# 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.



Adler PLANETARIUM

# 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?

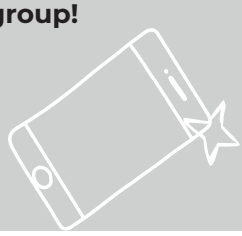


# CHICAGO'S NIGHT SKY

## 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?**

_____

_____



*(cont. on next page)*

# 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.**

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:**



*(cont. on next page)*

# 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?**

_____

_____

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

# ASTRONOMY IN CULTURE

## 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: _____

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?



*(cont. on next page)*

# ASTRONOMY IN CULTURE (cont.)

## LOWER LEVEL

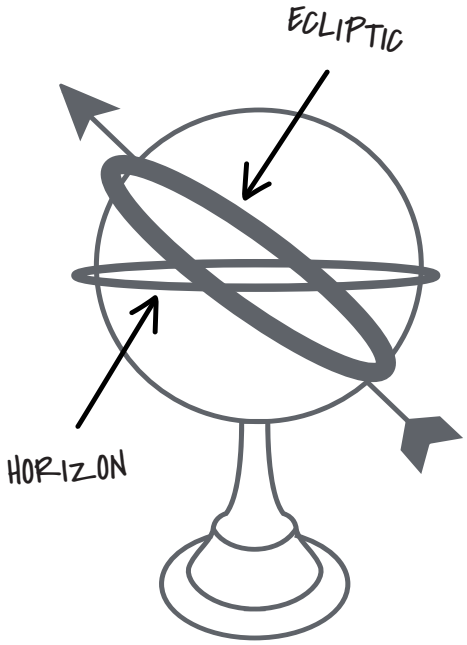
*#6 on the map*

**In the back of the exhibit, there is an armillary sphere you can use** (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).



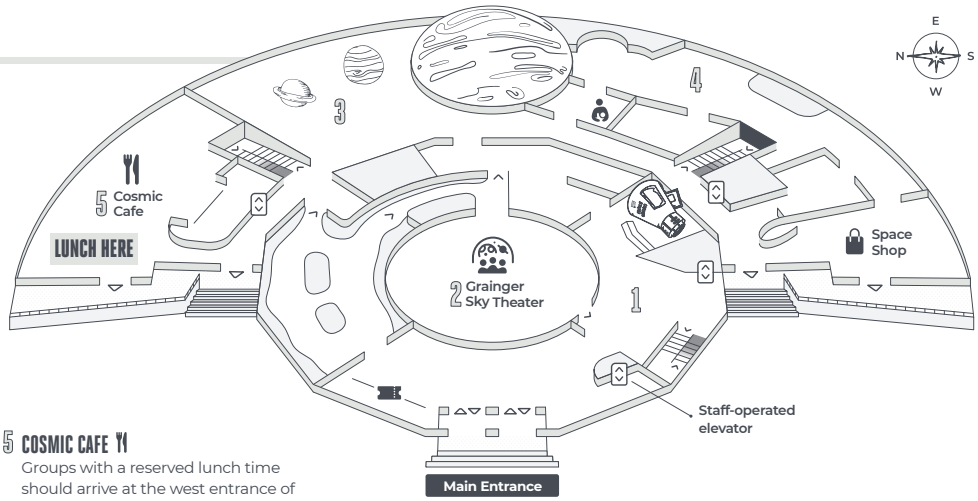

What color line(s) make the Sun rise directly in the east and set in the west?

_____

On what color line does the Sun go the highest? _____

What season does this represent? _____

## UPPER LEVEL




**1 MISSION MOON**
Step inside the story of Captain James A. Lovell, Jr., and witness the beginnings of America's journey into space.

