

Celebrate Earth Day with Citizen Science

Explore, Learn, and Contribute!

April 22, 2025



ONE MILLION ACTS OF SCIENCE

PARTNERS & PRESENTERS

SciStarter

Science we can do together.

STAR★*net*

Science-Technology Activities &
Resources For Libraries



Budburst



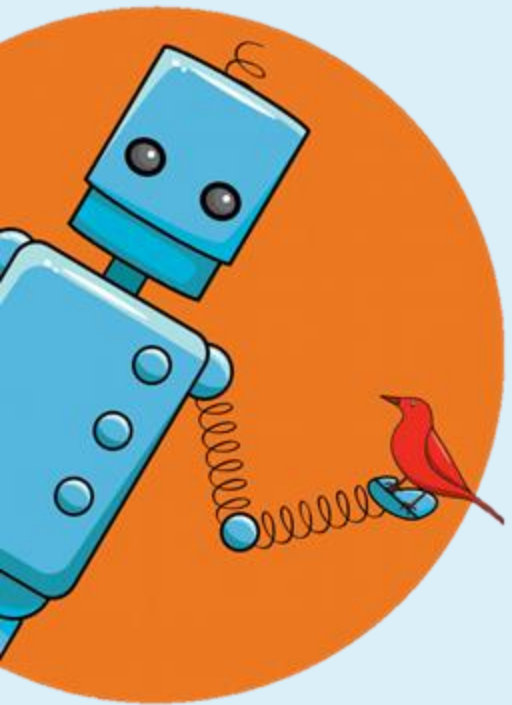
GORDON AND BETTY
MOORE
FOUNDATION

ASU
ARIZONA STATE UNIVERSITY



Menti hold:

- Where are you joining us from?
- Are you a watch party and if so how many people in your party?
- When you think of Earth Day, what's the first word that comes to mind? (*Word cloud*)



Citizen Science 101

Also called community science, participatory science, crowdsourced science.



What is citizen science?

A global movement that enables people from all walks of life to contribute to **real scientific research** in collaboration with scientists.



Michelle and Sonia monitor bird migration for scientist.

Citizen Science can involve...

Observing	Biodiversity, Night Sky
Monitoring	Wild Life, Pollinator Activity, Bird Migration
Measuring	Water Quality, Light Pollution, Marine Debris
Analyzing	Videos and Images online
Collecting	Photos and Samples

in your backyard, while exploring your interests, through your hobbies, with your family, and more!



Sophie and her dad count pollinators for research.

Which of these activities is citizen science? There may be more than one answer.

A Take a photo of a plant during a nature hike and upload to *iNaturalist*



B Organize a beach clean up

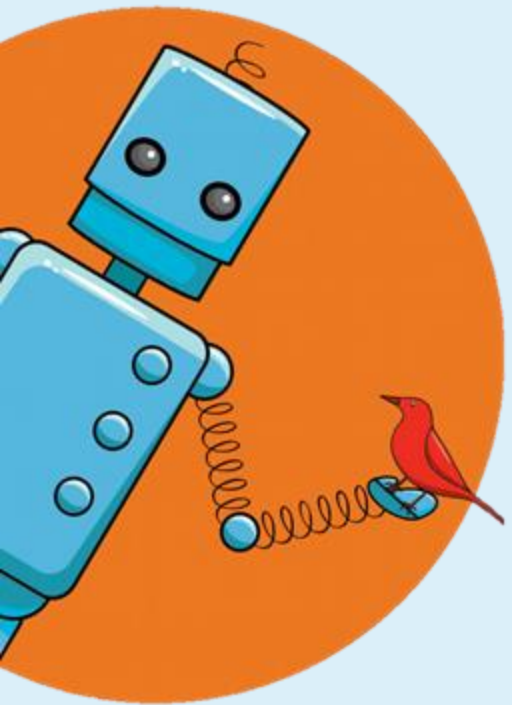


C Plant a pollinator garden to increase pollinator activity



D Test your local tap water and report findings to *Crowd the Tap*





How can citizen science support a healthy planet?



Because of citizen scientists ...

- We know the **human belly buttons contain 50+ species of bacteria**
- **3.5 months of lab-equivalent research was completed** in one weekend through 2,566 hours of volunteer participation
- **Hundreds of exoplanets have been discovered**, including “Percival,” an exoplanet in a habitable zone
- **126 birds species identified as “lost to science”**
- We’ve discovered that some **invasive ants spread by hitchhiking**



Benefits to Science & Society



Broadens the scope of who can contribute to science.



Enables people to engage in data collection, analysis, and interpretation.



Empowers lifelong learning about science and nature.



Accelerates important research and discovery.

Join SciStarter

SciStarter
Science we can do together.

scistarter
Science we can do together.

log in

sign up

Quick Navigate



CitSciMonth

Libraries

Trainings

Girl Scouts

Dashboard ▾

Projects

Events

Partner Gateways ▾

Project Finder

plants, animals, weather, etc

Enter a location

Projects to do while... ▾

Select a topic ▾

only projects that... ▾

Age group(s) ▾

Relevant Sustainable Development Goal ▾

projects only ☐ include events

☒ only active projects

clear form

find projects

1-11 of 1431 Newest Oldest



VCE

Mountain Birdwatch

Goal Monitor 10 species of high-elevation bird

Task Hike mountains, count birds & be merry. [more»](#)

Where [View map...](#)

< 1 2 3 4 5 6 ... 144 >



eButterfly


Goal Help monitor butterfly populations worldwide

Task Report butterfly sightings. [more»](#)

Where Global, anywhere on the planet


[SciStarter.org/Finder](https://www.scistarter.org/Finder)





STEM Clearinghouse Activities & Libraries

In partnership with



Cornerstones of Science
awakening curiosity. enriching lives.



