

# LOOK UP!

A SKYWATCHER'S  
COMPANION



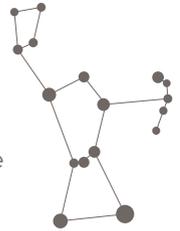
**Adler**  
PLANETARIUM

# CONNECT THE DOTS

Have you ever seen this  
group of stars?



Astronomers call it *Orion the Hunter* because a long time ago, some people noticed it in the sky and imagined the outline of a man holding a club above his head and shield in front of his body.



But that's just one way to connect the dots. You could look at the same stars and see a completely different picture.



# FROM FAR ENOUGH AWAY, EVERYTHING LOOKS LIKE A DOT

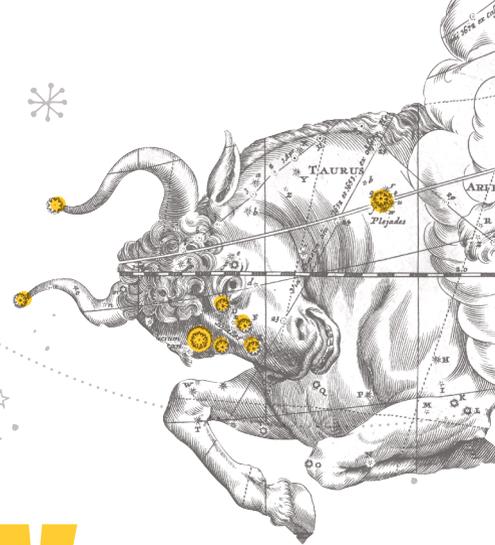
—every person, book, building, city, mountain, star, and planet. And just like the stars in Orion, the dots all around you can be connected in different ways. Connecting ideas no one has connected before can lead to new discoveries. Connecting people to each other can create new friends, families, and communities.

This book will help you make your own connections to the sky, among the stars, and in your neighborhood.



# IMAGINATION TAKES SHAPE

A group of stars like Orion the Hunter is called a **constellation**. People in different eras and cultures have spotted all kinds of shapes and patterns in the stars—kings and queens, gods and monsters, animals, symbols, and everyday objects.



# TRY THIS:

FIND SOMETHING  
NEW IN THE  
STARS.





What shapes and patterns do you see?  
Connect the dots in your own way.



SHARE YOUR  
DRAWINGS

#ConstellationCreation

@adlerplanet



fb.com/adlerplanetarium



# LOOK UP

WHEREVER  
YOU ARE

## What's in your neighborhood?

Apartments, houses, schools,  
businesses? Parks? Cornfields?  
Sidewalks and roads?



# WHAT ABOUT THE SKY?

There's only one Universe (that we know of), so there's only one sky—one place to see twinkling stars, swirling galaxies, wandering planets, and everything else the cosmos has to offer. But on any given day, the sky looks a little (or a lot) different from every place on Earth.

Depending on where you are, you can see different constellations at different times of the year. You might see thousands of stars or dozens. You might see planets. You might not.

**Whatever you see when you look up, your sky is also part of your neighborhood.**

# TRY THIS:



Take a picture of the sky over your neighborhood.

- Find a flat surface.
- Set up your camera or phone on a tripod and point it at the sky.
- If you are using a phone camera, open a low-light camera app.

- Open the settings menu on your app or camera and turn your camera flash OFF.
- Set the camera sensitivity (“ISO setting”) to somewhere between 200 and 800.
- Change the amount of time your camera shutter is open (the “shutter speed”) to 2 seconds or more.

**Be careful: If you jiggle your phone or camera, your pictures will be blurry.**

→ Adjust the settings until you get a picture you like.

Use this page to write down the settings that work best.

# SHARE YOUR ASTROPHOTOS



**Or mail to:**

Guest Experience Department  
Adler Planetarium, 1300 S. Lake Shore Drive  
Chicago, IL 60605

# MAKE YOUR SKY SPARKLE



In a completely dark sky, far from the lights of a city, you can see about **4,500 stars** with your naked eye. In a very bright city like Chicago, you can see about **35**.

Light that shines onto streets and from buildings at night can scatter in Earth's atmosphere and drown out our view of the stars. Astronomers call this *light pollution*.



You may not be able to paint the Moon purple or rearrange the stars, but you do have the power to change how your sky looks. When light pollution goes down, the number of stars and other objects you can see goes up. You can educate your neighbors about light pollution (like Adler teens do), turn off outdoor lights you don't need, and even join a research project to help scientists understand the effects of light pollution on our planet.

# TRY THIS:

➔ Help measure the light pollution  
in your neighborhood.

Join your neighbors—and people all over  
the world—in a citizen science project!  
With a smartphone or a computer,  
you can help researchers figure out how  
much light pollution there is in your sky.



→ Contribute to a

# CITIZEN SCIENCE PROJECT

If you have a smartphone, download the **Loss of the Night** app from your app store. When it's as dark as it gets in your neighborhood, take your phone outside and open the app. It will tell you how to look for certain stars in the sky and then ask if you can see them.

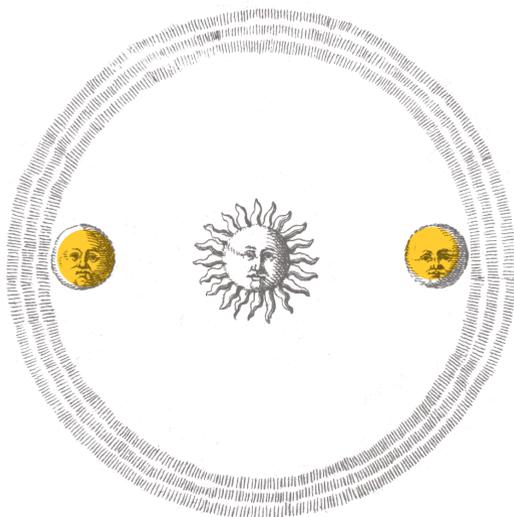
If you are using a computer at home or at your local library, visit **globeatnight.org** to participate in the Globe at Night project. It works a lot like Loss of the Night, and you don't need a smartphone to join.



