, a number hunt outdoors?

_________________________________________________________________
Outdoor Scavenger Hunt

Collect all of the following items in a bag or basket. Check the boxes as you find each one.

- 5 leaves that look different
- A stick that is longer than your hand
- A rock with spots on it
- A flower
- A flat rock
- 10 blades of grass
- Something you love to play with
- A piece of trash you can recycle
- Something that is brown
- Something that is heavy
- Something that is very light
- Something that needs sun to live
- An item smaller than your thumb
- Something that starts with "m"
- Something that smells good

Ready for snack? Make sure everything gets put back where it belongs!
Neighborhood Safari

Take a walk and observe what you see. The first to spot three items in a row (horizontal, vertical or diagonal) is the winner! Feeling adventurous? Try and spot all nine.

- Someone wearing a hat
- A satellite dish
- A license plate
- Someone walking a dog
- Garbage can
- A streetlight
- A birdhouse
- Someone wearing sunglasses
- Someone on a cell phone
Kids Gardening Activity

Can Luminaries

Luminaries are great for patios, gardens or around the cook out. Recommended for children 8 years and up.

**Directions:**

- Fill the can with water (image 1) and place in the freezer until solid ice is formed. This makes it easier to poke holes into the side of the can without the can bending or crushing.
- Remove the can from the freezer. Lay the can on a towel to help hold the can in place and protect surfaces.
- Use the scratch awl and hammer to poke two holes at the top of the can directly across from each other (image 2). These holes will be used for the wire hanger.
- Starting 1” from the bottom of the can, carefully use the scratch awl and hammer to pound holes randomly all over (image 3).
- After you are satisfied with the hole pattern, next loop the wire through the two holes at the top for a hanger (image 4). Twist the wire to attach it so it cannot come loose.
- Let the ice melt and let it drain. Once dry, the luminary can be painted if desired or used right away. Add a candle, teallight or battery powered light.
- Hang or sit outdoors for a glowing luminary.

**Supplies**

- Assortment of empty tin cans with label removed, clean and dried
- Old towel
- Scratch Awl
- Hammer
- 18 Gauge Silver wire
- Flat notched pliers
- Wire cutters
- Acrylic Craft Paints
- Pencil or grease pencil
- 1” of sand to add weight and prevent them from blowing over

*If you do not want to use the wire hangers, fill the bottom of each can with 1” of sand to add weight and prevent them from blowing over then there is a candle inside.

**Adult Supervision is required!**

“BE CAREFUL OF SHARP EDGES!”

**Other tips**

- A design can be drawn on the tin can before freezing using a pencil or grease marker
- Bottom of the can will bulge if the can of water is left in the freezer too long.
- If using candles in the luminaries, never leave them unattended when lit. Use only with adult supervision.
- You can use battery run lights.
- Use caution if using the luminary around fresh or artificial arrangements. Some of the materials in the arrangements can be flammable.
- Poke hole from the outside to keep the sharpness inside the can.
- Be careful! There are lots of sharp edges.
So you have dried your spring and summer flowers, what can you do with them?

- Book marks
- Picture frames
- Notecards
- Photo album covers/pages
- Scrapbooking
- Placemats
- Tea lanterns
- Pencil/pen holders

For Bigger Kids:

To make your own bookmark: Carefully glue flowers onto paper in a bookmark shape. Once dry, bookmarks can be covered in contact paper or laminated. Bookmarks can also be made by sandwiching flowers between pieces of contact paper.

To make a picture frame: Cut desired paper for background to fit into the frame. Carefully glue flowers and foliage into desired arrangement. Allow to dry. Put picture in the frame.

To make notecards: Cut and fold cardstock into desired notecard size. Carefully glue flowers and foliage into desired arrangement. Allow to dry. Cover floral design with a sheet of contact paper cut to fit notecard. Similar process can be done for photo album cover, photo pages, scrapbook pages and placemats.

To make tea lanterns and pencil/pen holders out of jars: Apply 1-inch wide bands of Mod Podge or glue with paintbrush to stick flowers and foliage to the jar. Once you have finished putting flowers and foliage on, paint over the whole jar (flowers and all) with Mod Podge or glue.

