

GO OUTSIDE! ADVENTURES IN NATURE

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STORYTIME BOOKS

Babies

The Very Hungry Caterpillar's Forest Hide & Seek (2021) by Eric Carle. A lift-the-flap board book that follows an adventurous finger trail through the forest. In English.

Let's Go Outside! (Indestructibles) (2020) by Amy Pixton and illustrated by Ekaterina Trukhan. A movement-prompting book about going outside. Walk through the forest with babies and their families to explore trees, plants, animals, and the joys of the natural world. In English.

We All Play (2021) by Julie Flett. A joyous celebration of playtime among different animals. Starred reviews. Includes a glossary of Cree words. In English.

Pablo (2021) by Rascal. A simple, delightful story about a chick hatching bit by bit. Also good for toddlers. In English.

The Honeybee (2018) by Kirsten Hall and illustrated by Isabelle Arsenault. Vibrant verse that is buoyant and enthusiastic. Starred reviews. In English.

Zoom Rainforest Adventure (Zoom #4) (2021) by Susan Hayes and illustrated by Susanna Rumiz. A fun, interactive story about jungle animals with die-cut pages. In English.

Petra / Petra (2020) by Marianna Coppo. A humorous book about a rock who finds herself in changing circumstances. Separate Spanish and English editions.

Toddlers

Hike (2020) by Pete Oswald. A nearly wordless book about a hiking adventure that lets kids invent the narrative. In English.

Outside In (2020) by Deborah Underwood and illustrated by Cindy Derby. A celebration of nature with delightful rhymes. Toddlers and above. A Caldecott Honor book. In English.

Max's Rainforest Adventure (2019) by Hannah Jardine and illustrated by Zoe Warring. A slight story with easy dialogue about a tailed monkey exploring his rainforest home. In English.

Let's Go on a Hike! (2020) by Katrina Liu and illustrated by Heru Setiawan. A family hiking adventure filled with diversity and curiosity. In English or bilingual English/Chinese.

Wake Up, Color Pup (2019) by Taia Morley. A rhyming book that teaches colors through the story of a dog who collects them during the day. In English.

TIP:

Ask caregivers to write children's names on a nametag when they arrive.

TODDLERS

Wonder Walkers (2021) by Micha Archer. A fresh outlook on the splendors of nature, with beautiful collages and thought-provoking questions. A Caldecott Honor book. In English.

Look Out, Leonard! ¡Cuidado, Leonard! (2021) by Jessie James. An interactive book about a shrew family that moves to the jungle. Bilingual.

Milo + Niko (2022) by D. Guzmán. An energetic girl and a Bengal tiger have an adventurous romp in the rainforest. Also works for the imaginary adventure theme; also good for preschoolers. Bilingual.

Preschoolers

Leyla (2019) by Galia Bernstein. Tired of her large baboon family, Leyla runs away to the desert and befriends a lizard, who teaches her to be still and silent. In English.

Acorn Was a Little Wild (2022) by Jen Arena and illustrated by Jessica Gibson. The adventures of an acorn after he lets go of his big oak tree; great for STEM conversations about trees. In English.

The Hike (2019) by Alison Farrell. A sweet adventure story about exploring and observing a local forest. *Kirkus* starred review. In English.

The Nature Girls (2019) by Aki. A troupe of girls explores different biomes and meets all the cute animals therein. In English.

The Path (2022) by Bob Staake. An inspiring story about a child's unique path through various natural settings. Also good for older children. *SLJ* starred review. In English.

Emile and the Field (2022) by Kevin Young and illustrated by Chioma Ebinama. A little boy cherishes the nature in his neighborhood throughout the seasons. *The Horn Book* starred review. In English.

Berry Song (2022) by Michaela Goade. A little girl and her grandmother gather gifts from the earth; story centers around core Tlingit tenets. A Caldecott Honor book; starred reviews across the board. In English.

Brown Is Beautiful (2022) by Supriya Kelkar and illustrated by Noor Sofi. A multigenerational family on a hike and a lyrical appreciation of all the beautiful browns. In English.

Scaredy Squirrel Goes Camping / Ardilla Miedosa va de campamento by Mélanie Watt. A squirrel prefers to watch TV shows about camping. Separate Spanish and English editions.

La selva de Zonia / Zonia's Rain Forest (2021) by Juana Martinez-Neal. An adventure through the Peruvian rainforest with Zonia and her animal friends; a perfect read for young environmentalists. Separate Spanish and English editions.

TIP:

After reading a book, take time to talk about one or two big words that children might not be familiar with. Practice saying those words together and using them in sentences.

TIP:

For bilingual storytimes, not all parts of the program have to be done in both languages. You're having fun with language, not teaching a class.

TIP:

Provide QR codes to make it easy for parents to access digital copies, and consider making theme- or storytime-based lists.

TIP:

Don't be afraid to share nonfiction books! Paper clip pages to shorten the book, or only read a few facts that might interest your audience.

Cool Green / Verde fresco (2023) by Lulu Delacre. A book about trees from all over the world through the eyes of a landscaper teaching his granddaughter to be eco-conscious. Separate Spanish and English editions.

Viento viento / Wind Little Wind (2022) by Jorge Argueta et al. A poetic ode to wind that adventures through various habitats; through the lens of indigenous appreciation for the natural world. Trilingual (English, Spanish, and Nahuatl).

Cultivando a una artista / Growing an Artist (2022) by John Parra. A heartwarming story about a landscaper and his artistic son who go out on the job together. Starred reviews across the board. Separate Spanish and English editions; English edition has Spanish words.

