



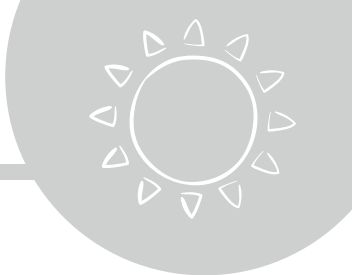
# WHAT'S UP?

## UNDERSTANDING THE SKY

Use this guide as a starting point, but there's so much more to see and do at Adler! Don't forget to take time and space to explore what interests you and your group. You can visit these exhibits in any order you like.

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# OUR SOLAR SYSTEM



## UPPER LEVEL

#3 on the map (at the end of this guide)

By the windows, close to the big yellow dome (that's the Sun!), find the solar system stands. Look down—can you spot the rings on the rail at the bottom of the window? There is one colorful ring to represent each planet. Each white ring represents one **astronomical unit (AU)**—a way of measuring distance.

How many AU is Earth from the Sun? \_\_\_\_\_

How many AU from Earth is Neptune? \_\_\_\_\_

### Talk with your group:

Has anyone seen a planet in the night sky? What did it look like?

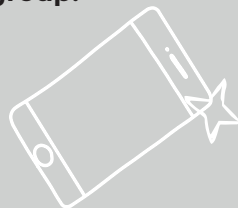


# CHICAGO'S NIGHT SKY

## LOWER LEVEL

#8 on the map

Chicago gives off a lot of light that can make it hard to see the stars! Look at the map on the floor. Can you find the Adler Planetarium? Hint: it is on Lake Michigan. Is there a lot of light around the Adler? Do you think we can see a lot of stars from here at night? **Take a selfie with your group!**



Try Light Pollution Solutions stations and check out the video in the bus shelter to see what Adler teens are doing to improve light pollution.

**What can people do to make it easier to observe the night sky?**

\_\_\_\_\_  
\_\_\_\_\_



# CHICAGO'S NIGHT SKY (cont.)

## LOWER LEVEL

### #8 on the map

The night sky looks different depending on where you are. Look for the star-finders in the back of the exhibit. Can you spot constellations you know?

**Draw and label one!**

On the next clear night, see if you can spot the constellation you drew. If you want to learn to identify objects in the night sky, try an app! You can find suggestions outside the entrance of the Space Theater (#10 on the map).



Look at the Southern Hemisphere star finder. There are many constellations shown that we cannot see from the Northern Hemisphere. Think about it.

**Why do you think the stars are different on the southern half of Earth compared to the northern half?**

Pick a constellation from one of the star-finders that's new to you.

**Draw and label it here.**

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A **constellation** is a group of stars that formed a picture in a stargazer's imagination. Try Create a Constellation to make one of your own!

Constellations often have stories about them. What is the story of your constellation? **Share your story with the rest of your group.**

**Draw your constellation here:**



# CHICAGO'S NIGHT SKY (cont.)

## LOWER LEVEL

#8 on the map

Everyone looks up. Look at the art on the wall. It shows people all over the world, throughout time, looking up at the night sky. **Why do you think humans are so fascinated by the sky?**

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Draw your favorite piece of art from this area. **What do you like about it?**

# CHASING ECLIPSES

## LOWER LEVEL

#15 on the map

Watch the *Eclipse Chasers* video. Why do you think the people were so excited about viewing a solar eclipse?

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Would you be excited to see one? **Why or why not?** Compare responses with your group.

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**Look at the map of the United States on the wall.**

Will Chicago see a total solar eclipse in April 2023? \_\_\_\_\_

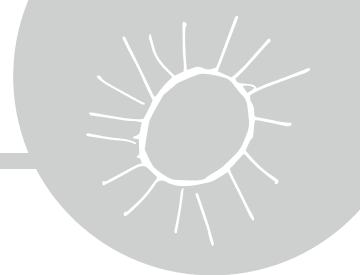
Will any part of Illinois? \_\_\_\_\_

List other three states that will be in the path: \_\_\_\_\_

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# CHASING ECLIPSES (cont.)

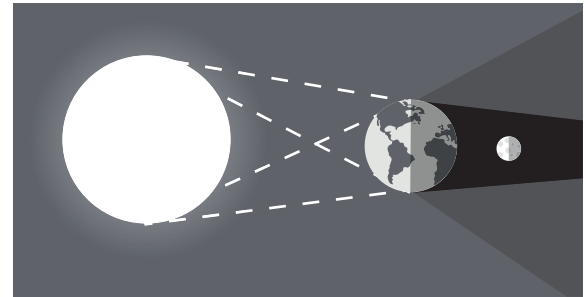
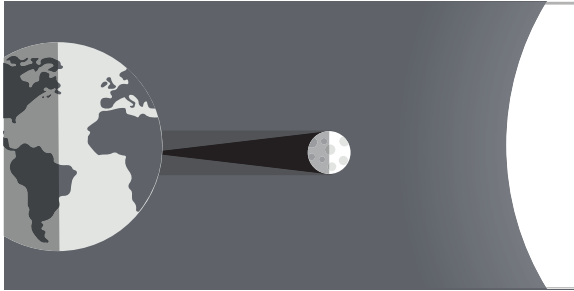


## LOWER LEVEL

#15 on the map

Watch the *Making Sense of Eclipses* video.