Possible Supplies

- Dried flowers and leaves
- White, colored or decorative paper.
- Scissors
- Clear contact paper or laminating device
- Mod podge
- White or clear glue
- Cardstock
- Paper plates for sun catchers
- Small jars for tea lanterns or pencil/pen holders
- Paint Brushes, cotton swab or toothpick for glue applicators
- Be creative: use ribbon, inspirational verses, cut outs, stickers, drawings, and cut decorative edges.

For Smaller Kids:

To make a suncatcher: Take a paper plate and cut the center circle out leaving a 1 to 1/2 inch frame. Apply a square of contact paper to the back of the circle with the sticky side up. Kids can place dried flowers on the sticky side. Once they are done, cut a circular piece of contact paper to place sticky side down over the plant material. Punch a hole in the top of the circle and attach a string for hanging the suncatcher.

Sunglass Window: Cut two large pieces of contact paper in matching sizes. Place on a table with the sticky side up. Place flowers randomly all over contact paper. Place the second sheet sticky side down so that the flowers are sandwiched between two layers. Press and push out any wrinkles. Trim edges and you are ready to attach it to any glass door or window.
NatureArtCollageChallenge
Gather leaves, twigs, rocks, dirt and anything else you can find. Create art for all to enjoy on a sidewalk, around a tree, or in the grass! Try this pattern or design your own.

What do you like to do? 4-H has many opportunities for you to meet friends, have fun and learn new things in your areas of interest. www.4hmissouri.edu
**Questions:**

What did you seed need in order to start sprouting? What will it need to keep growing? All those things + sunlight to keep growing!

**Answers:**

- What did you seed need in order to moisture, warmth (and love!) to start sprouting? What will it need to keep growing? All those things + sunlight to keep growing!

**Challenges:**

- How long can you keep your Beanie Baby in a bag growing?
- Make a seed journal and draw and write and take pictures of your seed everyday.
- Once your seeds have sprouted, plant them outside and grow your plants till they flower and make new seeds.
- Reuse your Beanie Baby necklace — try sprouting seeds in different conditions or share with a friend!

---

**Beanie Baby Necklace Directions:**

1. Poke a small hole (using a pencil tip, paperclip, fork tine, etc.) above the seal of your bag, and thread yarn through.
2. Tie the two ends together with a knot to make a necklace.
3. Open the plastic bag, dip cotton balls in water, squeeze some of the water out.
4. Place 2 dry bean seeds on the cotton balls, depending on the size of the bag.
5. Seal the bag and put your Beanie Baby necklace on, tucked inside your shirt, closetoyour heart. You don’t need to open the bag to water it, these sealed bags will keep the water inside.

**Hint:** If your bag tears and the string falls off, you can just put your Beanie Baby in your pocket:)

---

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**Answers:**

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**Challenges:**

- How long can you keep your Beanie Baby in a bag growing? (Make a seed journal and draw and write and take pictures of your seed everyday.) Once your seeds have sprouted, plant them outside and grow your plants till they flower and make new seeds.
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1. Poke a small hole (using a pencil tip, paperclip, fork tine, etc.) above the seal of your bag, and thread yarn through.
2. Tie the two ends together with a knot to make a necklace.
3. Open the plastic bag, dip cotton balls in water, squeeze some of the water out and place a damp cotton ball in the bottom of the bag.
4. Place 2 dry bean seeds on the cotton balls, depending on the size of the bag.
5. Seal the bag and put your Beanie Baby necklace on, tucked inside your shirt, closetoyour heart. You don’t need to open the bag to water it, these sealed bags will keep the water inside.

**Hint:** If your bag tears and the string falls off, you can just put your Beanie Baby in your pocket:)

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- Make a seed journal and draw and write and take pictures of your seed everyday.
- Once your seeds have sprouted, plant them outside and grow your plants till they flower and make new seeds.
- Reuse your Beanie Baby necklace — try sprouting seeds in different conditions or share with a friend!
Planting a new sprout in a container home is an awesome way to watch your new seedling grow and prosper. First, plant your seedling into a pot. Take a look at some ideas on how to repurpose everyday items into new plant containers!