STORYTIME SONGS

Rhyme/Flannelboard: Five Hungry Ants

Make a flannelboard with salad greens, tomatoes, a slice of confetti cake, a salt and pepper shaker, and 5 black felt ants with googly eyes. See video from Jbrary on YouTube: <https://bit.ly/3g3uf5d>

Five hungry ants marching in a line,
Came upon a picnic where they thought they could dine.
They marched into the salad,
They marched into the cake,
They marched into the pepper...
Uh oh! That was a mistake!
A..a..a..choo! (toss one of the ants and continue counting down to zero)

Flannelboard/Rhyme: We're Going on a Bug Hunt

Make bugs and/or butterfly nets for a flannelboard. To the rhythm of "We're Going on a Bear Hunt." Lyrics adapted by CSLP from *Small Town Story Time* Lady Blog.

Chorus:

We're going on a bug hunt!
We're going to see some big ones.
What a sunny day! Are you ready? OK!

Verses:

Oh, my! A bee! A black & yellow bee, flying over the flowers. BUZZ
Oh, my! An ant! A tiny, black ant, crawling through the grass. SHH
Oh, my! A grasshopper! A big, green grasshopper, hopping around the tree. BOING
Oh, my! A butterfly! A pretty, orange butterfly, floating in the sky. WHOOSH
Oh, my! A spider! A big black spider, creeping on the tree. CREEP
Oh, my! A ladybug! A bright red ladybug, climbing up a flower. CLIMB
Oh, my! A roly-poly! A gray, armored roly-poly, hiding under a rock. ROLL

TIP:

Include movement songs in each storytime. Think scarves, egg shakers, or rhythm sticks.

STORYTIME SONGS

Song/Rhyme: I Am Walking

Piggyback lyrics from CSLP. To the tune of “Frère Jacques.”

I am walking, I am walking
In the woods, in the woods.
Camping, hiking, swimming
Camping, hiking, swimming
It's all good, it's all good.

Song/Rhyme/Movement: I Climb Mountains

Piggyback lyrics from CSLP. To the tune of “Row, Row, Row Your Boat.”

I climb mountains tall (stretch tall)
I swim the oceans deep (wave arms down low)
I run through meadows all day long (run in place)
And over logs I leap (leap)

Song/Rhyme: I Will Go Out Walking

To the tune of “I’m a Little Teapot.” Piggyback lyrics from CSLP.

I will go out walking, yes, I will
Over the meadow, up on a hill
When I run and play, I sa-a-ay (3 syllables)
Find adventure along the way

Song: Los Colores / The Colors

Words and music by 123 Andrés from the album *¡Uno, dos, tres, Andrés! en español y en inglés*. Reprinted with permission. Listen on YouTube here: <https://bit.ly/3XxIPbl>

Amarillo es el color del sol,
Nuestro sol, tan amarillo.
Dime ¿porqué, si estas conmigo,
Nos calienta más su brillo?

Verde es la vegetación,
De nuestro monte que es tan verde
Dime ¿porqué, si vuelvo a verte,
Aquel bosque se vuelve verde?

Azul es el color del mar,
Y del cielo que es tan azul.
Y ¿porqué cuando vuelves tú
El firmamento se pinta de azul?

Rojo es mi corazón,

TIP:

For an animals version of “Row, Row, Row Your Boat,” see Storytime Solidarity on YouTube: <https://bit.ly/3CT04ud>

STORYTIME SONGS

Que late y late en mi interior.
¿Porqué las flores que yo recojo
Por ti se tiñen de color rojo?

Amarillo es el sol.
Verde la vegetación.
Azul es el mar.
Rojo es mi corazón.

English version:

Yellow is the color of the sun,
All day long, it is so yellow.
Tell me why when I see you
This warm fellow turns so yellow?

Green is the color of the grass,
And our forest that is so green.
Tell me why when you are close to me
Mother Nature seems so green?

Blue is the color of the ocean
And the sky that is so blue.
Tell me why when I think of you
The broad sky seems an endless blue?

Red is the color of my heart
That keeps a beat inside of me.
When I see you, why should it be,
That all my roses turn so red?

Yellow is the sun.
Green is the grass.
Blue is the ocean.
Red is my heart.

STAY-AND-PLAY

Babies/Toddlers: Peekaboo Plants and Animals

Print large images of different plants and animals (one per page) and laminate each page. Add a second laminated cover page (with a cut-out hole) to each image. Attach each set of two pages together with staples or book rings. Children lift the second page to reveal the plant or animal underneath.

Babies/Toddlers/Preschoolers: Yarn Spiderweb

Sit the group in a large circle on the floor or in chairs. Toss a ball of yarn across the circle again and again to create a yarn spiderweb. Preschoolers can join in on spiderweb creation, while babies and toddlers can crawl and play underneath.

Toddlers/Preschoolers: Feed the Spider

Create a web made out of masking tape between two dowel rods or garden stakes (outside) or on a flat wall using double-sided tape (inside). Provide pom-poms for them to throw “flies” at the web to feed the spider.

Toddlers/Preschoolers: Binoculars

Before the program, duct tape sets of two toilet paper rolls together, and punch one hole on either side of the set (for threading a strap). Set out stickers for children to decorate their binoculars. Encourage children to take them out into the rest of the library and report back on what they see.

Toddlers/Preschoolers: Finger Snakes

Wrap pipe cleaner around children’s fingers to make finger snakes. Preschoolers can add pom-pom heads and googly eyes to make other animals too. Premake the snakes, or hand out one pipe cleaner per child, and let caregivers do the wrapping for a perfect fit. Where do the finger snakes want to hide?

