



SUMMER ADVENTURES
ON THE ROAD

Get Outdoors



DID YOU KNOW?

Use these activities to learn about the natural world and connect with nature wherever you are—whether you're in a national park or your own neighborhood. You can do these activities in wild areas or in places where there are lots of streets and sidewalks. There's nature everywhere if you look closely enough.

Some of these activities help you to get to know a specific place using all your senses. Others involve exploration, playing games, and even earning digital badges. Several involve **citizen science**, which means contributing to real scientific projects. They're all designed to help you learn more about the world around you and the importance of protecting it—and have fun at the same time!

READY TO EXPLORE?



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Be a Citizen Scientist
Ages 4-8

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Roly-Poly Doodle
Ages 4-8

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Earn a Badge
Ages 9+

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Ages 9+

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Movement in Nature
Ages 9+

Book List

Book Quest: *The Wild Robot*

Book Quest: *Strange Birds*

BE A CITIZEN SCIENTIST

ACTIVITY | Ages 4-8



To tackle global challenges, we need as many eyes, ears, hands, and perspectives as possible. That's why citizen science is so important; it's all about involvement of the public in scientific research. You can help study and protect Monterey Bay by joining a citizen science project focused on marine mammals, pollutants, or plankton. Read more about these projects [here!](#)

You can also participate in citizen science from your home or from anywhere in the world. Even young children can help! Adults can find projects that are appropriate for younger children on [SciStarter.org](#), which is an online citizen science hub.

TO DO

- 1 Visit [SciStarter.org](#), and search over 3,000 citizen science projects to find the ones you want to participate in.
- 2 Locate the **Find a Project** box on the home page. Click on the **Advanced search** to access all available filters.
- 3 Use the **Project Finder** to select the topic(s), location, and activities that your learners are most interested in. You can select **Elementary school** in the **Age groups** filter to find projects appropriate for younger children.
- 4 Scroll through the available projects, pick your favorite, and follow the directions to get started!

ROLY-POLY DOODLE

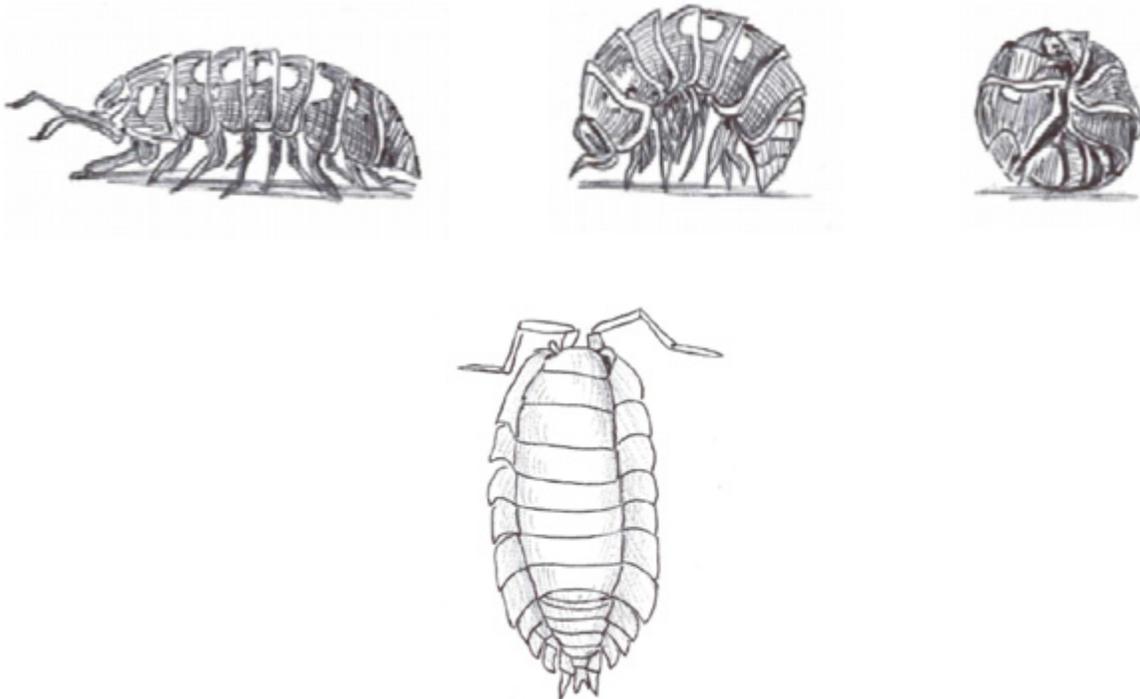
ACTIVITY | Ages 4-8

Have you ever seen a roly-poly? These amazing creatures have many different names: pill bugs, doodlebugs, potato bugs, wood lice, and more! They may look like insects but they are actually crustaceans, more closely related to shrimp and lobsters than to bees and butterflies, even though they live on land. They have segmented bodies and seven sets of legs. Some of them can roll into a tight ball when disturbed; that's where the name roly-poly comes from. They can be found worldwide in moist, cool habitats.