- Use an empty toilet paper roll, folded into the bottom on opposite sides, to place your plant and add soil.
- Poke holes in the bottom of a yogurt container and place your plant in soil.
- Find a small cardboard box from a package received or a pair of kids' shoes, then add your plant and soil.
- Take a clean, glass jar so you can see your plant's growth through their roots, stems, and leaves.
- Rinse a soup or vegetable can out, place holes at the bottom and add soil.
- Use an empty toilet paper roll, folded into the bottom on opposite sides.

Once your soil is mixed, place your own home plant container or take a look at the Repurposed Container Ideas provided. Continue to nurture your new plant with air, light, and water!
plantstogrow.

Findasoilsourceinyourcommunity,likeyouryardoradigspacetouse.

Digabout1-2cupsofsoilontopofyourobjects.

Findasoilsourceinyourcommunity,likeyouryardoradigspacetouse.

YouwillneedtotransferyourBeanieBabysprouttosoilforthefullbean
tohelpitgrow.

OnceyourBeanieBabysproutedandyouseeyourroots,thecommand
Planting your Beanie Babysprout:

Beanie Baby Plant Soil Ideas

Continuetonurtureyournewplantwithair, light and water! Take a look ortea the Repurposed Containers ideas provided.

Once your soil is mixed, place in your own home plant bag to place some nutrients in the soil.

Place the dug up dirt in a bowl and mix with some old coffee grounds.

Dig about 1-2 cups of soil to plant your sprout in.

Find a soil source in your community, like your yard or plant to grow.

You will need to transfer your Beanie Babysprout to help it grow.

Beginning leaves, open your bag to let the stem and leaves start to use.

Once your Beanie Baby has sprouted and you see roots, the stem.
Outdoor Games

As the weather turns warmer this is a great excuse to spend more time outside. It doesn’t matter what you do outside, getting fresh air, vitamin D and spending time with your family is all that matters.

Play it again

Play I Spy- go outside and take turns saying, “I spy something …..” and then have your child run to the object. With younger children it will be easier if you keep giving hints. With older children, they can ask you “yes” or “no” questions and begin to compare things. For example, is it bigger than a watermelon? Smaller than a snail?

Simon Says

Simon says to play a game of Simon Says outside. Create a variety of motions for your child to try. Do not forget to include ways to move like skipping, hopping, galloping, jumping, and walking backwards. For added fun try changing Simon to a character your child likes. For younger kids you could use Daniel Tiger or Molly from Denali and older kids might like characters from the Harry Potter books.

Animals in Motion

Pretend to be animals and move the way that animal moves. Try the following: Crab walk; Bear walk; Duck walk; Hummingbird – fast wings forming a figure eight; Great Blue Heron – long, slow wing movements; Frog – hopping; Butterfly – flying slowly from flower to flower; or a Bee – flying extremely fast from flower to flower. Try setting this up as a relay race. Once you get to the other side, the next person must pick a new animal. How many times can you make it without using the same animal? Create a new animal. How does this animal move around?

Shadow Tag

Get some exercise by playing Shadow Tag. Instead of tagging each other, you’ll need to step on each other’s shadow. The “it” person must tag a runner’s shadow. If you are tagged, then you become “it.” Try playing this game at different times of the day. How and why does this affect the size and shape of your shadow? Based on this, what time of day is best to be “it” and what is the best time to be a runner?

Relax and Listen

Sit quietly with your eyes closed for a few minutes and count how many sounds you hear. How many were man-made? How many were natural sounds? Did everyone hear the same sounds? Try this at different times of the day. How have the sounds changed? What time of day do you hear more sound?
Other Outdoor Fun
Spread out a blanket and have a meal outdoors. This could be lunch, dinner or a snack. Talk about what you are eating and if it comes from plants.

Spread out a blanket and read books together.