Activities

SORT

Age Group

- ☐ All Ages (12)
- ☐ Family (529)
- ☐ Infant (0-2) (1)
- ☐ Pre-K (90)
- ☐ Early Elementary (287)
- ☐ Upper Elementary (482)
- ☐ Tweens (9-12) (453)

Time to Complete Activity

- ☐ Under 10 minutes (23)
- ☐ 10-20 minutes (124)
- ☐ 20-40 minutes (232)
- ☐ 40 minutes to 1 hour (266)
- ☐ 1-2 hours (90)
- ☐ 2-4 hours (13)
- ☐ Long Duration (days to months) (30)

ACTIVITIES

There are 598 items.

Sort by Show per page

Showing 1 - 12 of 598 items



Can a Toaster Make Wind?

★★★★☆ 1 Review(s)

In this demo, patrons investigate the source of wind by using a toaster to heat air while they observe its effect on a small aluminum foil kite.

Content Area
Earth Science

Age Group
Family
Upper Elementary
Tweens (9-12)
Teens

Time to Complete Activity
Under 10 minutes

Cost associated with Activity Materials
\$0 ("found" items)

Difficulty Level (by content)
Medium

STEM Tools
Required

Search by:

- Age
- Theme
- Materials



"If you can't get rid of the skeleton in your closet, you'd best teach it to dance." - George Bernard Shaw

— GAMES

BLUE WHALE COLORING
ACTIVITIES

2023-2024 ECLIPSES

FREE APPS

EXHIBITS

ABOUT US



SHOW: ALL ARTEMIS ASTROBIOLOGY PHYSICS PLANETS SUN TRIVIA WEATHER



ASTRONOMY PUZZLE OF THE DAY

Puzzles featuring daily NASA astronomy images

TRIVIA ARTEMIS



NASA ARTEMIS JIGSAW PUZZLE

Solve space themed jigsaw puzzles

TRIVIA ARTEMIS



SIZEMOLOGY: SPACESHIP EDITION

Resize vehicles until they're the correct relative size.

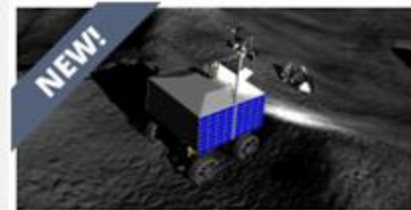
TRIVIA ARTEMIS



RISKY BUSINESS: RADIATION EDITION

Arrange events by the severity of their radiation dose

TRIVIA ARTEMIS



SHADOW ROVER / ROVER DE LAS SOMBRAS

Drive a rover on the Moon
Conduce un rover en la Luna

PHYSICS ARTEMIS



EARTH, MOON OR MARS?

Identify images by the location they were taken from.

PLANETS TRIVIA ARTEMIS



LISTENING FOR LIFE

Are these sounds natural or intelligent?

TRIVIA ASTROBIOLOGY



SIZEMOLOGY

Resize objects until they're the correct relative size.

TRIVIA



SILLY SCRIPTS

Write a silly story

WEATHER



FLY TO MARS

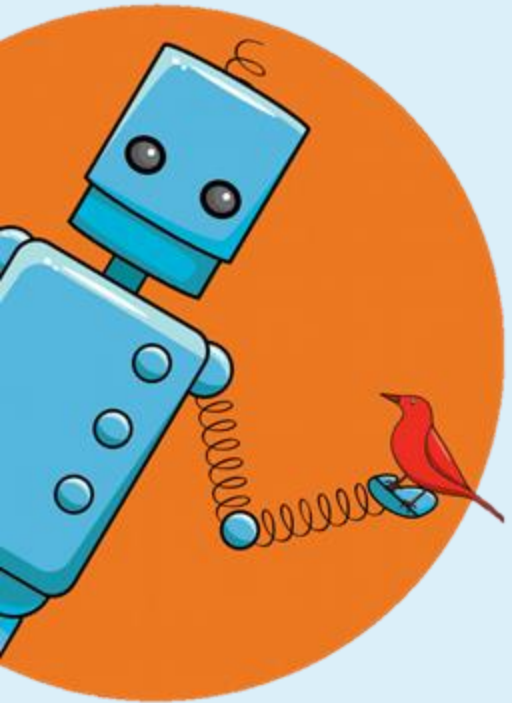
Launch a spacecraft from Earth to Mars and back again.

PLANETS PHYSICS



SciGames.org

We have ONE million! Let's make it TWO million!



Step 1: Create a SciStarter Account **SciStarter.org/login**

All participation in SciStarter *Affiliate* projects will be included in the Acts of Science Count. When joining a project, follow *Affiliate* setup instructions.



SciStarter.org/login

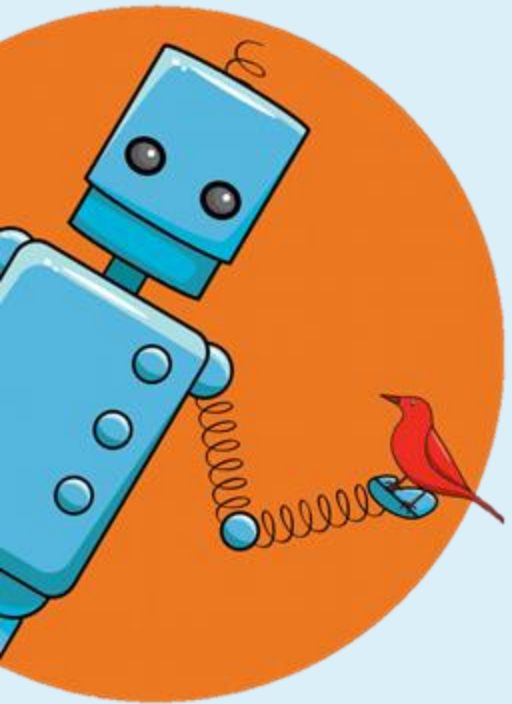


Menti: What citizen science projects or topics have you participated in before?



Phenology

*Projects and activities to
monitor and experience
seasonal changes*



Phenology and Climate



Explore Budburst research projects at budburst.org/projects

How do plants change each season and each year?



Create an Account

Already have an account? [Sign in](#)

Email Address

Username

Minimum 5 characters, and may have alpha-numeric characters, as well as dashes and underscore

Password (8+ characters)

Confirm Password

☐ I am above the age of 13.

