

Level Up at Your Library: 2025 iREAD Resource Guide

Play is one of the ways we learn to relate to others, to think in new ways, and to foster friendships, new and old. *Level Up at Your Library* is an all-ages summer reading program based around puzzles and games. iREAD 2025: Level Up at Your Library reminds us that libraries are not just a space for knowledge, they are a space for fun!

Following are programming ideas and resources to inspire and prepare patrons of all ages to participate in science through the Global Learning and Observations to Benefit the Environment (GLOBE) Program. Using the free GLOBE Observer mobile app, librarians and their patrons can track changes in their local environment. The app includes on-the-fly training and tutorials for taking and submitting observations related to clouds and sky conditions, mosquito habitats (water sources), tree height, and land cover. The observations on the ground can complement and help interpret NASA satellite data and are available in an open access database that anyone can use, from students to professional scientists.

Following are ideas for a range of passive and active library programs using GLOBE Observer. These examples mix and match resources from the [GLOBE Observer Toolkit for Informal Educators](#), which includes hands-on activities, videos, booklists, and promotional materials. The GLOBE Observer Library Guide includes a growing collection of program examples from public libraries: <https://observer.globe.gov/libraries>.

The activities and resources included in the sections that following have been used in public library programs for all ages, and support learning that is fun and engaging.

Promotional materials and printables

- [Clouds](#)
- [Mosquito Habitat Mapper](#)
- [Land Cover](#)
- [Trees](#)

Ideas for Passive Library Programs

Mix and match GLOBE Observer resources on page 4 to create library programs and resources.

1. Displays

Create a display using GLOBE Observer graphics and. Any of the resources on the GLOBE Observer website can be used.

2. Grab and Go Packets

Planning and Tips

- Pair packets with a program or display (informational or book display) on citizen science.
- Select materials to print that patrons can keep.
- Cut down on printing by creating handouts (e.g., a flyer or bookmark) with links or QR codes to activities and resources.

3. Circulating Kits

Ideas: Kits are great resources for patrons to check out after a program, for those who can't attend programs or prefer to work individually, families, and educators (e.g., teachers, after school programs, etc.).

Planning and Tips

Kit-building guides for GLOBE Observer are available with examples with practical advice on assembling, cataloging, and promoting from Scistarter ([Mapping Mosquito Habitats](#)) and Los Angeles Public Library: [Guide](#) and [DIY Neighborhood Science Kits](#)

4. Observation Stations

Ideas

- Create outdoor places for practicing or taking repeat observations.
- Check out the GLOBE Observer [Facilitators Guide](#) for Observation Stations

Planning and Tips

- Choose locations good for taking observations, e.g., view of open sky for clouds, places where water can collect and be habitats for mosquito larvae (planters, gutters, mosquito larvae trap, etc.), nearby trees over 5 meters (15 feet), etc.
- Post QR codes for links to GLOBE Observer how to videos (watch on phones) or play videos on a loop. If playing video on a loop, turn on captions and turn off audio.
- Partner with a nearby location to host observation stations (e.g., a park or nature center).

5. Activity or Demo Stations

Ideas

- Set up table(s) with or displays (e.g., book display or informational).

Planning and Tips

- Select and practice activity(s) in advance.
- Decide on locations (indoors or outdoors? If indoors, where in the building?) and if there will be a facilitator at or near stations.
- Assemble or print materials.

GLOBE Clouds Resources

Sky Window Field guide for identifying cloud types, sky color, and visibility. (link to Spanish version). Laminate a set to re-use.

Cloud Teller

Learn about cloud types with this foldable game.

How to Observe

Videos, Tips and Tricks, and Tutorials

Cloud in a Bottle

Use this engaging activity to show how clouds form, which can be done as a demo or a station activity. Includes video and easy-to-understand science explanation.

Cloudscape

Patrons build a cloud scene or **Make a Cloud Mobile** with different cloud types and cloud heights. The Cloudscape activity can be an interactive, mural on butcher paper. Set up near a window and include art materials, sky windows for identifying clouds.

GLOBE Mosquito Habitat Mapper (MHM) Resources

Build a Mosquito Larvae Trap activity with video demo

Infographic

Download PDF with step-by-step instructions. Good for displays or packets.

Additional versions include:

- [Interactive ePub file](#)
- Full Screen, Interactive Infographic

Zika Zine: Available in multiple languages (PDF or online eBook). Download templates to make your own Zika Zine story.

Mosquito Tellers: Foldable game like “fortune teller” game. Includes a blank template to make your own teller.

How to Observe Videos, Tips and Tricks and Tutorials

Land Cover Type Quick Reference Guide Field guide with example photos and tips. Laminate a set to re-use.

How to Observe Videos, Tips and Tricks and Tutorials

GLOBE Trees

[Build a Clinometer](#)

([Video Demo](#)). Print the one-page activity and include materials needed (straw, string, weight). Compare with tree height measurements using the GLOBE Observer app.