Get Creative
Bring art supplies outside and create a picture that symbolizes the summer. How many different colors can you add to your picture? How might your choice of colors change with the seasons?

Use watercolors to make your own color scavenger hunt for your backyard. Begin by painting a couple colors on your paper, then start overlapping the new colors over the original colors. By doing this you will create unique colors for your scavenger hunt. Have everyone create their own color scavenger hunt page or take turns on one piece of paper then cut it into sections so each person gets one. If you don’t have watercolors you can use watered-down acrylic paints or even food coloring. How many different colors can you create? How many of these colors can you find in your backyard?

Take a Walk
Try taking a walk at dusk, how have the sounds changed? Do you hear more or less? Do you hear sounds that are different than in your backyard? Stop near a tree and listen, what do you hear?

Take a walk in the rain. What do you notice that is different? Does the air smell the same as before the rain? What does the bark look like on the trees? Look for water puddles, do you see any birds in the puddles? If so, what are they doing? If not, go ahead and jump into it, you know you want to. After the rain, check the sidewalks for puddles. If you find a puddle take some sidewalk chalk and draw a line around the edge of the water. Predict how long it will take for the puddle to completely disappear. Keep checking on the puddle, how long does it take for the puddle to get smaller? A few minutes, a few hours, all day; why do you think it took this long?

Walk around the neighborhood and talk about the plant parts that you see. Can you find: seeds, sprouts, roots, stems, leaves and flowers? Or look for 10 things that you can only find this time of the year. These could include buds, flowers, young tree leaves, etc. Why won’t you see these things next week or next month? Based on what you saw today, predict what you will see next week or even next month.

Whatever you decide to do, do it outside!
# Nature Bingo

Put a check mark next to each activity you have completed

<table>
<thead>
<tr>
<th>Find an insect with wings and note what other features you notice</th>
<th>Observe an insect for 3 minutes. List your observations</th>
<th>Draw a damaged tree and explain your theory on how it happened</th>
<th>Find and draw 3 patterns you find in nature</th>
<th>Find a rock you like and describe it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write a story about how animals pick an area to make a shelter</td>
<td>Find an invertebrate that uses camouflage and describe how it was blending in</td>
<td>Do a sound map for 5 minutes</td>
<td>Record your observations about the weather</td>
<td>Why are some animals and plants considered invasive?</td>
</tr>
<tr>
<td>Draw a picture of your surroundings! Do not let the pencil leave the paper.</td>
<td>Why is nature important to you?</td>
<td>Find a decomposer and note what you think it decomposes</td>
<td>Find a flower that you like and list the reasons why</td>
<td>Free spot (Dance Party for 3 minutes)</td>
</tr>
<tr>
<td>Write a story about a drop of water</td>
<td>How do these exercises make you feel like a scientist?</td>
<td>Estimate the age of a pine tree by counting the whorls</td>
<td>Find an invertebrate without an exoskeleton and draw or describe it</td>
<td>Draw a picture of your surroundings without looking at the paper</td>
</tr>
<tr>
<td>What are 3 things that are important to you and why?</td>
<td>What is your favorite activity to do outside and why?</td>
<td>Find a tree you like and list all the reasons why</td>
<td>If you live in any ecosystem found on earth. Where would you live and why?</td>
<td></td>
</tr>
</tbody>
</table>
Name: ___________________________  School: ________________________________

Age and Grade: ___________________________  Home zip code: ________________________

(Grade you will be entering in the 2020–2021 school year)

Get out, read, and explore!

WHO: Love nature? Love nature books? Love nature trails? Then Tales & Trails is for you!

WHY: Why not?

HOW: Grab your favorite nature books, dress for the weather, and head out to your favorite nature space. Complete at least six (6) Tales & Trails adventures, and document them in this reading log. For suggestions on books, check out Finn the Frog’s favorites on the back cover.

WHERE: Whether it’s your backyard or local park, nature can be found all around you. Pick a favorite spot or go on an adventure to find a new one.

WHEN: The 2020 Tales & Trails experience runs from June 1—August 31. Keep this log in a handy spot all summer to track your progress and adventures!

