

# EARTH

## OUR HOME PLANET

Thank you for beginning your Planet Passport!  
In 2020 you are invited to explore our solar system, learn about the Moon, Sun, and planets, and see them in telescopes. But we can't forget our planet: EARTH. Place your Earth sticker in the circle below and then start collecting them all. Each time you visit the Observatory and see a planet in a telescope or learn about a planet you will get a sticker to add to your planet passport.

READY? 3 · 2 · 1 · BLAST OFF!

PLACE YOUR EARTH  
STICKER HERE

URSA MAJOR

PEGASUS

GEMINI

TAURUS

# THE MOON

**SIZE:** 2,160 miles wide ( $\frac{1}{4}$  Earth)

**AVERAGE DISTANCE FROM EARTH:** 239,000 miles

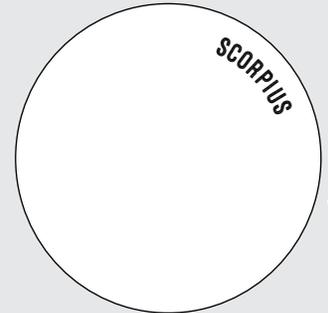
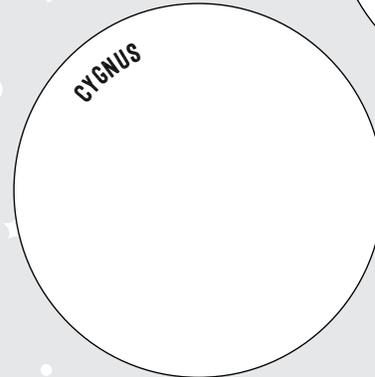
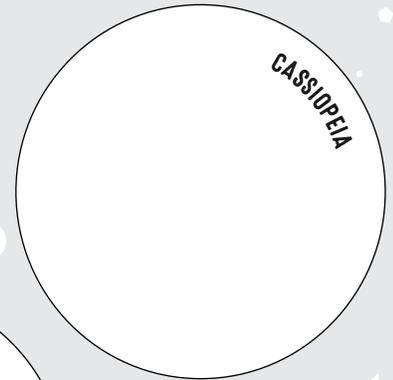
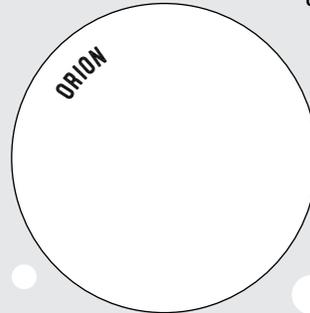
**BEST SEEN:** Every month at night during waxing phases  
and in the morning during waning phases.

The Moon is our closest neighbor in space and the only place humans have visited outside Earth. Neil Armstrong, Buzz Aldrin and 10 others have walked on the lunar surface.



# CONSTELLATIONS

Try to sketch some of your favorite constellations in the circles provided.





# MERCURY

## THE ELUSIVE MESSENGER

**SIZE:** 3,032 miles wide ( $\frac{1}{10}$  Earth)

**CLOSEST DISTANCE TO EARTH:** 51,000,000 miles

**BEST SEEN:** May 21-June 9 and September 11-22, 2020

Mercury is the closest planet to the Sun and so it is almost always up during the daytime. But it's so small and dim that you can only see it at night for a few days each year. See if you can spot Mercury just after sunset and just before sunrise this year.



When you are star gazing this year be sure to look for more than planets. Here you can list all of the other objects you saw in the sky including stars, constellations, nebulas, and star clusters.

OBJECT	DATE

# NEPTUNE

THE FARTHEST PLANET

**BEST SEEN:** September-December 2020

Neptune is so far away that it only looks like a tiny, blue dot in our largest telescope. Write down two facts about Neptune below to receive your sticker.