[How to Observe](#) Videos, Tips and Tricks and Tutorials

GLOBE Land Cover Resources


[Land Cover Type Quick Reference Guide](#) Field guide with example photos and tips. Laminate a set to re-use.

[How to Observe](#) Videos, Tips and Tricks and Tutorials

[Color-a-Pixel Poster](#) Color-by-number activity, based on NASA satellite images. Upload an image and. Find [pre-generated posters](#), offers a selection of ready-to-use activities generated from satellite imagery of regions across the country.

Following are resources that have worked in active library programs. See the [GLOBE Observer Library Guide](#) for examples of programs from our library partners.

Active Programs					
Program	Planning and Tips	Clouds	Mosquito Habitat Mapper (MHM)	Land Cover	Trees
<p>Walks with a Purpose</p> <p>These can be short neighborhood walks, focused on one GLOBE Observer tool or longer hikes (e.g., with a local hiking club)</p> <p>Ask patrons to download the app and set up an account in advance.</p>	<p>Safety: Be aware of surroundings and potential hazards (e.g., traffic) and select a route that includes places to stop along the way.</p> <p>Identify a route/location considering what will be observed: Clouds – need full view of the sky Land Cover – Select an area 2 or more different land cover types.</p> <p>Pair outdoor activities with indoor programs (e.g., games or activities to learn more about the topic or how to take the observations).</p>	<p>Field Guide Sky Windows for identifying cloud types, sky color, and visibility. (Spanish version)</p> <p>Clouds Dance: Fun for all ages – move like clouds mimicking what they look like - a great way to remember cloud types. Have patrons make up their own moves!</p>	<p>Build a Mosquito Larvae Trap Video Demo Set the trap in a nearby location to check and track when mosquitoes appear.</p> <p>Mosquito Habitats and Hideouts Play the game before a walk or use the game board to hunt for different habitats near the library.</p>	<p>Land Cover Walk Activity Guide includes materials list, background information, steps, handouts.</p> <p>Land Cover Type Quick Reference Guide with example photos and tips.</p>	<p>Take observations of a tree near the library building. Following are th activities that could be paired with observing (before or after observing)</p> <p><i>Before Walk</i> Measure something that is a known height (e.g., bookcase in the library)</p> <p>Build a Clinometer Pair observing the tree using the GLOBE Observer app vs a DIY Clinometer</p> <p><i>After Walk</i> Gratitude/Kindness Rocks, conclude your program with this art activity to create a gratitude rock for the tree observed.</p>
<p>Clubs</p>	<p>Include GLOBE Observer as part of existing library or community club e.g., after school/teen club, family science Saturdays, photography club, hiking club, etc.</p>	<p>Cloud Cover Estimation Activity Video Demo</p> <p>Clouds Dance: Fun for all ages – move like clouds mimicking what they look</p>	<p>Mosquito Habitats and Hideouts – game to learn the different habitats tracked in the Mosquito Habitat Mapper</p>	<p>Land Cover Walk Activity Guide includes materials list, background information, steps, handouts.</p>	<p>GLOBE Trees Family Guides for different age groups, each guide includes a series of “Ask,” “Learn,” “Observe,” and “Create” questions,</p>

	Give a brief presentation on GLOBE Observer, then go outside and practice taking observations.	like - a great way to remember cloud types. Have patrons make up their own moves!	Mosquito Larvae Hunters: Level 1 (Training – Color , Badge – Color) Mosquito Larvae Hunters: Level 2 (Training – Color , Badge – Color , Certificate – Color) Companion guide for parents/caregivers: in Color , or in Black-and-White	Land Cover Type Quick Reference Guide with example photos and tips.	activities, demonstrations, and creations.
Storytime or Book Discussion	Check out GLOBE Observer book lists, including Books about Citizen Science  WorldCat	Clouds Books for Kids Clouds Books for Teens and Adults	Mosquito Books for Kids Mosquito Books for Teens and Adults	Land Cover Books for Kids Land Cover Books for Teens and Adults	Trees Books for Kids Trees Books for Teens and Adults
Girl Scout Programs Girl Scouts has teamed with SciStarter to curate projects and support girls and volunteers to engage in citizen science and explore outdoor STEM.	Do you work with or host meetings of a local troop? GLOBE Observer is one of the projects that Girl Scouts can do as part of the Girl Scout Climate Challenge (GLOBE Clouds), Girl Scout Tree Promise (GLOBE Trees), and Think Like a Citizen Scientist Journey (GLOBE Mosquito Habitat Mapper and Clouds).	GLOBE Observer Girl Scouts Guide GLOBE Observer Clouds Girl Scout Resources (get link) SciStarter Girl Scouts	GLOBE Observer Girl Scouts Guide GLOBE Observer Mosquito Girl Scout Resources (get link) SciStarter Girl Scouts	GLOBE Observer Land Cover Girl Scout Activities (get link)	GLOBE Observer Girl Scouts Guide GLOBE Observer Trees Girl Scout Resources (get link)