Win a Tales & Trails Fun Pack!

Complete all of the Tales & Trails and bring this log to one of our three locations (BASED ON STAFFING AND REOPENING OF ALL SITES; Redemption time extended due to closure unknowns). To redeem your prize at the Garden, please see Membership Services. You’ll get lots of nature-inspired goodies, including admission tickets! One prize pack per participating child. Redeem by December 31, 2020. While supplies last. Redeemable same day.

Held in partnership with St. Louis Public Libraries, St. Louis County Libraries, and BiodiverseCity St. Louis.
RECORDING LOG

Record your reading adventures and share them on social media with the tag #MBGTalesandTrails!

☐  Tale & Trail #1
Date: _______________________
Location: _____________________
Book: ________________________
________________________________
Author: _________________________

Notes and nature sketches:

☐  Tale & Trail #2
Date: _______________________
Location: _____________________
Book: ________________________
________________________________
Author: _________________________

Notes and nature sketches:

☐  Tale & Trail #3
Date: _______________________
Location: _____________________
Book: ________________________
________________________________
Author: _________________________

Notes and nature sketches:

☐  Tale & Trail #4
Date: _______________________
Location: _____________________
Book: ________________________
________________________________
Author: _________________________

Notes and nature sketches:
<table>
<thead>
<tr>
<th>□  Tale &amp; Trail #5</th>
<th>Notes and nature sketches:</th>
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<tbody>
<tr>
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<td>Location:</td>
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<td>Book:</td>
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<tr>
<td>Author:</td>
<td>____________________________</td>
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<thead>
<tr>
<th>□  Tale &amp; Trail #6</th>
<th>Notes and nature sketches:</th>
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<tr>
<td>Date:</td>
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<tr>
<td>Location:</td>
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<tr>
<td>Book:</td>
<td>____________________________</td>
</tr>
<tr>
<td>Author:</td>
<td>____________________________</td>
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</tbody>
</table>

**What is your favorite nature book and outdoor place?**

**Words matter. We want your opinion!**

Nature words are dropping out of our dictionaries and our everyday language. What nature words are your favorite and why? To learn about these dropped words, read *The Lost Words* by Robert MacFarlane and help bring these words back to life!

**EBOOK RESOURCES:**

If you have a City or County Library card, visit their eMedia pages to download books. Books listed here are found in either EBSCOhost or OverDrive for kids. Please remember to return the book when finished so someone else can enjoy it.

- **St Louis City Library eMedia**
  - [slpl.org/resources-types/ebooks](slpl.org/resources-types/ebooks)

- **St Louis County Library eMedia**
  - [slcl.org/emedia](slcl.org/emedia)

If you don't live in the St. Louis area you can download free books from:

- **Project Gutenberg**
  - [gutenberg.org](gutenberg.org)
  - These are older classics like *Treasure Island* and *The Tale of Peter Rabbit.*
  - To find children’s books click on the Bookshelves link on the left.

- **Open Library**
  - [openlibrary.org](openlibrary.org)
  - Look for the K–12 Student Library button towards the top and you will be able to search for books by grade and reading level. Click on the resource guides link to search by age, grade, and topic.

- **Barnes & Noble**
  - [barnesandnoble.com](barnesandnoble.com)
  - Search for free eBooks. They have a page for kids categorized by age.
  - You will need a Nook Device or the Nook app to read these books.

- **Amazon**
  - [amazon.com/kindle-ebooks](amazon.com/kindle-ebooks)
  - Amazon has some free eBooks for children. Search for free children’s eBooks.
  - A few of these books are for kindle unlimited members and you will be asked to join with a free trial membership.
## FINN’S FAVORITES

Where to find them:  ■ EBSCOhost  ■ OverDrive *(both St. Louis Public City Library and St. Louis County Library)*