Preschoolers: Leaf Rubbing Art Print

Gather leaves of various shapes and sizes. After storytime, invite preschoolers to choose their favorites. On a table, place one leaf between two sheets of paper and color or watercolor over the leaf. Watch how it transfers to the paper.

TIP:

Encourage families to bring binoculars, and see if your local Audubon Society has Nature Adventure Packs for libraries, which include binoculars and bird/butterfly identification information.

TIP:

See Chapter 08: Standalone Printables for a Nature I-Spy worksheet.



Image source: Azita Frattarelli of Riverview Veterans Memorial Library, Riverview, MI

BIRD WATCH QUEST

AGES

Children 5–8

PROGRAM DESCRIPTION

This program is an in-library bird scavenger hunt for budding twitchers! Hang photos of individual birds throughout the library, each with a QR code that links to the sound that bird makes. Children receive small birding journals in which they identify the birds they find. This program can be passive or require engagement throughout the summer (i.e., you can “release” a new bird every week). Children will love learning about the birds they see in their own neighborhood. Suggested runtime: Passive.



Image source: CSLP

MATERIALS AND PREPARATION

Materials:

- Printed birding journals (1 per participant)
- Printed photos of birds (to hang)
- Generated QR codes for bird sounds, added to each bird
- Clipboards (optional)
- Crayons or colored pencils (optional)
- Prizes

Preparation, if making your own booklet:

- Research birds and choose a few that are local to your area.
- Create and print birding journals with a checkbox for each bird.
- Decide whether to “release” one bird per week or all at once.
- Create a QR code that links to the sound of each bird.
- Print photographs of the birds you want to use for your quest (with QR codes).
- Hang them up on your chosen schedule.
- When ready, invite patrons to join your library’s Bird Watch Quest. Give fun hints.
- Give rewards to those who finish the quest by identifying all the birds.

RESOURCES

Web

“50 Birds, 50 States” videos from *National Geographic Kids*:
<https://bit.ly/44s3Bvx>

TIP:

Provide rewards for those who complete the quest! Think bird whistles, bird stickers, binoculars, etc.

ADAPTATION:

For tweens, omit the bird IDs from the birding journals, and set out bird books for them to ID the birds on their own.

TIP:

Create a display of bird field guides and bird-themed books that participants can use for further exploration.

GAME/ACTIVITY | PASSIVE | LOW COST

“Birds” from National Geographic Kids: <https://bit.ly/43kwpoR>

Birdwatching cams from All About Birds (The Cornell Lab): <https://bit.ly/3psrK6g>

“Audubon for Kids” from Audubon: <https://bit.ly/3NSPjyx>

Books

Picture Books

Bird Watch: What Will You Find? (Backyard Explorer) (2020) by Storey Publishing and illustrated by Oana Befort

Emperor Penguin (Young Zoologist) (2022) by Dr. Michelle LaRue and illustrated by Pham Quang Phuc

A Peek at Beaks: Tools Birds Use (2021) by Sara Levine and illustrated by Kate Slater

Feathers Together (2022) by Caron Levis and illustrated by Charles Santoso

A Garden to Save the Birds (2021) by Wendy McClure and illustrated by Beatriz Mayumi

Harriet’s Ruffled Feathers: The Woman Who Saved Millions of Birds (2022) by Joy McCullough and illustrated by Romina Galotta

A Warbler’s Journey (2022) by Scott Weidensaul and illustrated by Nancy Lane

Early Readers and Middle Grade

The Extraordinary World of Birds (2022) by David Lindo and illustrated by Clair McElfatrick (early reader)

The Atlas of Amazing Birds (2019) by Matt Sewell (early reader)

How to Feed Backyard Birds (2022) by Chris Earley (middle grade)

The Puffin Keeper (2022) by Michael Morpurgo and illustrated by Benji Davies (middle grade)

Printables

Birding Journal (in English and Spanish)



BIRDING JOURNAL



☐ Listen!

2.



American Goldfinch

11.



☐ Listen!

10.



American Robin

3.



☐ Listen!

4.



Blue Jay

9.



☐ Listen!

8.



Northern Mockingbird

5.



☐ Listen!

6.



Mourning Dove

7.



DIARIO DE OBSERVACIÓN DE AVES



☐ ¡escucha!

2.



Jilguero americano

11.



☐ ¡escucha!

10.



Petirrojo americano

3.



☐ ¡escucha!

4.



Arrendajo azul

9.



☐ ¡escucha!

8.



Sinsonte norteno

5.



☐ ¡escucha!

6.



Paloma de luto

7.

GEODE GEOLOGIST

AGES

Children 7+

Tweens 9–12

PROGRAM DESCRIPTION

Round hounds unite! What's inside a geode? How do they form? Most importantly, how do you split them open? This program teaches basic geode geology, then lets children explore various types of rocks. Geodes are great for take-and-make kits. The rock identification portion of the program can also be passive: Simply set out a rock ID kit in the children's area of the library. See Resources for some basic science experience in rock identification. Suggested runtime: 45 minutes for a story and geode-smashing.



Image source: Shutterstock

MATERIALS AND PREPARATION

Materials:

- Bulk geodes
- Hammers
- Paper bags
- Goggles
- Rock ID kits

Questions to Answer

How do geodes form?

Geodes form when rocks contain pockets of air, which occur after volcanic eruptions when lava cools around air bubbles. Water seeps into these pockets, and when it evaporates it leaves minerals behind. Over thousands of years, crystals eventually fill the cavity. The largest geodes can take a million years to grow! The larger the crystals, the older the geode.