If you are under the age of 13, you must have a parent, guardian, or budburst account manager register for you. Please note our [privacy policy](#).

☐ I'm not a robot



Get Started

OR



Sign up with Facebook



Sign up with Google



Sign up with Twitter



Sign up with SciStarter

Request for Permission

budburst is a SciStarter Affiliate which means you can log in to the project using your SciStarter account email address and, in doing so, you'll earn credit for your data contributions in your SciStarter dashboard. Do you authorize SciStarter to share your SciStarter account email address with this project?

[Decline](#)

[Authorize](#)

Use the "Authorize" button to grant permission. You don't have to grant these permissions, but if you don't, the site might not be fully functional.



See photo ▶

Get Active & Start Rewilding!

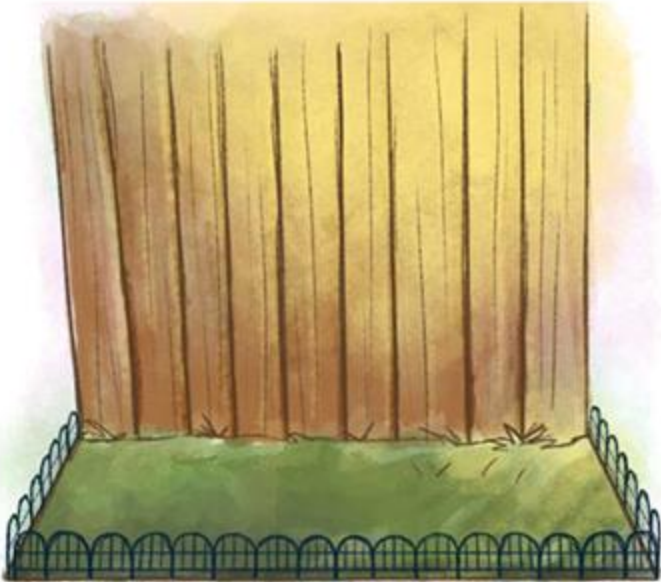
- Short video in both English and Spanish, released on YouTube and Facebook by SciStarter.
- Science education materials produced by StarNet:
 - Library Facilitation Guides (English and Spanish)
 - Activities for rewilding, crafting a garden sign, or running a bioblitz
- Opportunities for community science:
 - Contributing to the *We Are the ARK* global network
 - Conducting bioblitzes through iNaturalist
- Evaluation with library participants to collect information on the project and inform future backyard rewilding and science engagement projects



For Patrons: A Guide to Help Nature Reclaim its Space

STEP 1.

Identify a plot of land to "rewild."



STEP 2.

Display a sign.



STEP 3.

Set the seeds free!



For Patrons: A Guide to Help Nature Reclaim its Space

STEP 4. *Break down barriers.*



STEP 5. *Embrace the 'messiness.'*



STEP 6. *Consider the lighting.*



For Patrons: A Guide to Help Nature Reclaim its Space

STEP 7.

Sit back and enjoy – and spread the word!



For Patrons: A Guide to Help Nature Reclaim its Space

Ark

- * **A**ct of **R**estorative **K**indness to the Earth. The Ark concept was founded by Mary Reynolds and is one example of how to “rewild” an area of land.

Biodiversity

- * The variety and variability of life forms found within a particular ecosystem. It is essential for maintaining the stability and resilience of ecosystems.

Native Plants

- * Species that have existed historically in a region that are adapted to the climate and soil conditions of that area.

Non-Native Plants

- * Species that live in regions where they did not historically or naturally exist, often brought there either intentionally or accidentally by humans.

Invasive Plants

- * Species that are non-native to the area whose introduction causes harm to the ecosystem, such as outcompeting native species for resources, altering soil composition, and reducing biodiversity.

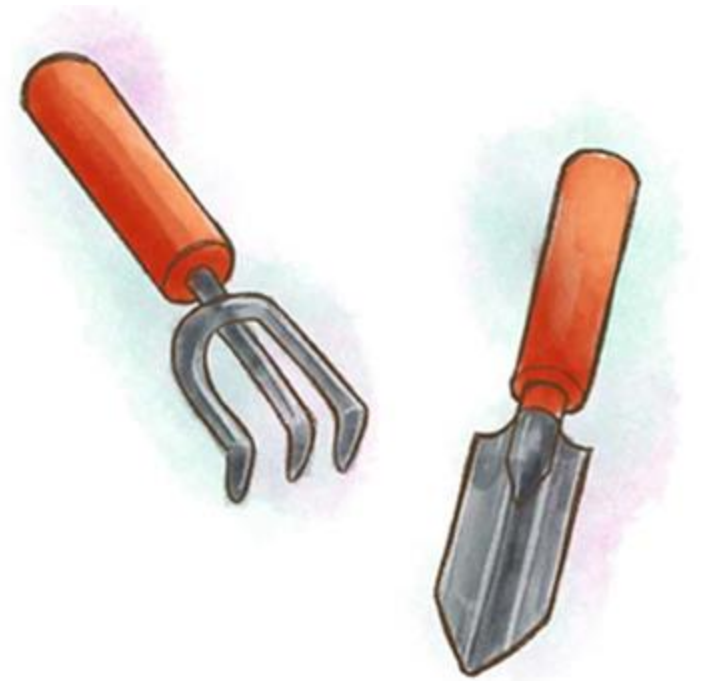
Rewild

- * The progressive natural restoration processes an area of land goes through when left alone, or with restorative acts from humans such as removing invasive species and propagating native species.

Glossary

Help Nature Reclaim its Space: Library Facilitation Guide

- Instructions for screening the video [Become a Guardian of Nature! Learn to Rewild with Native Plants](https://clearinghouse.starnetlibraries.org/home/771-help-nature-reclaim-its-space-library-facilitation-guide.html)
- Discussion prompts
- Option for “rewilding” an outdoor space at the library or native soil in planter containers
- Resources for identifying native and invasive plant species
- Activity extensions to continue engaging visitors in rewilding efforts



Create a Sign for Your Rewilding Project



Let others know how you are helping to restore nature

- Video screening and discussion prompts
- Libraries can create a sign for a patch of land on their grounds or host a program for community members to build a sign for their own patch of land.
- Includes material suggestions and sign-building instructions

Citizen Science Connections

Document plants and animals near you.