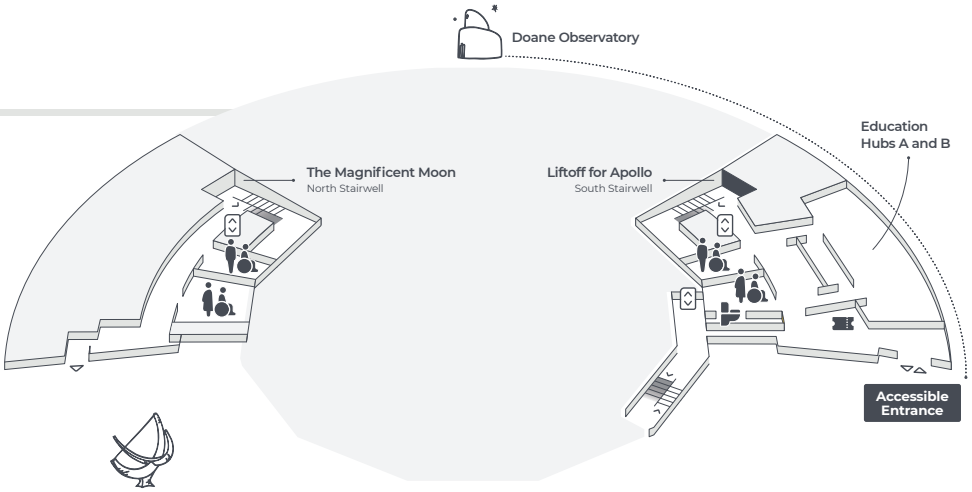
**2 GRAINGER SKY THEATER**
**Tickets available at the box offices.**
Destination Solar System
Imagine the Moon

**3 OUR SOLAR SYSTEM**
Explore the many worlds—planets, moons, dwarf planets, and asteroids—that orbit the Sun.
**Red Rover: Mars Activity Station** is set up here.

**4 PLANET EXPLORERS**
Children in Pre–K through 3rd grade can blast off to Planet X and take the helm in this modern-day space adventure.

**5 COSMIC CAFE**
Groups with a reserved lunch time should arrive at the west entrance of the Cafe 5 minutes before their scheduled lunch.

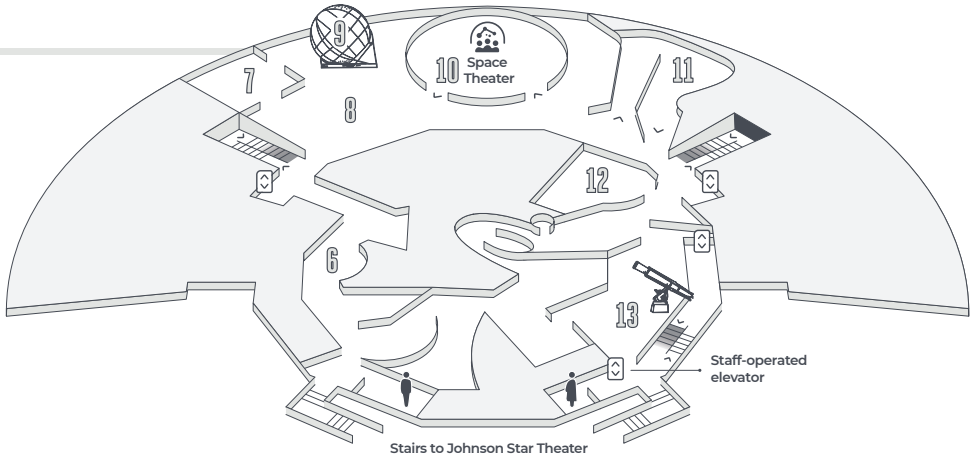
## MID-LEVEL




**AMENITIES ON THIS LEVEL INCLUDE:**

Restrooms equipped with changing tables
Water fountains
Ground level exits
Vending machines (South)
All Gender restroom

## LOWER LEVEL




**6 ASTRONOMY IN CULTURE**
Go back in history to learn about some of the cultures that have engaged in the quest to understand their place in the Universe.

**7 COMMUNITY STAR STUDIO**
Let your imagination shine in this collaborative design space.
**Check at exhibit for available times.**

**8 CHICAGO'S NIGHT SKY**
Discover how your night sky connects you to everyone, past and present, in every place on Earth.

**9 THE ATWOOD SPHERE**
The Atwood is not operational at this time.

**10 SPACE THEATER**
**Tickets available at the box offices.**
Skywatch Live!
Planet Nine
One World, One Sky

**11 THE UNIVERSE:** A WALK THROUGH SPACE & TIME
Visit distant corners of the cosmos and witness how the Universe has evolved over 13.8 billion years.

**12 SPACE VISUALIZATION LABORATORY**
Both Adler and visiting experts collaborate to create new ways for people to virtually explore the Universe.

**13 TELESCOPES:** THROUGH THE LOOKING GLASS
Uncover the extraordinary beauty and technology of some of the world's most important telescopes.