TO DO

- 1 Practice drawing roly-polies using the sheet on the following page. Here are some drawings to show you what they look like:



- 2 Look for roly-polies under rocks, logs, and piles of leaves. They breathe through gills, like fish, so they need to live in damp areas.
- 3 Draw your pictures of roly-polies here! What do you notice about them? What do you wonder about them?

ROLY-POLY DOODLE

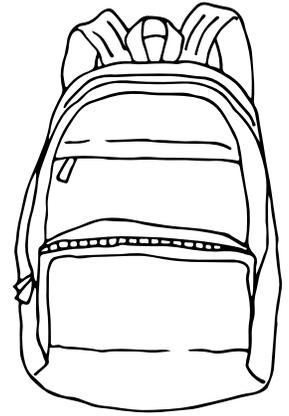
ACTIVITY | Ages 4-8



BUILD AN EXPLORER'S KIT

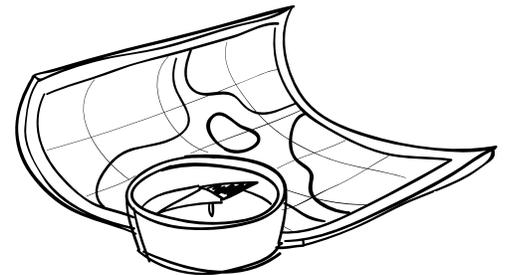
ACTIVITY | Ages 4-8

We hope you enjoy exploring parks and other outdoor areas! To make exploring easier and more fun, create an Explorer's Kit. You can use this kit when visiting Monterey Bay or in your own yard or neighborhood.



TO DO

- 1 Pick a backpack, bag, or box to hold your Explorer's Kit.
- 2 Collect items from around your home or school (with permission!) that make good tools:
 - Plastic containers to hold insects and other small creatures for brief observation (white backgrounds make organisms easier to see, meaning many yogurt and sour cream containers are perfect)
 - Paper plates for sorting through leaf litter
 - A sheet and flashlight for attracting insects at night
 - Toilet paper rolls to make into [practice binoculars](#)
 - Colored pencils or markers for sketching what you find
 - String to help estimate distances
 - A notebook or paper and clipboard for making observations (you can make a clipboard out of a piece of cardboard and a rubber band)
 - What other ideas do you have?
- 3 You may also want to add these tools to your kit if you can:
 - Magnifying glass (or, if you have a phone with a camera, you can take a picture of something then zoom in to see details)
 - Compass
 - Binoculars
 - Maps
 - Field guides (you can use books, websites, or apps)
 - Thermometer
 - Measuring tape
 - Trowel or small shovel
 - Camera
 - Anything else that an explorer might need!
- 4 Head outside and explore!



EARN A BADGE

ACTIVITY | Ages 9+

To tackle global challenges, we need as many eyes, ears, hands, and perspectives as possible. That's why citizen science is so important; it's all about involvement of the public in scientific research. You can help study and protect Monterey Bay by joining a citizen science project focused on marine mammals, pollutants, or plankton. Read more about these projects [here!](#)

You can participate in citizen science from your home or from anywhere in the world. A great way to get started with citizen science is to earn your **Foundations of Citizen Science Badge** on [SciStarter.org](https://www.scistarter.org).



TO DO

- 1 Visit [SciStarter.org](https://www.scistarter.org), which is an online citizen science hub. Here you can search over 3,000 citizen science projects to find the ones you want to participate in. If you'd like, create a SciStarter account by clicking the **sign up** button. (For younger kids, adults should create the account). You don't have to create an account to use the site or go through training, but you need one if you want to earn a certificate and digital badge.
- 2 Choose **Training** from the top menu or click on [this link](#).
- 3 Complete the self-guided tutorial and quiz. Score 80 percent or higher to move on to the next steps.
- 4 Contribute data to the two projects listed:
 - *Project Squirrel* - helping scientists better understand tree squirrel ecology
 - *Stall Catchers* - furthering Alzheimer's disease research
- 5 Follow the steps outlined on the site to find and save at least two projects on SciStarter. These projects will be added to your **SciStarter Dashboard** so you can access them later.
- 6 Claim your badge and download your certificate. Congratulations!
- 7 Use SciStarter to find other projects in your area, then head outside as a citizen scientist!