THE GREAT SUNFLOWER PROJECT

Watch a plant, record pollinators, report online.



INATURALIST

iNat identifies plants and animals around you.



INSTANT WILD

Help ID wildlife in camera trap images.

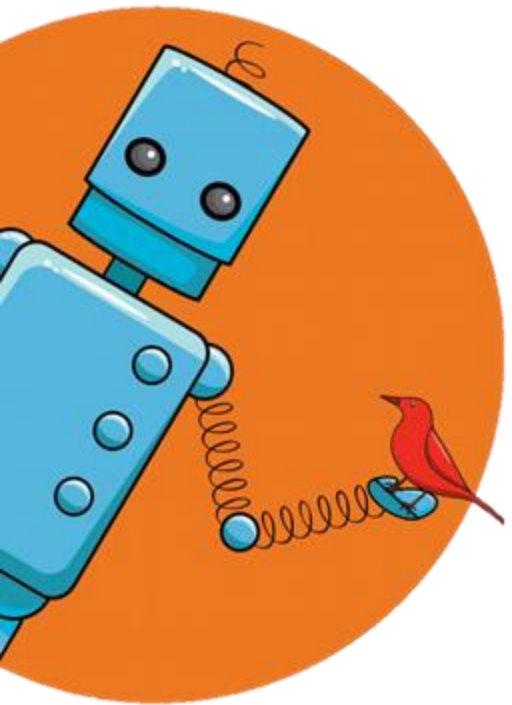


FROGWATCH USA™

Report the calls of local frogs and toads.



Find more projects at SciStarter.org/wildhope

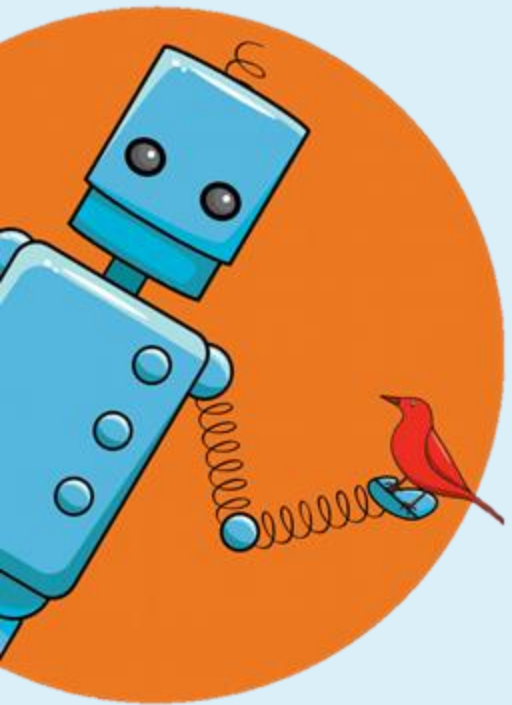


Migration and Nature Monitoring

*Birding activities and
projects that will take you outside*

Migration and Nature Monitoring

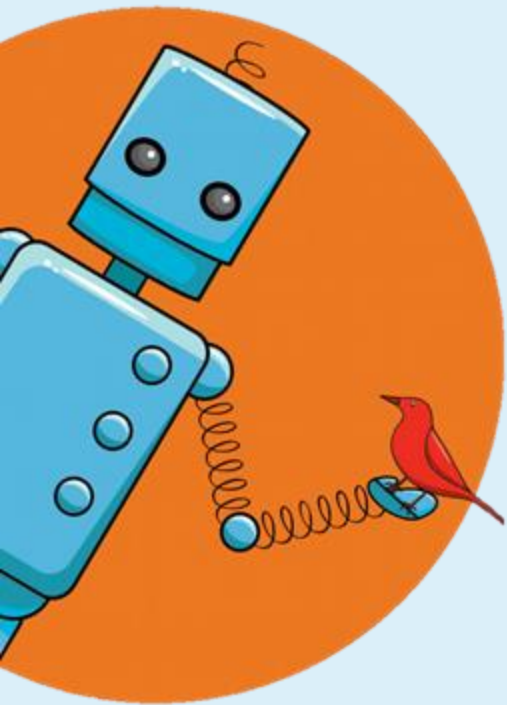
Birding activities and projects that will take you outside



Poll Question:

How many birds die from window strikes per year in the U.S.?

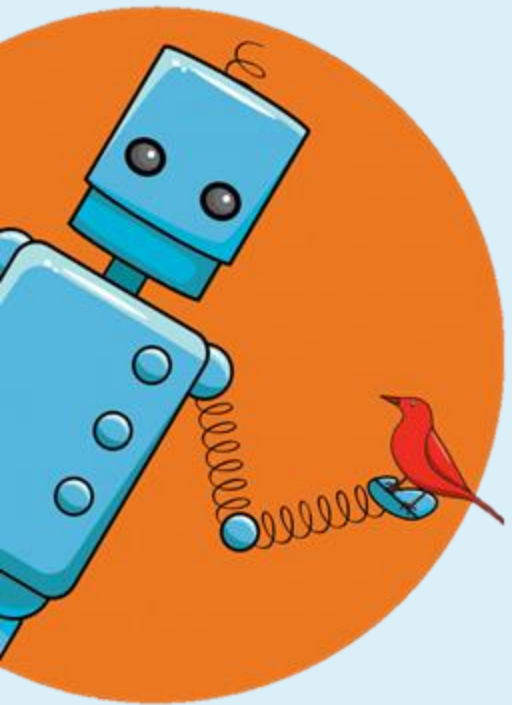
- a. 55,000**
- b. 250,000**
- c. 1.5 million**
- d. 1 billion**



Poll Question:

How many birds die from window strikes per year in the U.S.?

- a. 55,000**
- b. 250,000**
- c. 1.5 million**
- d. 1 billion**



DIY Window Decals

Protect birds from collisions with windows!