Why are geodes different colors?

Different minerals are different colors! Iron makes red or purple crystals, titanium makes blue crystals, nickel or chromium make green crystals, and manganese makes pink crystals.

What kind of rock is inside my geode?

Most geodes contain quartz or amethyst crystals, but some have agate, chalcedony, or jasper. Still others have calcite, dolomite, or celestite.

ADAPTATION:

Younger children can sort rocks by color, texture, and size, but make sure all rocks are large enough to not be a choking hazard.

TIP:

Amazon offers a variety of inexpensive rock ID kits that encourage kids to explore and sort rocks and minerals. Consider kits from National Geographic.

TIP:

Take the geodes outside. Place each geode in a paper bag and lay it on cement before smashing it with a hammer (this prevents chunks of rock from flying everywhere). Provide safety goggles for extra protection.

UNIQUE SPACE AND/OR PERSONNEL NEEDS

Depending on age and number of participants, supervision may be needed at each station.

RESOURCES

Web

“Geology Rocks!” from StarNet Libraries: <https://bit.ly/46pQpJb>

Printable rock and mineral ID charts from Mini Me Geology:

<https://bit.ly/44iUmgQ>

“Identifying Rocks and Minerals” from Education.com: <https://bit.ly/44aMVsm>

“How to Easily Identify Rocks and Minerals” from Instructables:

<https://bit.ly/3Jze544>

“Rock Tests 101” from Instructables: <https://bit.ly/3Xyzsbm>

“The Rock Key” from Nevada Bureau of Mines and Geology:

<https://bit.ly/3XslO8N>

Books

Picture Books

I’m Trying to Love Rocks (2020) by Bethany Barton

What Can You Do with a Rock? (2021) by Pat Zietlow Miller and illustrated by Katie Kath

Old Rock (Is Not Boring) (2020) by Deb Pilutti

A Rock Can Be... (2015) by Laura Purdie Salas and illustrated by Violeta Dabija

A Rock Is Lively (2015) by Dianna Hutts Aston and illustrated by Sylvia Long

The Street Beneath My Feet (2017) by Charlotte Guillain and illustrated by Yuval Zommer

Printables

Rock Data Chart (in English and Spanish)

TIP:

Create a display of rock and geology books from your children’s nonfiction collection.



ROCK DATA

Name _____

Color	
Hardness	
Streak	
Luster	
Density	
Notes:	

Name _____

Color	
Hardness	
Streak	
Luster	
Density	
Notes:	



DATOS DE ROCA

Nobre _____

Color	
Dureza	
Racha	
Lustre	
Densidad	
Notas:	

Nobre _____

Color	
Dureza	
Racha	
Lustre	
Densidad	
Notas:	

THE FUNGUS AMONG US: OYSTER MUSHROOMS IN CUP

AGES

Teens 13–18

Adults

PROGRAM DESCRIPTION

Did you know you can grow delicious oyster mushrooms in just about any household container (including plastic bags)?

In this program, patrons create mini mushrooms farms using straw pellet or toilet paper substrate. The bags need to sit for 2–3 weeks before you see fruiting mycelium, so let patrons take their cups home, take notes on growing conditions, and report back. Consider holding a follow-up session (or creating a bulletin board) for patrons to report on how their mushrooms are doing, share photos, and troubleshoot. This also makes a great take-and-make kit. Suggested runtime: 45 minutes to assemble the cups.

MATERIALS AND PREPARATION

Materials: See Printables

Preparation:

- Make a test batch so you know how to help troubleshoot.
- Gather supplies and make kits.
- Print handouts to include with each kit (see Printables)
- Create a bulletin board for patrons to submit photos of their mushrooms (optional).

Oyster mushrooms come in many varieties, so which do you choose? In terms of fruiting speed, the grey dove oysters fruit the fastest, followed by Italian oyster mushrooms, followed by golden oyster mushrooms.

RESOURCES

Web

“How to Grow Mushrooms in a Bag” from Grocycle: <https://bit.ly/437Mz4F>

About oyster mushroom strains from Field & Forest: <https://bit.ly/435xX5T>

Toilet paper substrate instructions from Field & Forest: <https://bit.ly/3NxTw9n>

Printables

How to Grow Oyster Mushrooms



Image source: Rebecca Ballard of Athens Regional Library System, Athens, GA

TIP:

For more STEM activities, ask participants to track growth rate, temperature, and exposure to light.

TIP:

Try this experiment before the program to ensure that you can get them to grow and so you can provide tips for growing in your climate (e.g., adding more or less moisture).

HOW TO GROW OYSTER MUSHROOMS

MATERIALS

- Oyster mushroom grain spawn (online or from local growers)
- Substrate (straw pellets, unbleached toilet paper rolls, or coffee grounds)
- If using toilet paper, a pot of boiling water, tongs, and a drying rack
- Mushroom grow bags with filters
- Rubber bands or twist ties
- Labels
- Water
- A dark place to store bags at room temperature for a few weeks
- Water in a spray bottle



Image source: Rebecca Ballard of Athens Regional Library System, Athens, GA

INSTRUCTIONS

1. Mix mushroom spawn with the substrate:
 - a. For straw pellets, mix 1:5 ratio of mushroom spawn to pellets. Use 2x or more water than the weight of the substrate.
 - b. For toilet paper, first sterilize it by dipping the roll into boiling water until saturated, then let it drain. Once the roll is cool, remove the center cardboard core and put the roll in a mushroom grow bag. Fill the center of the roll with mushroom grain spawn.
2. Close the top of the grow bag above the filter using a rubber band or twist-tie.
3. Label the bag with the date and the oyster variety.
4. Place the bag in a dark, undisturbed area (like a closet), where the temperature is between 65–75°F.
5. Within 3 weeks, you should see white, fluffy mushroom mycelium on the substrate. Let it continue to grow for another 1–3 weeks.
6. When you are ready for the mushrooms to start fruiting, place the bag in your refrigerator for 48 hours (this simulates winter).
7. After 48 hours, remove the bag from the refrigerator and place it in a well-lit room. Open the top of the bag to let the air in, or cut x's on the sides of the bag.
8. Mist with water daily, being careful not to use so much water that it pools inside the bag.
9. In a few days, you will see tiny pins of mushrooms starting to develop. A week or two after that, you will have mushrooms ready to harvest!