Which model below shows a solar eclipse? Which shows a lunar eclipse?



Will Earth always see total solar eclipses?

\_\_\_\_\_

Why or why not?

\_\_\_\_\_

# UNIVERSE IN YOUR HANDS

## LOWER LEVEL

#6 on the map

**Sundials** use shadows to tell time.

Using the large sundial, compare shadow lengths.



On what date are shadows the longest?

\_\_\_\_\_

When are they shortest? \_\_\_\_\_

Why does the shadow's length change?  
Write or draw your explanation below.

Move the Sun to a date important to your group (maybe the last day of school!).

**Draw the sundial and its shadow.**

Date: \_\_\_\_\_



# UNIVERSE IN YOUR HANDS (cont.)



## LOWER LEVEL

### #6 on the map

This sundial was made to show Chicago's latitude, 42°N.

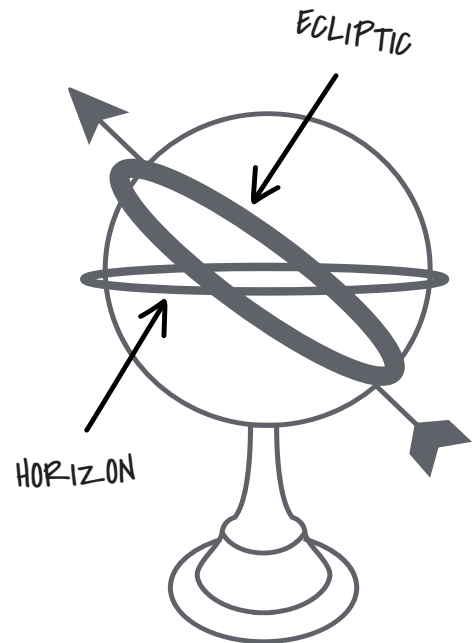
- Does the Sun ever shine directly over the sundial? \_\_\_\_\_
- When is it the highest? \_\_\_\_\_
- **Talk with your group**– Why is this? Do you think the Sun would ever shine directly overhead in other parts of the world? Where? Why? \_\_\_\_\_

Before exiting the exhibit, take a sharp right at the white and red astrolabe to find an armillary sphere you can use in the back of the exhibit (look for Organizing the Spherical Universe).

On the armillary sphere, find the wide white band with four colored stripes on it. This band is called the **ecliptic**. When we look up from Earth, we see the Sun following the path of the ecliptic in the sky.

**Next, find the compass directions:** north, south, east, and west. They're on a band that represents the horizon, where the Sun rises and sets.

See how the Sun moves at different times of the year by putting a Sun magnet on each of the different color lines, then moving the Sun from east (sunrise) to west (sunset).



What color line(s) make the Sun rise directly in the east and set in the west?

\_\_\_\_\_

On what color line does the Sun go the highest?

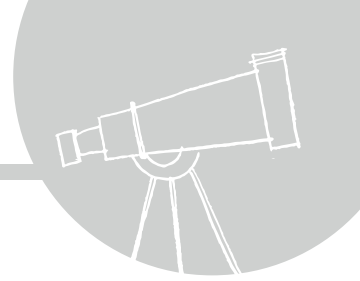
\_\_\_\_\_

What season does this represent?

\_\_\_\_\_

Walk back towards the red and white astrolabe, then turn right to enter the Community Stargazers' Hub exhibit.





## LOWER LEVEL

#14 on the map

**Explore the Focus and Reflect area** to learn about using lenses and mirrors to see stars and other faraway objects more clearly.

Lenses \_\_\_\_\_ light and  
mirrors \_\_\_\_\_ light.

Which one is used on the JWST telescope?  
(circle one)

**Lenses**



**Mirrors**



The JWST is a modern telescope. Explore the much older telescopes in the exhibit.

Do they use lenses or mirrors? \_\_\_\_\_

On the table by the rocking chairs, there is a story about observing changes in the night sky, Routine. Read this story with your group. **What did the narrator and their dad notice in the sky?**

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**Think about it!** Why did their view change each night? Hint: think about how Earth moves through space.

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