Be a part of a worldwide science project that measures light pollution.



# IMAGINE THE MOON



Some connections are pretty easy to spot. If you woke up to find a hole in your roof and a meteorite in your house like the Jones family did in Park Forest, Ill., in 2003, you could probably work out how the hole and the space rock were connected. But other connections require a little more imagination.

**Consider the Moon.** We take it for granted that the Moon is a real place we can visit—a place with its own ground and sky and gravity. But long before the first people planted their feet on the Moon's surface, before there were rockets to take us there, the Moon was just a mysterious shape-shifting light in the sky. Before anyone could even dream of walking on the Moon, somebody had to look up and imagine a new world.

Your imagination can take you to the Moon and beyond.



**What do you see when you look at the Moon?**

# TRY THIS:

## Draw what you see when you look at the Moon.

On a clear day or night when the Moon is visible, gather a few friends and neighbors in a backyard or public park, pull up a folding chair, and feast your eyes on the sky. How does the Moon make you feel? What does it mean to you? Draw your ideas on the following page and share them with the group. Then send them to us on social media.

**Then:** Come to the museum and watch our original sky show, *Imagine the Moon!*

SHARE WITH US

#ImagineTheMoon

@adlerplanet



fb.com/adlerplanetarium



# HELP US EXPAND OUR ADLERVERSE

Have you noticed the hand-drawn stars in the background of this book? Each one of those stars was created by a staff member or volunteer here at the Adler!

Together, the stars make up the **Adlaverse**, a collection of stars and constellations we use to create unique backgrounds for signs, displays, graphics, brochures, and books like this one.

Help us expand the Adlaverse by contributing your own stars!

1

Draw some small stars in these boxes



2

Draw a larger star in this box



3

Use the space below to draw something else from the Universe such as a planet, the Moon or a constellation



SHARE WITH US

#Adlaverse

@adlerplanet



fb.com/adlerplanetarium





# PARTY WITH THE PLANETS

What do you celebrate with your family and friends? Birthdays, sports victories, graduations, holidays?

At the Adler, we like to get together to celebrate our neighbors in the sky: the planets!

# TRY THIS: →

See every planet in the sky over the Adler.

In July 2020, all seven planets will be visible from Chicago—five with the naked eye and two with the help of a telescope. We're celebrating this rare opportunity with a special early morning viewing event at the museum!

Visit [adlerplanetarium.org](https://adlerplanetarium.org) this spring for details or subscribe to our newsletter (link on our website) to get the latest updates.



# LOOK UP WITH US ALL YEAR LONG

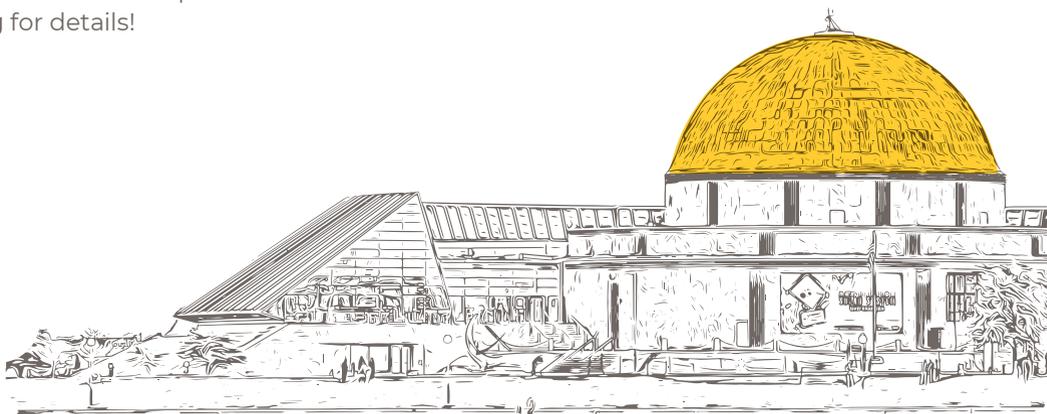
Every year, our *'Scopes in the City* program brings telescopes to libraries, parks, local businesses, and public spaces around Chicago. Join Adler astronomers and educators for these **FREE events** to see celestial objects, ask your burning questions about the Universe, and maybe make new friends in a ZIP code near you! Follow us on social media to find out when we'll be in your part of the city.

→ Visit the

# ADLER PLANETARIUM

Here at the museum, the telescope experience is bigger than ever. Visit us in the Doane Observatory (right behind the museum) and check out our brand-new 24-inch telescope! Visit [adlerplanetarium.org](http://adlerplanetarium.org) for details!

While you're here, don't miss our new exhibition, *Chicago's Night Sky*, where you can find your place in a community of urban stargazers, past and present, and find even more ways to connect with your community and your sky.



Send us your new constellations, astrophotos,  
and imaginative Moon drawings!

If you're not on social media (or prefer an  
analog sharing experience), drop a copy of  
your work in the mail and send it to:

**Guest Experience Department**  
**Adler Planetarium**  
**1300 S. Lake Shore Drive**  
**Chicago, IL 60605**



Words by **Aubrey Henretty**  
Designed by **Pause for Thought**  
Science advisor: **Michelle Nichols**



**#LOOKUP**

[adlerplanetarium.org](http://adlerplanetarium.org)