Materials

- White glue
- Dish soap
- Smooth plastic surface (plastic wrap)
- Paintbrush
- Printable bird stencils
- Markers for decorating



DIY Window Decals



Bird Vision:

- Birds can see ultraviolet light
- They have four types of cones in their retina (humans have three)
- They often mistake reflections on windows for open space
- Window decals that reflect UV light make the glass more visible to birds
- Decals should be spaced close together (no more than 2 inches apart)

Free Library of Philadelphia: Birding Backpacks and Citizen Science

JOANNE WOODS

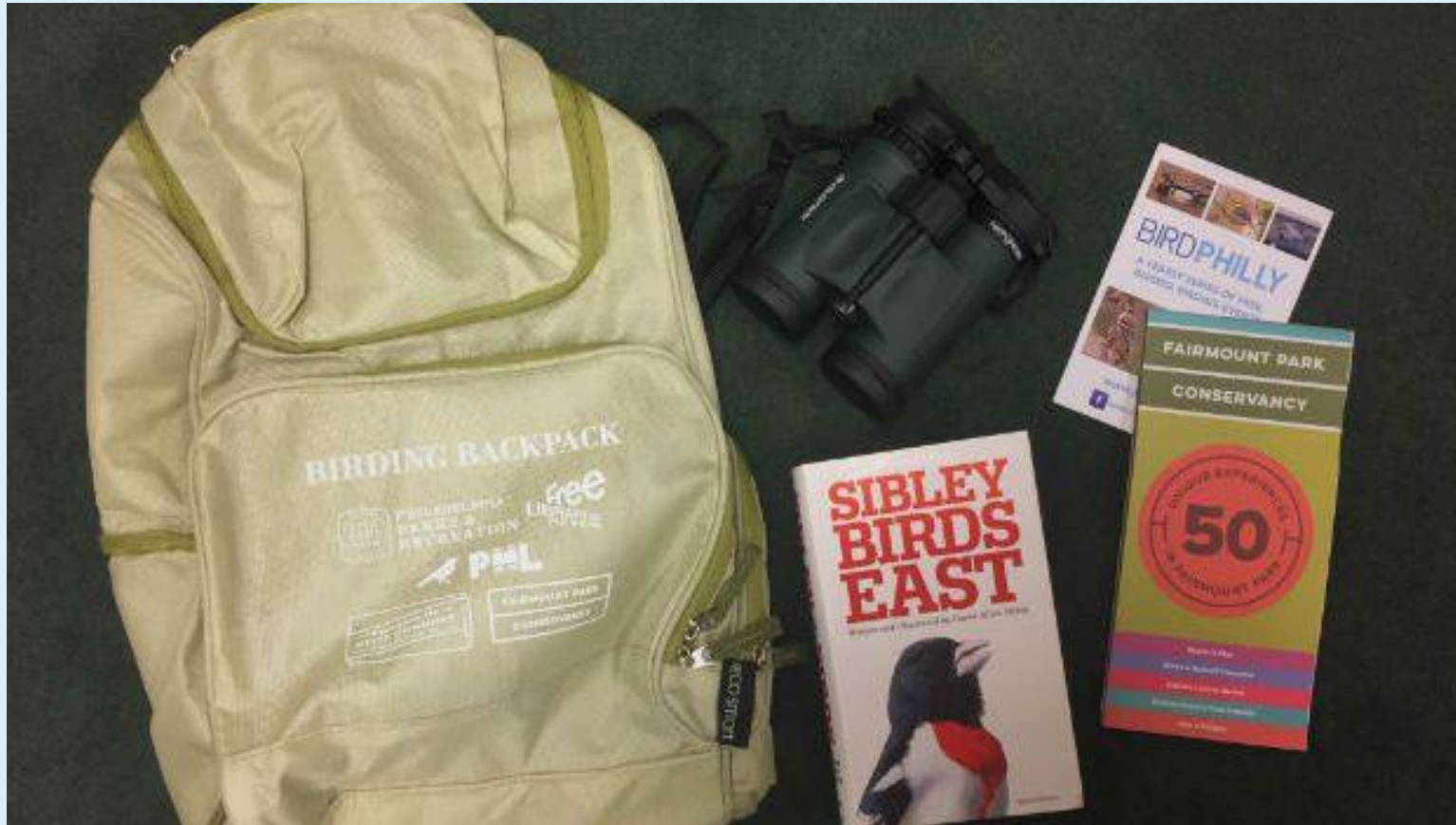
Founder of the Free Library's Birding Backpack Program,
Branch Manager, Andorra Library

woods@freelibrary.org

215-685-2552 | freelibrary.org
(She/Her)