Image source: Rebecca Ballard of Athens Regional Library System, Athens, GA



Image source: Rebecca Ballard of Athens Regional Library System, Athens, GA

CÓMO CULTIVAR GÍRGOLA

MATERIALES

- Semillas de gírgola en grano (en línea o a través de cultivadores locales)
- Sustrato (bolitas de paja, rollos de papel higiénico sin blanquear o posos de café)
- Si se utiliza papel higiénico, olla con agua hirviendo, pinzas y una rejilla de
- secado
- Bolsas de cultivo para setas con filtros
- Gomas elásticas o bridas
- Etiquetas
- Agua
- Un lugar oscuro para guardar las bolsas a temperatura ambiente durante unas semanas
- Agua en un pulverizador

INSTRUCTIONS

1. Mezclar los hongos con el sustrato:
 - a. Para los gránulos de paja, mezcle una proporción de 1:5 de semillas de seta con gránulos. Utilice 2 veces o más agua que el peso del sustrato.
 - b. Para el papel higiénico, primero esterilícelo sumergiendo el rollo en agua hirviendo hasta que se sature y déjelo escurrir. Una vez que el rollo se enfríe, retire el núcleo central de cartón y coloque el rollo en una bolsa de cultivo de setas. Rellene el centro del rollo con semillas de setas.
2. Cierra la parte superior de la bolsa de cultivo por encima del filtro con una goma elástica o una brida
3. Etiquete la bolsa con la fecha y la variedad de ostra.
4. Coloque la bolsa en un lugar oscuro y tranquilo (como un armario), donde la temperatura esté entre 65–75°F.
5. Al cabo de 3 semanas, deberías ver micelio de seta blanco y esponjoso en el sustrato. Deja que siga creciendo durante 1–3 semanas más.
6. Cuando esté listo para que las setas empiecen a fructificar, coloque la bolsa en el frigorífico durante 48 horas (esto simula el invierno).
7. Transcurridas 48 horas, saca la bolsa del frigorífico y colócala en una habitación bien iluminada. Abra la parte superior de la bolsa para que entre el aire, o corte x en los laterales de la bolsa.
8. Rocíe con agua todos los días, teniendo cuidado de no utilizar tanta agua que se encharque dentro de la bolsa.
9. En unos días, verás cómo empiezan a desarrollarse pequeños brotes de setas. Una o dos semanas después, ¡tendrás setas listas para cosechar!



Image source: Rebecca Ballard of Athens Regional Library System, Athens, GA



Image source: Rebecca Ballard of Athens Regional Library System, Athens, GA



Image source: Rebecca Ballard of Athens Regional Library System, Athens, GA

STORY HIKE

AGES

Multigenerational

PROGRAM DESCRIPTION

Partner with a local park, hiking group, or conservation organization to run a community hike! Invite families to meet you at a given trail at a specific time so you can all walk together. Consider setting up a table to pass out water and snacks before or after the hike. Take breaks along the trail to tell stories, sing, and/or play games. Share trail etiquette, how to use a compass or read a map, and/or how to identify plants and animals local to your area. Combine with trash pick-up for bonus community points. Suggested runtime: 90 min.

MATERIALS AND PREPARATION

Materials:

- First aid kit
- Safety items (flashlight, whistle, lighter, knife, or multitool)
- Map/compass/GPS
- Water and snacks (optional)
- Rain gear (optional)

To prepare, source a first aid kit you can carry on the trail, along with safety items. Check the weather and pack emergency gear accordingly. Put together a handout that includes:

- Location, date, and start time
- Trail length and approximate time to complete
- Is the trail wheelchair-accessible?
- Is it rocky, or does it have a steep incline?
- Are there benches along the trail?
- Are there bathrooms nearby?
- Tips for what individuals should bring (snacks, water, appropriate footwear, sunscreen, rain gear, etc.)

UNIQUE SPACE AND/OR PERSONNEL NEEDS

You will need a local hiking trail, and at least two extra staff members or volunteers to assist.

RESOURCES

Web

Healthy living from Let's Move in Libraries: <https://bit.ly/3NvFCEL>

"Staying Safe" from the National Park Service: <https://bit.ly/3pwCfW7>



Image source: CSLP

ADAPTATION:

Instead of a story hike, make it a day-long art hike! Patrons install art or prepare live performances (or readings) along a trail, and community members hike by throughout the day to enjoy the outdoor gallery. Take down everything at the end of the day.

ADAPTATION:

If hiking trails are unavailable, use a local park or turn the library's outside space into a "trail." These are also good locations for longer-lasting Story Walks that use lawn signs.

