# MEASURING LIGHT IN THE NIGHT

**Help gather light pollution data.**

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## Help gather light pollution data.

*Light pollution is intrusive artificial (usually outdoor) light. Too much light pollution can wash out starlight in the night sky, interfere with astronomical research, disrupt ecosystems, have adverse health effects, and waste energy.*

*Globe at Night is an international citizen science project that involves the public in measuring and collecting night sky brightness observations to help scientists understand the impact of light pollution.*



*Public domain / Wikimedia Commons*

## KIT DETAILS

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

**Sky Quality Meter** - L (SQM-L, SQM) - Hand-held meter for measuring sky brightness.

**Red LED flashlight** - Designed to help guide you to nighttime viewing areas without disrupting user night vision or nocturnal animals who are less sensitive than humans to the red range of light.

**Planisphere** - Rotating star finder (planisphere) to help you identify the constellation you'll need to find, based on the Globe at Night website's instructions.

**Printed Data Entry Sheet** - Record the date, location, constellation, Sky Quality Meter serial number and data and other data on this sheet to enter on the Globe at Night website later.

**Sky Quality Meter Instructions** - This helpful guide provides data context and troubleshooting tips.

### SO WHAT?

You'll use these materials, the instructions on SciStarter and the web data entry form on Globe at Night to share your observations and data. The data is used by scientists to monitor levels of light pollution and help inform steps you can take to address the impacts of light pollution on local energy consumption, plants, wildlife, and human health.

## PLAN

Choose a clear night when the moon is not up and when you can go outside more than an hour after sunset.

## PREPARE

**Review the instructions** on SciStarter.org/library-kits. Select the "Measuring Light in the Night" kit page, view the video and review the step-by-step instructions. Be sure to review the Data Sheet and Sky Quality Meter instructions located in your kit.

**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 Globe at Night).

After you've reviewed the instructions, **click "Participate"** to be directed to the Globe at Night website's "Report" page. Take note of the preferred dates to participate and constellations to observe.

## PARTICIPATE

Remove the LED flashlight from the kit. Press it and use the red light to guide you outside if needed. Bring the kit with you, including the data worksheet and a pencil (use a pencil so you can use the data sheet multiple times).

Allow your eyes to adjust to the night sky, and then use the planisphere to find a constellation.

On the Globe at Night data sheet, write down the data, time and location. Make a note of the Constellation you're observing and the sky conditions as outlined on the data sheet.
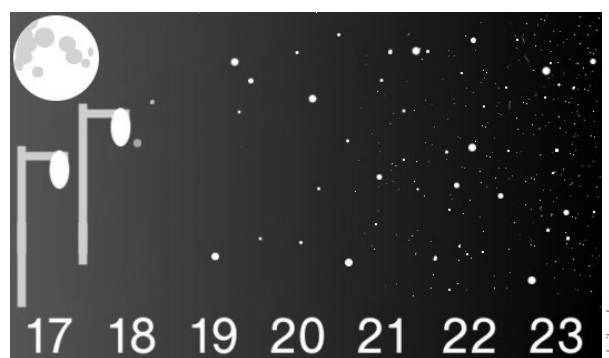
Jot down the email address you used to create your SciStarter account, where noted at the bottom of the sheet.

Press the power button on the Sky Quality Meter (don't face it directly at light such as the moon or a street light; review the SQM printed instructions again if needed). The lower the number on the SQM, the higher the light pollution. Write the SQM's serial number and light magnitude number on the data sheet.

When you're ready to add data to Globe at Night, go to **globeatnight.org/webapp** and enter the data from your data sheet. Don't forget to include your SciStarter email in the online Globe at Night data form to get credit for your contributions in your SciStarter Dashboard. On the Globe at Night website, you can also review data from around the world!

Thank you for participating in citizen science!

Turn off the SQM and LED light and return all the materials to the kit, except the data sheet, which you can keep. If you can, continue recording light pollution data while you have the kit and as weather permits.

## KIT MATERIALS