<table>
<thead>
<tr>
<th>BOOK TITLE</th>
<th>AUTHOR</th>
<th>ACTIVITY</th>
<th>ONLINE</th>
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</thead>
<tbody>
<tr>
<td><strong>PreK–Kindergarten</strong></td>
<td></td>
<td></td>
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<tr>
<td>Cheers for a Dozen Ears</td>
<td>Felicia Sanzari Chernesky</td>
<td>Create a book with drawings of your favorite fruits and vegetables.</td>
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<tr>
<td>Know Your Numbers: Nature</td>
<td>Mary Elizabeth Salzmann</td>
<td>How many things can you number in your backyard?</td>
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</tr>
<tr>
<td>Amelia Bedelia Hits the Trail</td>
<td>Herman Parish (city)</td>
<td>What can you find in your backyard to add to your nature collection?</td>
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<tr>
<td><strong>Grades 1–2</strong></td>
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<tr>
<td>Choose to Reuse</td>
<td>Lisa Bullard</td>
<td>What can you create from the recycling to give as a gift?</td>
<td></td>
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<tr>
<td>Bug Rescuer</td>
<td>Amy Cobb</td>
<td>Observe the insects in your yard, how many different kinds can you find?</td>
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<tr>
<td>Plants Can't Sit Still</td>
<td>Rebecca E Hirsch (city)</td>
<td>Explore your yard, what plants do you have that can’t sit still?</td>
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<tr>
<td><strong>Grades 3–5</strong></td>
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<tr>
<td>Bugs! (Animal Planet Chapter Books #3)</td>
<td>James Buckley</td>
<td>Observe insects in your backyard and then create an insect out of recycling.</td>
<td></td>
</tr>
<tr>
<td>Blades of Green: Adventures in Backyard Habitats</td>
<td>Anna Prokos</td>
<td>Create a story like this one, where you are as tiny as a ladybug and you’re exploring your own backyard.</td>
<td></td>
</tr>
<tr>
<td>Show Me the Honey (Dr.Seuss/Cat in the Hat)</td>
<td>Tish Rabe (county)</td>
<td>Observe bees in your yard, what color of flowers do they like best?</td>
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<tr>
<td><strong>For Families of all ages</strong></td>
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<tr>
<td>Insectigations: 40 Hands-on Activities to Explore the Insect World</td>
<td>Cindy Blobaum</td>
<td>Find new activities for you families to try in your favorite nature places.</td>
<td></td>
</tr>
<tr>
<td>Backyard Biology: Investigate Habitats Outside Your Door With 25 Projects</td>
<td>Donna Latham</td>
<td></td>
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</tr>
<tr>
<td>Birdology: 30 Activities and Observations for Exploring the World of Birds</td>
<td>Monica Russo (county)</td>
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</tbody>
</table>

How did you find out about this program?  ■ MBG website  ■ Library  ■ School  ■ Friend  ■ at MBG, BH, or SNR  Other: _____________________________

Is this your first year participating?  ■ Yes  ■ No

Email address to receive a survey: ____________________________________________

Family member signature: ___________________________________________________
Cranna Nanna
Recipe Card

Bananas
Cut both end tips of the banana off.
(Split banana lengthwise into half/ or leave whole)

HazelNut Chocolate Spread (Such as Nutella)
Spread hazelnut mix on the top of the banana

Seeds (Sunflower, Chia, Hemp)
Sprinkle seed topping along the portion of the banana covered in and spread

Craisins
Place the craisins along the top banana

Walnuts/Almonds
Top off the 'Cranna Nanna' with desired nuts
Incorporating nature into art is a great way to get outside, explore your environment and make new discoveries. Below are two ideas to help you get started.

**Smash Stamping**
All you need is a piece of paper and nature items! You can smash with your hands or feet (which is a great sensory experience for little ones), or use a hammer. Use the slip of paper included in this packet to create a smash stamp bookmark!

**Leaf Rubbings**
All you need are crayons, paper and leaves. Put the leaf under the paper, and rub the crayon on top of it to make a print. If you like, you can paint over your leaf rubbing with watercolor, like this one.
Nature Art!

Incorporating nature into art is a great way to get outside, explore your environment and make new discoveries. Below are two ideas to help you get started.