GAME/ACTIVITY | OUTREACH | OUTDOORS

“Hiking Resources” from the *American Hiking Society*: <https://bit.ly/3PzOawY>

Books

I'm Trying to Love Garbage (2021) by Bethany Barton (picture book NF)

Scrap Metal Swan (2022) by Joanne Linden and illustrated by Estrellita Caracol (picture book NF)

Reuse This Book! (2021) by Clarion Books and illustrated by Emma Morris (picture book NF)

Your Planet Needs You! (2022) by Philip Bunting (early reader NF)

Yasmin the Recycler (Yasmin) (2021) by Saadia Faruqi and illustrated by Hatem Aly (early reader F)

Biscuit Goes Camping / Bizcocho va a acampar (2022) by Alyssa Satin Capucilli and illustrated by Pat Schories. Separate Spanish and English editions. (early reader F)

Hiking Nonfiction

The Nature Adventure Book (2021) by Katie Taylor and illustrated by Lianne Harrison (early reader)

The Secret Signs of Nature (2022) by Craig Caudill and illustrated by Carrie Shryock (middle grade)

Exploring Nature Activity Book for Kids (2019) by Kim Andrews (middle grade)

Wildheart: The Daring Adventures of John Muir (2019) by Julie Bertagna and illustrated by William Goldsmith (middle grade)

Bushcraft Kid: Survive in the Wild and Have Fun Doing It! (2022) by Dan Wowak (middle grade)

Wilderness Survival Guide for Kids (2022) by Rick Bayne (YA)

Outdoor Kids in an Inside World (2022) by Steven Rinella (adult)

Epic Hikes of the World: Explore the Planet's Most Thrilling Treks and Trails (2018) from Lonely Planet (adult)

100 Hikes of a Lifetime: The World's Ultimate Scenic Trails (2020) by Kate Siber (adult)

The Ultimate Guide to Hiking (2021) by Len McDougall (adult)

CITIZEN SCIENCE WITH SCISTARTER: EXPLORING BIODIVERSITY

AGES

Multigenerational

PROGRAM DESCRIPTION

This Citizen Science program encourages community members to get outside and observe biodiversity. Participants download the free iNaturalist app to start recording and submitting photographs of local plants and animals. They can also check out a kit that includes a set of clip-on lenses for smartphones, binoculars, and a journal for recording observations.

This could be a passive program all summer long, where participants who record observations get entered into a drawing for prizes, or it could be a day-long event at a local park or hiking trail. For the latter, consider inviting park rangers, wildlife preserve workers, biologists, community gardeners, etc. to be guest speakers or to set up tables for participants to make observations or ask questions. Suggested runtime: Passive.

All materials were developed by Arizona State University and SciStarter with support from the Institute for Museum and Library Services and the Moore Foundation. All materials are reprinted with permission. Want more Citizen Science? Sign up for the National Citizen and Community Science Library Network, which is supported by Arizona State University, SciStarter, and the National Girls Collaborative Project which to hang the finished artwork.

MATERIALS AND PREPARATION

Materials:

- iNaturalist (free app)
- SciStarter check-out kit with lenses, binoculars, and an observation journal
- A tablet or mobile phone (provided by participants)
- Prizes (optional)

Preparation:

- Order SciStarter kits that patrons can check out.
- Familiarize yourself with iNaturalist ahead of time.
- Make flyers or bookmarks with app information.
- Contact local science experts and enthusiasts.
- For in-person events, have water on hand for all participants.

TIP:

For bird-lovers, the board game Wingspan is a great addition to bird-watching programs.

ADAPTATION:

Younger children can be encouraged to make identifications right in their own backyards.

TIP:

If holding this event at a local park, check for accessibility beforehand and include that information when promoting the program.

GAME/ACTIVITY | STEM | PASSIVE | OUTDOORS

- Check on accessibility for all outdoor locations.

UNIQUE SPACE AND/OR PERSONNEL NEEDS

Solo-librarian friendly.

RESOURCES

Web

Exploring Biodiversity from SciStarter: <https://bit.ly/3PAfTgY>

iNaturalist: <https://www.inaturalist.org/>

A similar program from National Geographic: <https://bit.ly/3reREuw>

Books

What's the Point of Science? (2021) from DK (middle grade NF)

Biodiversity (2019) by Laura Perdew and illustrated by Tom Casteel (middle grade NF)

Biology for Curious Kids (2021) by Laura Baker and illustrated by Alex Foster (middle grade NF)

The Nature Explorer's Sketchbook (2020) by Jean Mackay

Braiding Sweetgrass for Young Adults (2022) by Robin Wall Kimmerer et al. (YA NF)

The Field Guide to Citizen Science (2020) by Darlene Cavalier et al. (adult NF)

Writing Wild (2020) by Kathryn Aalto and illustrated by Gisela Goppel (adult NF)

Printables

Exploring Biodiversity Activity Guide (reprinted with permission from SciStarter)

TIP:

For the Biodiversity Activity Guide in Spanish, see <https://bit.ly/3PBT3FH>



EXPLORING BIODIVERSITY

**Document and identify plants
and animals around you.**

Welcome!

We are thrilled that you have chosen to participate in citizen science!

The Exploring Biodiversity Kit is a great fit for both new and seasoned citizen scientists. Arizona State University and SciStarter, an online citizen science hub, have created the “Check It Out: Citizen Science at Your Library” program, thanks to generous support from the Institute for Museum and Library Services, the Moore Foundation and the National Library of Medicine. This program provides libraries with resources to build citizen science kits with specialized tools to help YOU participate in real scientific research.

To get started, visit SciStarter.org/library-kits where you’ll be guided through the steps to use your kit and register with SciStarter so you can submit your data.

We could not do this without you—thank you!

PLEASE NOTE: When returning the kit to the library, be sure to return it to the service/front desk and NOT the drop box.