SNAIL SHELL SPIRALS

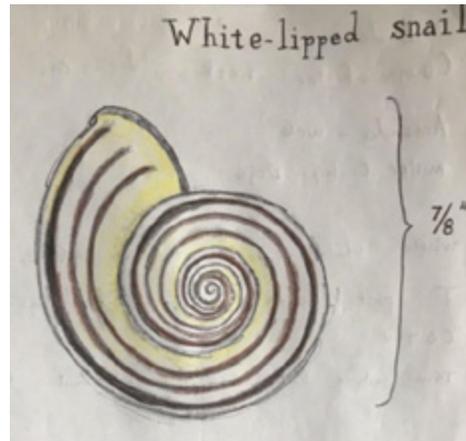
ACTIVITY | Ages 9+

Have you ever noticed how snail shells have spiral shapes? There are many other spirals in nature: fingerprints, young fern fronds, cyclone winds, and water going down the drain. And the Milky Way, the galaxy that contains our solar system, is a spiral too. You can find snails and their spiral shells around Monterey Bay and in many other parts of the world, on land, in freshwater, and in the ocean. Why do you think there are so many spirals in nature?



TO DO

- 1 Practice sketching snails on the following page by tracing or copying these drawings:



- 2 Look for land snails in any moist area. Check in shaded areas, like under rocks, leaves, and bushes. Many snails are nocturnal: they are most active at night. But following a rain, they may come out during the day.
- 3 Look for freshwater snails in ponds, streams, and rivers, especially those with clear, clean water. Look for sea snails in salt marshes or shallow coastal waters.
- 4 Sketch the snails you find! Do they look similar to the drawings that you practiced with, or are they different?

SNAIL SHELL SPIRALS

ACTIVITY | Ages 9+



MOVEMENT IN NATURE

ACTIVITY | Ages 9+

You can exercise mindfulness and the mindset of an explorer through creative stretching in nature. In this activity, create poses inspired by plants, animals, and other living things. It's fun to do this activity as a group, but you can also do it alone. You can copy the shapes of organisms in Monterey Bay, like sand crabs, black-bellied plovers, brittle stars, and kelp rockfish, or of creatures that live near you. *If moving your body in a certain way hurts at all, do not continue that movement.*

TO DO

- 1 Find an outdoor space that is flat and free of obstacles or hazards.
- 2 Look for examples of plants, animals, or other organisms that may inspire poses, such as trees, birds, insects, fungi, and plants.
- 3 Get started with a tree pose. Stand tall with hands touching above your head and with feet together or with one foot leaning against the opposite leg. Separate your arms and wave them back and forth, with fingers spread like leaves on your "tree." If you are balanced on one foot, switch feet to practice balancing on the other leg.
- 4 Working individually or in pairs, observe plants, animals, or other organisms. Pay attention to the forms, shapes, movements, and behaviors of what you're observing, then choose one organism to inspire a pose. Ask: Is it actively moving (like a squirrel or bird)? Is it passively moving (like a tree or grass in the wind)? Or does it stay still (like a mushroom or lichen)? After making observations, quietly design a pose or sequence of movements inspired by the organism. For example, a bird that flaps, soars, and flaps again might look like a pose with stretching, bending, and flapping of arms. If you're with a group, don't share your pose and organism yet. (See examples of poses below.)



- 5 If you're with other people, bring everyone together in a circle, spreading out and facing each other. One at a time around the circle, introduce your pose or sequence. The group should pose and move along with the sharer then take turns guessing the organism on which the pose is modeled. After everyone has had a turn, end with some relaxation and deep breaths!
- 6 Find more activities like this at [NatGeoEd.org/bioblitz](https://www.natgeoed.org/bioblitz).

FULL LINKS

PG 3

National marine sanctuaries

<https://sanctuaries.noaa.gov/involved/citizen-science.html>

SciStarter.org

<https://scistarter.org/>

PG 6

Practice binoculars

<https://www.audubon.org/news/diy-craft-how-make-cardboard-binoculars-kids>

PG 7

National marine sanctuaries

<https://sanctuaries.noaa.gov/involved/citizen-science.html>

SciStarter | Find A Project

<https://scistarter.org/>

SciStarter | Training

<https://scistarter.org/training>

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NatGeoEd.org/bioblitz

<https://www.nationalgeographic.org/projects/bioblitz/>

Exploring Movement in Nature guide

<https://media.nationalgeographic.org/assets/file/Movement-BioBlitz-2021-FINAL.pdf>