Birding Backpacks



Quality binoculars

Field Guide

Local trail maps

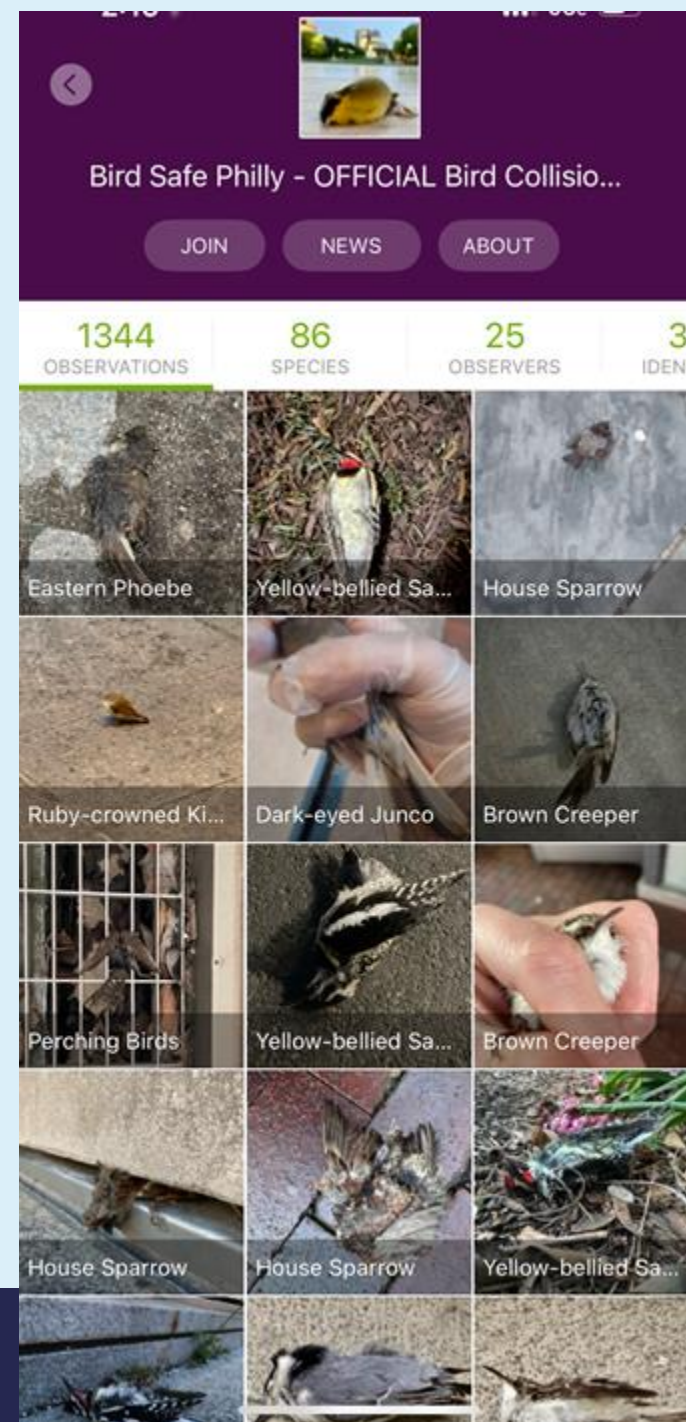
Local information

Partnership Programming: It's more than just birds



Citizen Science

- iNaturalist
- Project FeederWatch
- eBird
- Bird Counts
- Lights Out Philly



SciStarter
Science we can do together.

iNaturalist



- **Easy to use**
- **Observe**
- **Share**
- **Explore**
- **Get Updates**

Observations



🔍 Look up a species by name

WE'RE PRETTY SURE THIS IS IN THE
GENUS DIONE.



Genus Dione



Suggestions based on observations and
identifications provided by the iNaturalist
community, including Roberto R. Calderón,
stomlins701, roomthily, and many others.

HERE ARE OUR TOP SUGGESTIONS:



Gulf Fritillary
Dione vanillae

Visually Similar / Expected Nearby

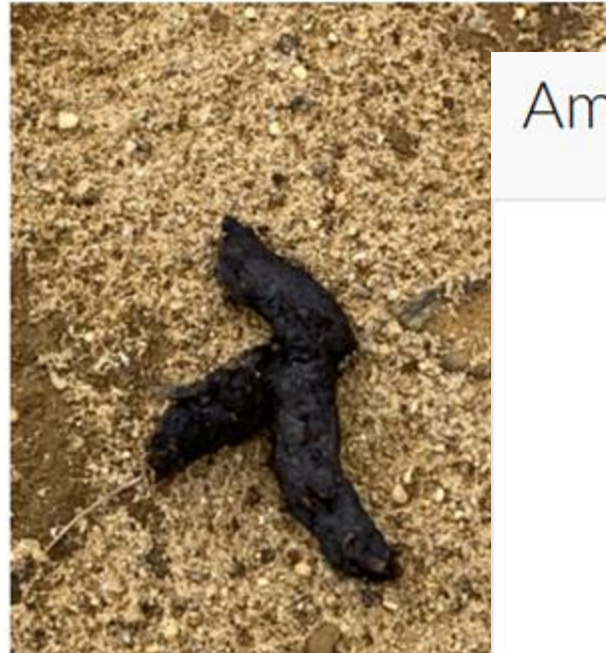


Suggestions based on observations and

- **Nests**
- **Eggs**
- **Dead Birds**
- **Feathers**
- **Insects**
- **Animals**
- **Scat**
- **Tracks**
- **Sounds**

Gray Fox (*Urocyon cinereoargenteus*)

Research Grade



American Robin (*Turdus migratorius*)

Needs ID





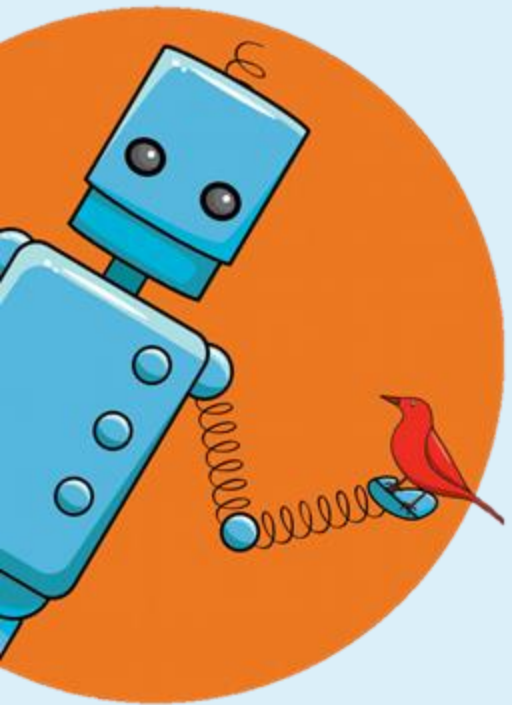
BioBlitzes and The City Nature Challenge

**BioBlitzes aim to count all the
species of a specific area in a
specific timeframe.**

Poll Question:

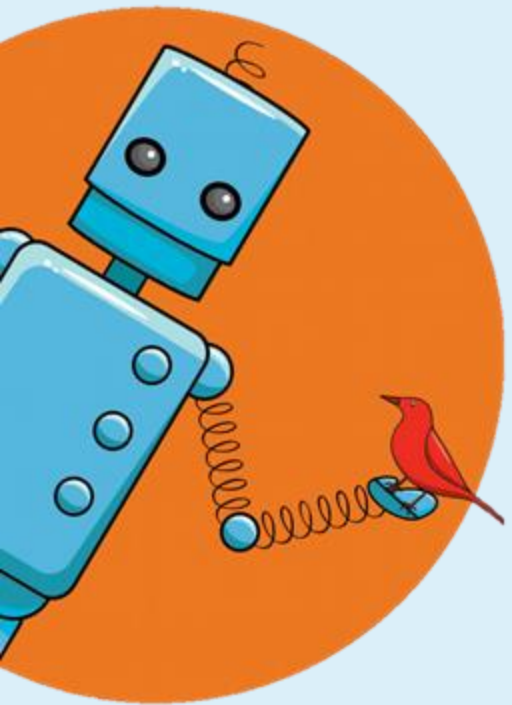
**How many observations
were made during the 2024
City Nature Challenge?**

- a. 6,844**
- b. 36,844**
- c. 436,844**
- d. 2,436,844**



Poll Question:

**How many observations
were made during the 2024
City Nature Challenge?**



- a. 6,844
- b. 36,844
- c. 436,844
- d. **2,436,844**



City Nature Challenge

CityNatureChallenge.org

**Observation Period:
April 25-28**

**Identification Period:
April 29-May 4**

**Results:
May 5**



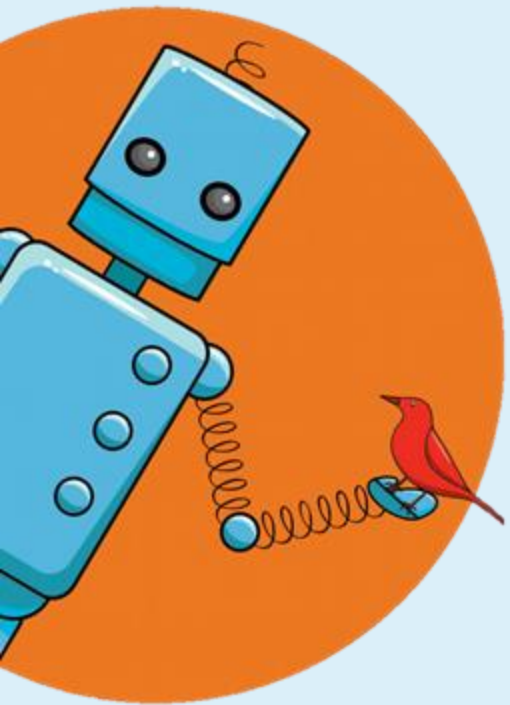
JoAnne Woods (left) on a nature walk with high school students who are using the Philadelphia library's birding backpacks. Photo: Luke Franke/Audubon

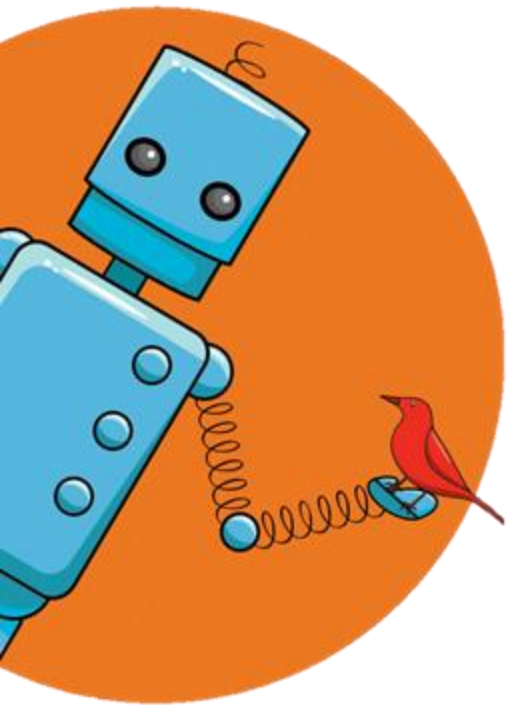
Thank you!



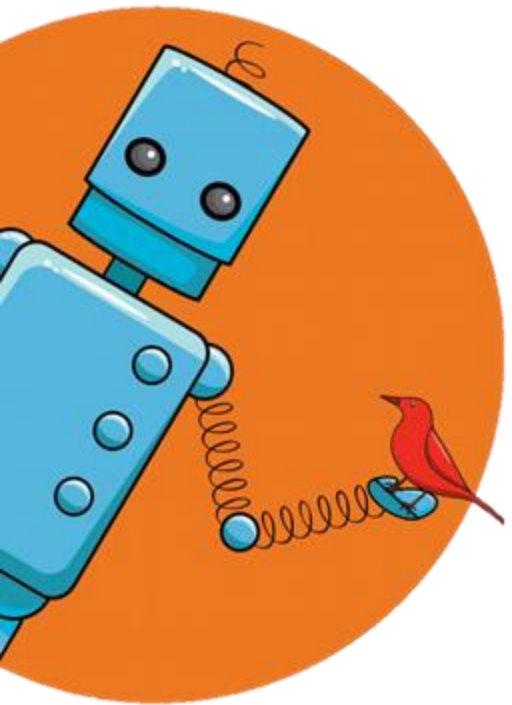
Conservation

Let's do a project together!