1

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2

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PLACE YOUR NEPTUNE  
STICKER HERE

# VENUS

OUR DAZZLING SISTER PLANET

**SIZE:** 7,521 miles wide ( $\frac{1}{10}$  Earth)

**CLOSEST DISTANCE TO EARTH:** 25,000,000 miles

**BEST SEEN:** January 1-May 24, 2020 just after sunset;  
June 19-December 19, 2020 just before sunrise.

Venus is the hottest planet. Every day the weather on Venus is cloudy and 900° F. Venus is also the brightest planet visible from Earth.

**Warning:** Venus will not look like a perfect circle in a telescope.

PLACE YOUR VENUS  
STICKER HERE

# THE SUN

**SIZE:** 865,000 miles wide (109 Earths)

**AVERAGE DISTANCE FROM EARTH:** 93,000,000 miles

**BEST SEEN:** During summer special events at the Observatory

**WARNING:** Do not look at the Sun with or without a telescope on your own. It is dangerous!

The Observatory has special, safe solar filters that let us see the surface of the Sun. We look at sunspots and solar flares up close—giant storms that explode off the Sun. And the Sun is huge! It could fit over 1 million Earths inside it. If you see a tiny sunspot, *that* is the size of the Earth!



# URANUS

## THE SIDEWAYS PLANET

**BEST SEEN:** February and November-December 2020

Uranus is tough to find in a telescope, so to complete this part of the passport find two facts about the planet and write those below.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_



# SATURN

## RING-WORLD

**SIZE:** 75,000 miles wide (9 Earths)

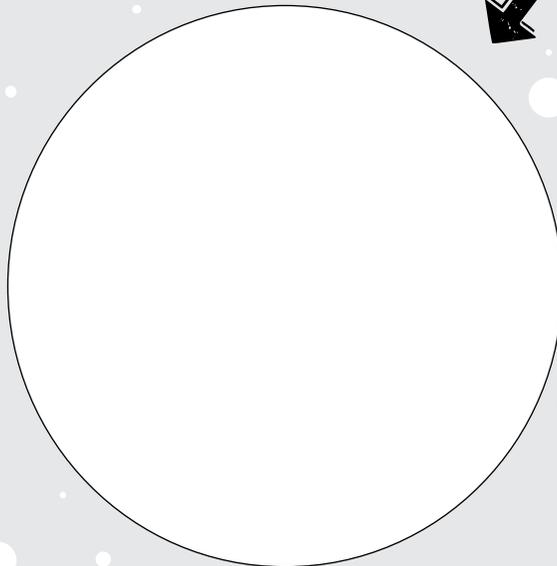
**CLOSEST DISTANCE TO EARTH:** 835,000,000 miles

**BEST SEEN:** August-December 2020

Saturn is the most amazing thing to see in a telescope. You can see the planet, several moons, and the gorgeous rings. It looks so perfect that many people think we put a sticker on the end of the telescope. But it is the real thing, and you have to see it for yourself.



To complete this part of the passport, visit the Observatory during the daytime. In the circle below draw a picture of what you see on the Sun through their safe telescopes.



# MARS

## THE RED PLANET

**SIZE:** 4,212 miles wide (½ Earth)

**CLOSEST DISTANCE TO EARTH:** 39,000,000 miles

**BEST SEEN:** October-December 2020

Although Mars is known as the Red Planet, it looks more orange in color in the night sky. That's because the surface has rusted.

We have sent space crafts to orbit Mars and rovers to roll on Mars but no humans yet. Would you like to be the first person on Mars? Start looking for it this fall and dreaming of visiting.

PLACE YOUR MARS  
STICKER HERE

# JUPITER

## KING OF THE SOLAR SYSTEM

**SIZE:** 88,000 miles wide (11 Earths)

**CLOSEST DISTANCE TO EARTH:** 385,000,000 miles

**BEST SEEN:** July-December 2020

Jupiter is so huge that all the planets, asteroids, and moons in our solar system could fit inside it. Through telescopes you can see it has stripes and sometimes a Great Red Spot. Jupiter is all gas and so you are seeing the cloud tops and storms on the planet. And they are always changing. Each time you look at Jupiter, you will see something new.

PLACE YOUR JUPITER  
STICKER HERE