QUESTIONS?

Email librarynetwork@scistarter.org.

EXPLORING BIODIVERSITY

Document and identify plants and animals around you.

Biodiversity is an important marker for an ecosystem's health. Healthy ecosystems ensure natural sustainability for all life forms and can better withstand and recover from a variety of disasters.

Use your smartphone and clip-on lenses to take and share detailed pictures of nature and help create a living record of life on Earth. By recording and sharing your observations on iNaturalist, you'll create research-quality data for scientists working to better understand and protect nature. You can also connect with people who can identify the species you spot!



Western Side-blotched Lizard

KIT DETAILS

Kit components will vary based on your library's selections. This kit likely contains a **clip-on lens set** for smartphone to help you take detailed pictures of plants and animals; a **journal** where you can sketch nature and ask questions/share ideas with community members; and a **field guide** to identify local plants and/or animals.

PREPARE

Review the instructions on [SciStarter.org/library-kits](https://www.scistarter.org/library-kits). Select the "Exploring Biodiversity" kit page, view the video and review the step-by-step instructions.

Create your free SciStarter account, then **click "Participate"** to be directed to the iNaturalist website and free app. This will open in a new tab.

Download the iNaturalist app or use the desktop/tablet version to create your free iNaturalist account and jot down your iNaturalist username.

Connect your SciStarter and iNaturalist accounts.

Return to the SciStarter tab and click on your Profile, and then Info & Settings page. Scroll down to "iNaturalist integration," enter your iNat username (case sensitive) and click "Save." This will ensure that your participation in iNaturalist is credited to your SciStarter Dashboard.

Before you start making and sharing pictures of nature, take a moment to review iNaturalist's tips on making good observations: [inaturalist.org/pages/getting+started](https://www.inaturalist.org/pages/getting+started)

(Continued on reverse)

Who you are

You'll need to make an **iNaturalist account** and please only post your own personal observations

Where you saw it

Record both the coordinates of the encounter as well as their accuracy. You can obscure the location from the public

What you saw

Choose a group of organisms like **butterflies** or better yet a specific organism like the **Monarch butterfly**. If you provide evidence you can leave this blank and the **community** can help

When you saw it

Record the date of your encounter, not the date you post it to iNaturalist

Evidence of what you saw

By including evidence like a **photo** or **sound**, the community can help add, improve, or confirm the identification of the organism you encountered. Help the community by taking clear well framed photos, by including multiple photos from different angles



Credit: iNaturalist

PARTICIPATE

Take the clip-on lenses with you outside and experiment with the range of lens on your smartphone.

Capture photos of small things using the macro lens. To use this lens you need to be about an inch from your subject (use caution if you're allergic to bees, other insects or poison ivy, etc.). Capture photos of things that are far away using the zoom lens.

Open the iNaturalist app, login and then tap "Observe" to start sharing your observations. On the iNaturalist website, you'll click "Upload" to get started. When you share an observation of biodiversity on iNaturalist, be prepared to share the following data as illustrated in the above image from iNaturalist.

You'll be notified when other members of iNaturalist (including scientists!) use and/or identify the observation you shared!

Tip: For users 12 years old or younger, use Seek by iNaturalist which doesn't post observations to the global database but does offer species identification and nature journaling!

Thank you for participating in citizen science!

When it's time to return the kit to your library, check to make sure all items are back in the kit.

LOOKING FOR MORE?

Find more projects on your SciStarter Dashboard: [SciStarter.org/Dashboard](https://www.scistarter.org/Dashboard)

KIT MATERIALS



GAME/ACTIVITY

VIRTUAL NATIONAL PARK EXCURSION

AGES

Multigenerational

PROGRAM DESCRIPTION

Take patrons on a virtual adventure through our national parks to learn about history, culture, and ecology, hosted by rangers from the National Park Service. Wilderness Inquiry has a mission to connect people of all ages, backgrounds, identities, and abilities through shared outdoor adventures, and they offer \$25 virtual tours for groups of unlimited size (CSLP has verified that an in-library screening is covered with this cost). Suggested runtime: 60 minutes.

MATERIALS AND PREPARATION

Materials:

- Wilderness Inquiry licenses (\$25 for a group screening)
- Computer with internet connection
- Zoom or other video conferencing software (if virtual)
- Projector/video screen (if in-person)

Reach out to Anne at the Wilderness Inquiry to purchase a \$25, single-use group license: anne@wildernessinquiry.org. Individuals can purchase a \$10 license for their own use.

RESOURCES

Web

Wilderness Inquiry: <https://bit.ly/432Woks>

Books

Treasured Lands: A Photographic Odyssey Through America's National Parks (2022) by QT Luong

The Power of Scenery: Frederick Law Olmsted and the Origin of National Parks (2021) by Dennis Drabelle

TIP:

The National Parks Services gives free passes to 4th graders: <https://everykidoutdoors.gov/index.htm>

ADAPTATION:

Tours can be shared via Zoom or other programming software, and closed captions are encouraged.

CITIZEN SCIENCE WITH SCISTARTER: ZOMBEE HUNTING

IMPORTANT:

This experiment isn't for anyone with allergies to bees or wasps! Be sure to put a warning sticker on the kit.

AGES

Multigenerational

PROGRAM DESCRIPTION

Enlist your patrons in Citizen Science! In this program, patrons check-out a collection kit to try to catch a bee in their neighborhood. If the bee is infected with the zombie fly, it will die, and zombie fly larvae will emerge within 5–14 days. This is a great passive program, or you can combine it with bee-themed crafts or gardening tips. Suggested runtime: Passive.