**Nature Prints**
All you need is paint, paper and nature items. Paint or dip one side of the nature item into the paint, then press it onto your paper. You can also add more than one color at a time, or mix colors together to create a tie-dye effect.

**Stick Painting**
All you need are sticks and paint. Collect sticks from outside that you find interesting-looking. Then paint them! You can create designs with stripes or dots, or paint it one solid color. To display them, you can hang them up with...
twine, or place them in a vase.
Nature Play

Why it is important:
∙ Encourages more time outdoors
∙ Inspires imaginative play
∙ Increases self-directed play
∙ Fosters conservation awareness

Not sure where to start? Try some of these activities!

Fort Building

Tree Mandalas

Mud Play
∙ Mud pies
∙ Mud painting
∙ Mud soup
∙ Mud building

Nature Mandalas

Tree Drawings & Rubbings

Sink or Float Inquiry with Found Nature Items

Have you ever studied the bark of a tree? Use a crayon to create texture on your paper.

Fort Building

Safety Tip: Only climb as high as you can jump down.

Tree Climbing

Sink or Float Inquiry with Found Nature Items

Find nature items and guess if they will sink or float. Then test your guess by tossing them in the water. Record your findings in a journal.

Citizen Science

Download these apps & start helping scientists!
∙ Frog Watch
∙ Project Squirrel
∙ Feeder Watch
∙ Great Backyard Bird Count
∙ Nature’s Notebook
∙ WildLab
Aligned & suggested Missouri Learning Standards for the Nature Play Exploration Packet

Kindergarten
- K.PS1.A.1 Make qualitative observations of the physical properties of objects (i.e., size, shape, color, mass).
  - Find Something...
- K.LS1.C.1 Use observations to describe patterns of what plants and animals (including humans) need to survive. [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.]
  - Backyard Scavenger Hunt, Animal Signs, Outdoor Hunt, Nature Bingo,
- K.ES1.B.1 Make observations during different seasons to relate the amount of daylight to the time of year. [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.]
  - Outdoor Hunt (Spring), Sound Map (Spring), Outdoor Scavenger Hunt, Kids Gardening Activity: Pressing Flowers, Nature Art
- K.ES2.E.1 With prompting and support, construct an argument using evidence for how plants and animals (including but not limited to humans) can change the environment to meet their needs.
  - Outdoor Scavenger Hunt, Biodiversity Bingo

First Grade
- 1.LS3.A.1 Make observations to construct an evidence based account that young plants and animals are like, but not exactly like, their parents. [Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.]
  - Biodiversity Bingo

Second Grade
- 2. PS1.A.1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. [Clarification Statement: Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.]
  - Backyard Scavenger Hunt, Animal Signs, Outdoor Scavenger Hunt, Nature Bingo

Third Grade
- 3.LS1.B.1 Develop a model to compare and contrast observations on the life cycle of different plants and animals. [Clarification Statement: Changes organisms go through during their life form a pattern.]
  - Pressing Flowers, Nature Art
- 3.LS3.A.1 Construct scientific arguments to support claims that some characteristics of organisms are inherited from parents and some are influenced by the environment. [Clarification Statement: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.]
  - Pressing Flowers, Nature Art
3.LS3.C.1 Construct an argument with evidence that in a particular ecosystem some organisms -- based on structural adaptations or behaviors -- can survive well, some survive less well, and some cannot. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]
  o Biodiversity Bingo, Backyard Scavenger Hunt, Animal Signs, Outdoor Scavenger Hunt, Nature Bingo

Fourth Grade

4.ESS1.C.1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. [Clarification Statement: Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock.]
  o Outdoor Scavenger Hunt, Nature Art Collage

Fifth Grade

5. ESS1.B.1 Make observations during different seasons to relate the amount of daylight to the time of year. [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.]
  o Nature Art, Outdoor Hunt

Sixth Grade - Eighth Grade

6-8.PS1.A.3 Gather, analyze, and present information to describe that synthetic materials come from natural resources and how they impact society. [Clarification Statement: Emphasis is on natural resources that undergo a chemical process to form the synthetic material. Examples of new materials could include new medicine, foods, and alternative fuels.]
  o Nature Art, Outdoor Hunt,

