

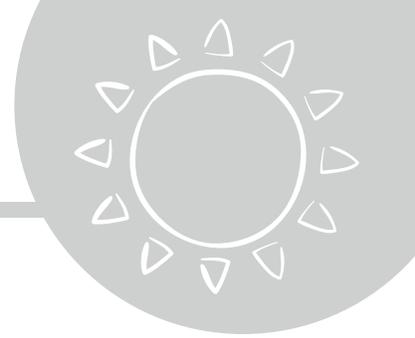


WHAT'S UP?

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.

UPPER LEVEL



OUR SOLAR SYSTEM

#3 on the map

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?

Which of the planets do you think we can observe with just our eyes? Why?

Talk with your group:

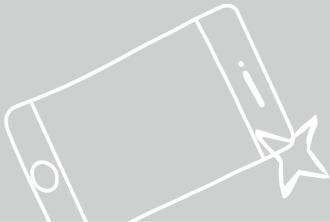
Has anyone seen a planet in the night sky? What did it look like?



LOWER LEVEL

CHICAGO'S NIGHT SKY #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 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?**

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).

LOWER LEVEL

CHICAGO'S NIGHT SKY (cont.)

#8 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:

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?**

LOWER LEVEL



ASTRONOMY IN CULTURE

#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? Would the Sun ever shine directly overhead in other parts of the world? Why?

LOWER LEVEL



ASTRONOMY IN CULTURE (cont.)

#6 on the map

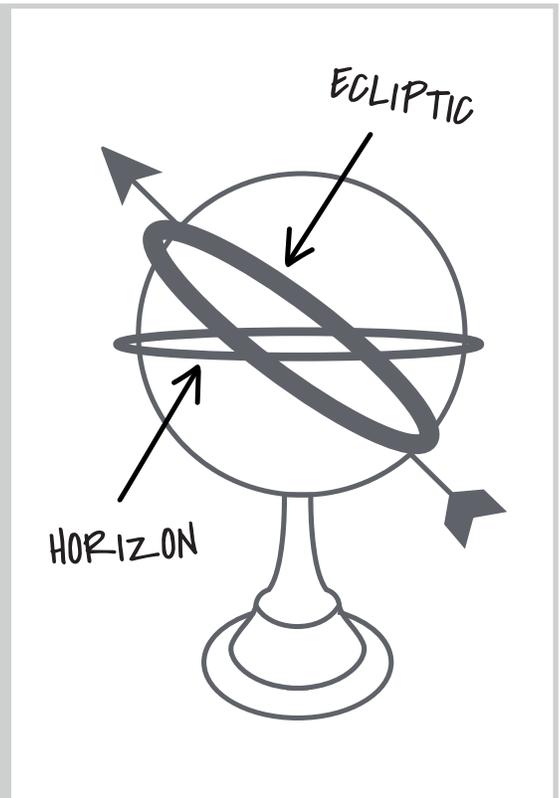
In the back of the exhibit, there is an armillary sphere you can use

(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).



Put it all together! Use what you learned at the sundial and armillary sphere to draw a line connecting the date with its season and the Sun's place in the sky.

Hint: One of the answers in the third column will be used twice.

June

March

September

December

Start of spring

Start of fall

Start of summer

Start of winter

Sun high in sky

Sun low in sky

Sun rises directly
in the east and
sets directly in
the west