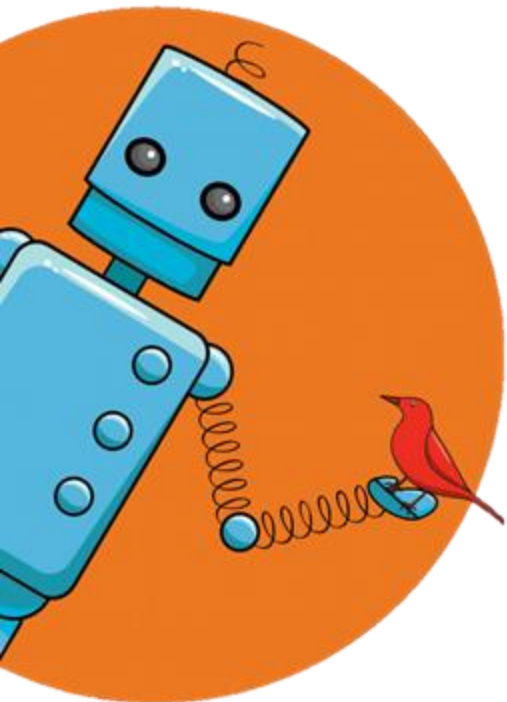




**Menti placeholder: Which
one is endangered?
(Monarch, Black Footed
Ferret, Giant Panda,
southern white rhino)**



**Menti placeholder:
Name an endangered
species**




ZSL


INSTANT WILD

Conservation at your fingertips

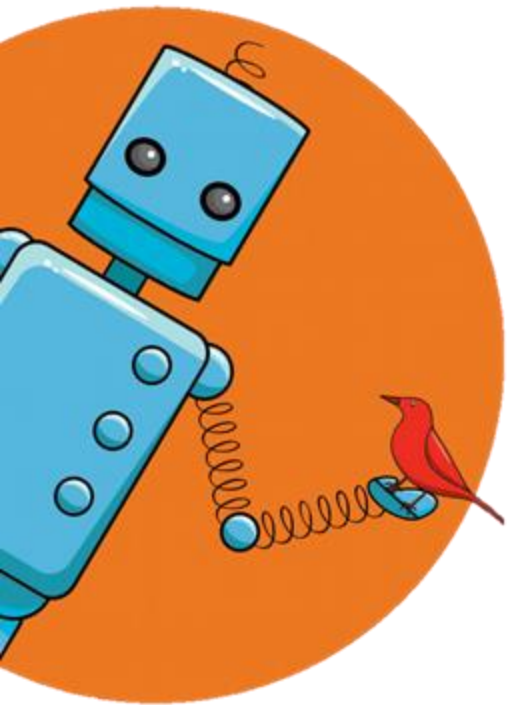
[START TAGGING](#)

[LEARN MORE](#)

 **LIVE VIDEO JUST IN!**

 **FEATURED PROJECT**

1. Create your SciStarter Account (email and password)



SciStarter.org/login

A screenshot of the SciStarter website's login interface. At the top, the SciStarter logo and tagline are visible. Below is a blue banner for the 'ONE MILLION ACTS OF SCIENCE' campaign. The login section includes 'Log In' and 'Sign Up' buttons, a 'LOG IN' heading, and input fields for 'Email address' and 'Password'. A 'Forgot your password?' link is present. At the bottom are 'Cancel' and 'Log in' buttons.

SciStarter
Science we can do together.

Be part of
**ONE MILLION
ACTS OF SCIENCE**
April 1-30!

Log In Sign Up

LOG IN

* Email address

Email address is required

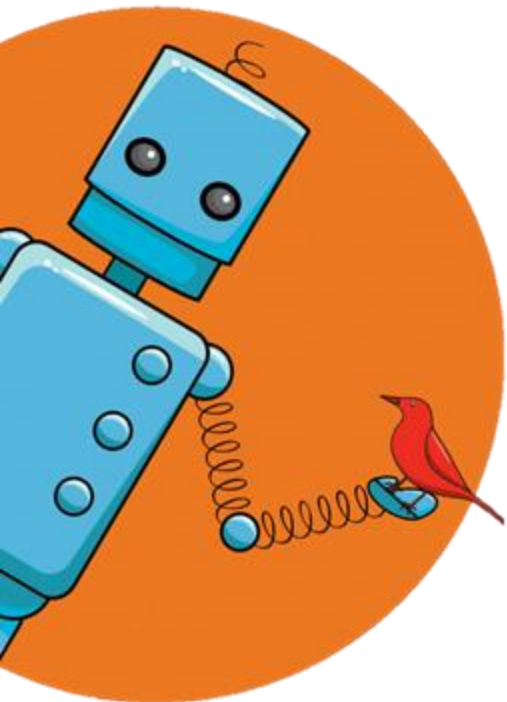
* Password

[Forgot your password?](#)

Cancel Log in

2. Join Instant Wild

(use the same email
& ☒ link accounts)



InstantWild.zsl.org/auth/register

1:41 85

YOUR DISPLAY NAME
This is how you will appear on the leaderboards, will be your display name on any comments you make and will be how the Instant Wild team refer to you in shout outs such as on our social media channels. It will also appear on your profile page, which is visible only to you.

SuperSalamander

YOUR EMAIL
Your e-mail address is not made public and will only be used if you wish to receive a new password or have opted in to receive certain news or notifications by e-mail.

rhino@zsl.org

CHOSEN PASSWORD
Must be 8-15 characters long and include lower and uppercase letters, numbers and at least one special character.

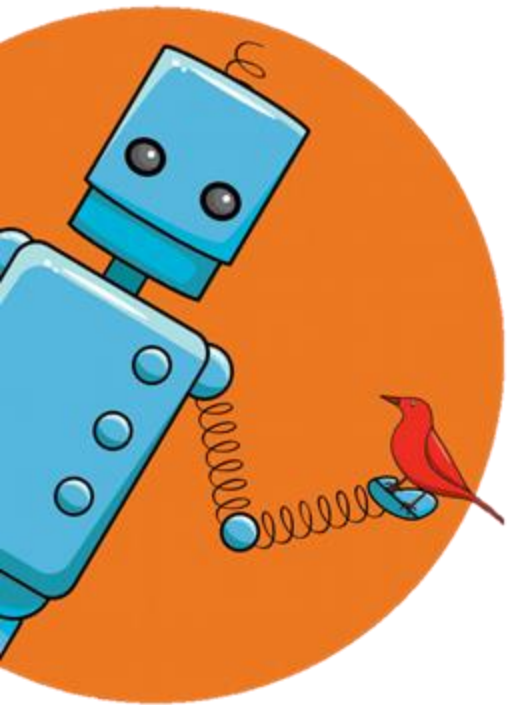
CONFIRM CHOSEN PASSWORD

☐ Link to your SciStarter account?

If this email address is already registered at SciStarter, you can link your accounts, so identifications made here will add to your SciStarter points.
Not already registered at SciStarter? Don't worry, you can link accounts later, or you can [register now](#).

InstantWild.zsl.org

3.Go to “Projects” and click on Lolldaiga Hills



InstantWild.zsl.org/projects/lolldaiga-hills