6-8.LS1.B.1 Construct an explanation for how characteristic animal behaviors as well as specialized plant structures affect the probability of successful reproduction of animals and plants respectively. [Clarification Statement: Examples of animal behaviors that affect the probability of animal reproduction could include nest building to protect young from cold, herding of animals to protect young from predators, and vocalization of animals and colorful plumage to attract mates for breeding. Examples of animal behaviors that affect the probability of plant reproduction could include transferring pollen or seeds; and, creating conditions for seed germination and growth. Examples of plant structures that affect the probability of plant reproduction could include bright flowers attracting butterflies that transfer pollen, flower nectar and odors that attract insects that transfer pollen, and hard shells on nuts that squirrels bury.]
  o Nature Art, Outdoor Hunt

6-8.LS1.B.2 Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. [Clarification Statement: Examples of local environmental conditions could include availability of food, light, space, and water. Examples of genetic factors could include large breed cattle and species of grass affecting growth of organisms. Examples of evidence could include drought decreasing plant growth, fertilizer increasing plant growth, different varieties of plant seeds growing at different rates in different conditions, and fish growing larger in large ponds than they do in small ponds.]
  o Biodiversity Bingo, Nature Art, Outdoor Hunt, Outdoor Scavenger Hunt, Outdoor Games

6-8.LS1.C.1 Construct a scientific explanation based on evidence for the role of photosynthesis and cellular respiration in the cycling of matter and flow of energy into and out of organisms.
  o Nature Art, Outdoor Hunt, Outdoor Scavenger Hunt
• 6-8.LS2.A.2 Construct an explanation that predicts the patterns of interactions among and between the biotic and abiotic factors in a given ecosystem. [Clarification Statement: Relationships may include competition, predation, and symbiosis.]
  o Nature Art

• 6-8.LS2.A.1 Analyze and interpret data to provide evidence for the effects of resource availability on individual organisms and populations of organisms in an ecosystem. [Clarification Statement: Emphasis is on cause and effect relationships between resources and growth of individual organisms and the numbers of organisms in ecosystems during periods of abundant and scarce resources.]
  o Biodiversity Bingo

• 6-8.LS2.C.1 Construct an argument supported by empirical evidence that explains how changes to physical or biological components of an ecosystem affect populations. [Clarification Statement: Emphasis is on recognizing patterns in data and making inferences about changes in populations, defining the boundaries of the system, and on evaluating empirical evidence supporting arguments about changes to ecosystems.]
  o Biodiversity Bingo, Backyard Scavenger Hunt, Animal Signs, Outdoor Scavenger Hunt, Nature Bingo

9th Grade - 12th Grade

• 9-12.LS2.A.1 Explain how various biotic and abiotic factors affect the carrying capacity and biodiversity of an ecosystem using mathematical and/or computational representations. [Clarification Statement: Examples of biotic factors could include relationships among individuals (e.g., feeding relationships, symbioses, competition) and disease. Examples of abiotic factors could include climate and weather conditions, natural disasters, and availability of resources. Genetic diversity includes within a population and species within an ecosystem. Examples of mathematical comparisons could include graphs, charts, histograms, and population changes gathered Interdependent from simulations or historical data sets.]
  o Biodiversity Bingo, Backyard Scavenger Hunt, Animal Signs, Outdoor Scavenger Hunt, Nature Bingo

• 9-12.LS2.C.1 Evaluate the claims, evidence, and reasoning that the interactions in ecosystems maintain relatively consistent populations of species while conditions remain stable, but changing conditions may result in new ecosystem dynamics. [Clarification Statement: Examples of changes in ecosystem conditions could include modest biological or physical changes, such as moderate hunting or a seasonal flood; and extreme changes, such as volcanic eruption or sea level rise.]
  o Biodiversity Bingo, Backyard Scavenger Hunt, Animal Signs, Outdoor Scavenger Hunt, Nature Bingo