Citizen Science Kit:
EXPLORING BIODIVERSITY

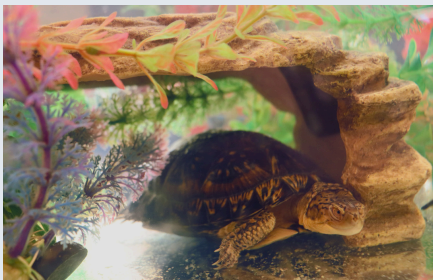Document and identify plants and animals around you.

Exploring Biodiversity

Document and identify plants and animals around you.

Create a living record of plant and animal species (biodiversity) near you. This kit's components provide lenses and other resources to help you get up close and personal to record and share pictures of nature. Not sure of what organism you're looking at? No problem. An online community of millions of nature enthusiasts and scientists, sometimes with the help of image recognition software, will help provide identifications.

WHY THIS MATTERS

By sharing and recording your observations through iNaturalist, you'll help create your own living record of species near you and provide research-quality data for scientists working to better understand and protect nature. The iNaturalist community will help crowdsource identifications of the organisms you observe. iNaturalist also shares your findings with scientific data repositories to help scientists find and use your data. Scientists and resource managers use this data to understand when and where organisms can be found. You might discover a new species!

The Library's Blanding's turtle Hope, part of Zoo New England's HATCH conservation program

KIT COMPONENTS

Binoculars and **clip-on lens set for smartphone** – to help take detailed pictures of plants and animals
Community field journal – to sketch nature and ask questions/share ideas with community members
Field guides – to identify local plants and animals

REQUIRED, BUT NOT INCLUDED

Smartphone or **tablet** (or digital camera and computer)
iNaturalist App (for smartphones and tablets)
Wi-Fi or **cellular data**

PREPARE

STEP 1: Scan this QR code or visit **cfpl.info/biodiversity** for an online version of these instructions, how-to videos, and other resources. This is also where you can **create your free SciStarter account** (optional) if you haven't already. SciStarter is an online citizen science hub connecting millions of people from all walks of life to thousands of opportunities to participate in citizen science.

STEP 2: Download the iNaturalist app from the Apple App Store or the Google Play Store, or use the desktop version to create your free iNaturalist account using the same email address you used to create your SciStarter 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 iNaturalist username (case sensitive) and click "Save." This will ensure that your participation in iNaturalist is credited to your SciStarter Dashboard.

KEY TERMS

Biodiversity: the variety of life in the world or in a particular habitat or ecosystem
Ecosystem: consists of all the organisms and the physical environment with which they interact
Habitat: the natural home or environment of an animal, insect, or other organism

STEP 3: Make sure your smartphone or tablet is fully charged.

PLAN

STEP 4: Before you start taking and sharing pictures of nature, take a moment to review iNaturalist's tips on making good observations: **inaturalist.org/pages/ getting+started**

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

PARTICIPATE

STEP 5: Take the clip-on lenses with you outside and experiment with the range of lenses 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, poison ivy, etc.). Capture photos of things that are far away using the zoom lens.

Open the iNaturalist app, log in, 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 data as illustrated in the above image from iNaturalist.

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.

STEP 6: You'll be notified when other members of iNaturalist (including scientists!) use and/or identify the observation you shared.

NOW WHAT?

Check out related projects at **inaturalist.org/projects.**

TAKE ACTION!

Talk to your local parks department, conservation organization, or other nature group about organizing a BioBlitz event in your community: **nationalgeographic.org/projects/bioblitz/**

COMMUNITY CONNECTIONS

Are you a member of the Girl Scouts, 4-H, NASA Night Sky Network, or NSTA? Check out **SciStarter.org/library-partners** to learn about how this project connects back to your organization.

QUESTIONS?

Email: info@scistarter.org

Check that all items have been placed back into the kit before you return it to the library.

Thank you for participating in citizen science!

LOOKING FOR MORE?

Find more projects on your SciStarter Dashboard: **SciStarter.org/dashboard**

Citizen Science Kit: Exploring Biodiversity
Contents

REQUIRES FREE APP DOWNLOAD

A Smartphone lens case
B Binoculars case
C 2 wildlife identification guides
D Community field journal
E Binoculars
F Clip-on smartphone lens kit

Total Replacement Cost: **$110**

ASU School for the Future of Innovation in Society
Arizona State University

Concord
FREE PUBLIC LIBRARY

scistarter
Science we can do together.