All materials were developed by Arizona State University and SciStarter with support from the Institute for Museum and Library Services and the Moore Foundation. All materials are reprinted with permission. Want more Citizen Science? Sign up for the National Citizen and Community Science Library Network, which is supported by Arizona State University, SciStarter, and the National Girls Collaborative Project.

MATERIALS AND PREPARATION

Recommended kit check-out length: Two weeks. Once patrons catch a bee with the trap, they transfer the bee to another container, such as a jar or a plastic container with a lid. While the zombie fly larvae can take 5–14 days to appear after a bee dies, and adult flies take another 15–28 days to develop, the collection traps are not needed for that entire length of time.

Steps for patrons:

1. Check out a collection kit from the library.
2. Create SciStarter account.
3. Hang the light trap included in the ZomBee collection kit.
4. Once a bee is captured and transferred to a new container, return your collection kit the library.
5. Observe and photograph the captured bee, as well as any larvae and pupae that emerge from the bee if it dies. Share your data on SciStarter (even if you don't catch any bees).
6. Check out similar projects from SciStarter.
7. Complete the Citizen Science Feedback Survey.

RESOURCES

Web

ZomBee Hunting from SciStarter: <https://bit.ly/46qL6t3>

Printables

ZomBee Hunting Activity Guide (reprinted with permission from SciStarter)



ZOMBEE HUNTING

**Is the Zombie Fly attacking bees
in your neighborhood?**

ZOMBEE HUNTING

Is the Zombie Fly attacking bees in your neighborhood?

Honeybees are being infected by the Zombie Fly, which lays eggs in bees, causing them to behave like moths! The infected bees leave their hives at night in search of lights, where they get stranded and die. The ZomBee Watch project needs your help to safely record and report where the Zombie Fly is infecting and killing bees.

ZomBee Watch is a research project to track the Zombie fly, *Apocephalus borealis*, and where honeybees are being infected in North America. Bees are among the most important creatures on Earth to humans. These insects pollinate over 80% of all flowering plants, including 70 of the top 100 human food crops. Unfortunately, bee populations are on the decline. This project will help determine if the Zombie Fly parasite could be to blame. Your contributions will help create a first-of-its-kind national map of infected bees.



KIT DETAILS

Kit components will vary based on your library's selections. This kit likely contains the following materials:

ZomBee Light Trap (16.9 oz water bottle, battery-powered LED light) to trap bees; **Clear glass or plastic jar or resealable plastic container** for honeybees found stranded or in light trap. *You may also need a **Smartphone, tablet, or digital camera** (not included) to upload photos of bees, larvae or ZomBee flies if found during your observation.*

Instruction guide - You'll use these materials, and the instructions on SciStarter to hang your trap out at night, share observations and data for the ZomBee Watch Project. The data is used by scientists to help learn about the timing and frequency of infection in an area. Photos of infected bees document the organisms that have been sampled.

PLAN

Before hanging up your trap, make sure the light bulb is working. Contact your lending library if a replacement is needed. If you have found stranded bees in the past, place the light bulb trap in the same area. If you know a beekeeper, ask if they will place the traps near their hives. It's important that the beekeeper observes the trap and collects any trapped bees.



When doing this project, please use caution if you're allergic to bees, other insects, or poison ivy,

ZOMBEE HUNTING

Is the Zombie Fly attacking bees in your neighborhood?

PREPARE

Review the instructions on [SciStarter.org/library-kits](https://www.scistarter.org/library-kits). Select the “ZomBee Hunting” kit page, view the video, and review the step-by-step instructions. Bookmark the webpage to find it more easily in the future.

Create your free **SciStarter account** and write down the email address you used to create your account (you'll need it to earn credit for your data contributions to ZomBee Hunting).

After you've reviewed the instructions, [click “Participate”](#) to be directed to the ZomBee Hunting website's “Submit Your Data to ZomBee Watch” page.

PARTICIPATE

You can scope out locations for your trap by looking for honeybees flying around lights at night, or bees that are stranded under porch or streetlights during the day. While not finding bees in your trap after several days may be an indicator the ZomBee fly is not present in your area, the trap location, and trap timing could be a factor in trapping bees. Both the presence and absence of the bee, as well as the location and environmental factors are all important notes to make to your observation submission.

It's important to handle honeybees safely. Weak and dying bees can still sting you. Place the trap away from any original light sources where dead or struggling bees have been observed. Make sure porch lights are off while the trap light is on.

If you find a stranded honeybee near a light or in the trap, carefully transfer the bee to a holding container (clear jars with lids, or resealable plastic food containers will work). Keep the container out of the sun. Infected honeybees are not healthy and die quickly. Storage temperature of the sample could affect how quickly the fly larvae and adult flies will appear.

Periodically check the samples:

- 5-14 days for fly larvae (maggots)
- 15-28 additional days for adult flies

Take a clear picture of the collected honeybee as soon as possible. Continue taking pictures of honeybee samples as pupae and ZomBee flies emerge.

When you are ready to add the data to the website, return to the SciStarter page: [SciStarter.org/library-kits/zombie-watch](https://www.scistarter.org/library-kits/zombie-watch). Click “Participate” to be redirected to the ZomBee Watch form website to input data, and upload photos.

Thank you for participating in citizen science!

Check that all items are in the kit before you return it to the library.

Questions?

Email: librarynetwork@scistarter.org

LOOKING FOR MORE?

Find more projects on your SciStarter Dashboard: [SciStarter.org/dashboard](https://www.scistarter.org/dashboard)

KIT MATERIALS

