

# CELESTIAL SCAVENGER HUNT

DISCOVER SIX CELESTIAL OBJECTS/DESIGN YOUR OWN PLANET & GALAXY!



**HIGH POINT**  
SCIENTIFIC

# VENUS

**DISTANCE FROM EARTH:** 59 Million Miles

**LOCATING DIFFICULTY:** ★ (LOW)

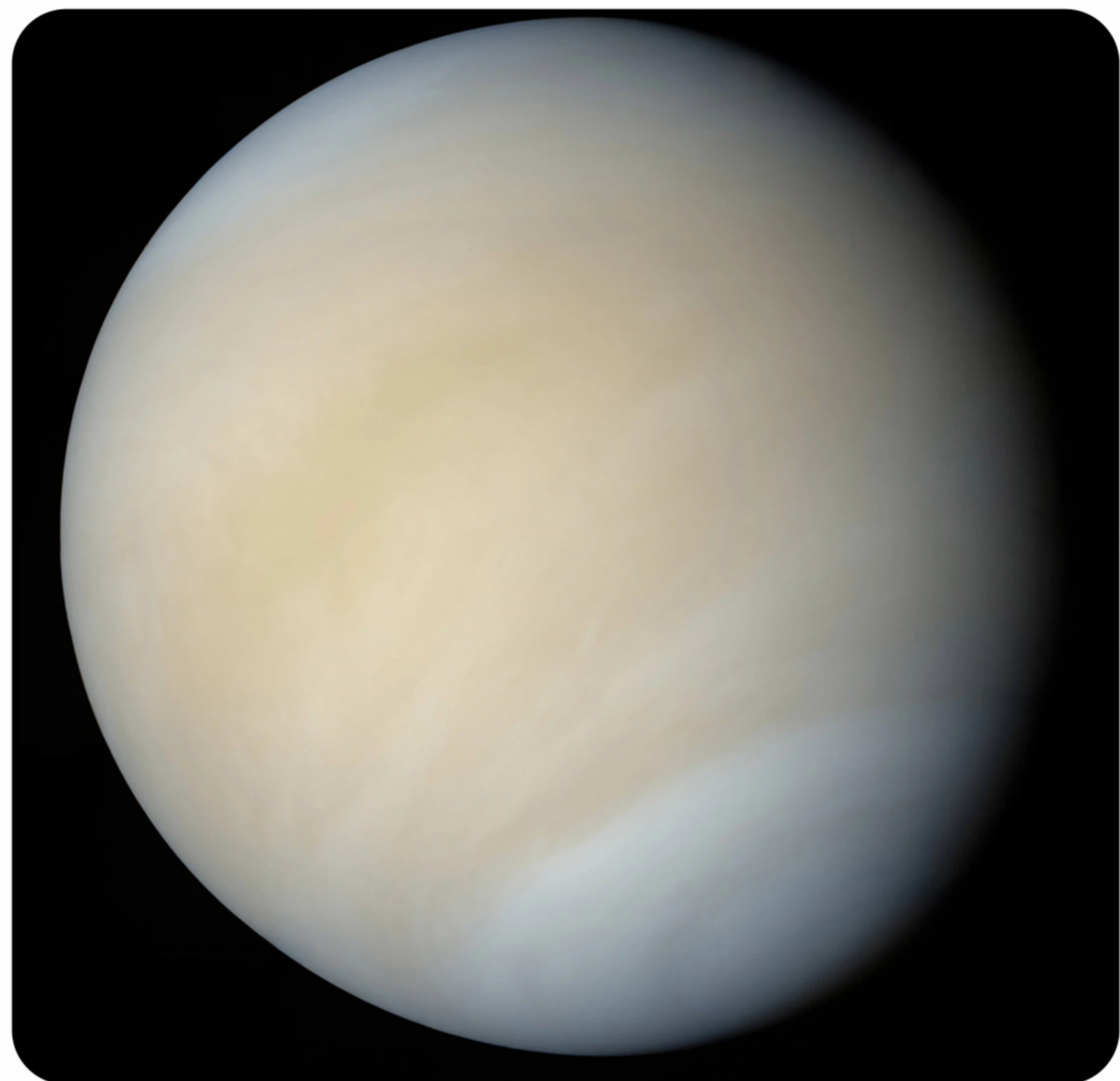
**LOCATION:** Solar System

## THE TELESCOPE PROS SAY...

**MAGNIFICATION:** Medium/High Power

**TELESCOPE SIZE:** 4" Or Larger

**INSIGHTS:** With good conditions you'll begin to see a crescent figure of the planet.



NASA

Venus is the second planet from the Sun, and the closest planet to Earth.

You can't miss it! Aside from the Moon, Venus is the brightest object in the night sky.

Venus is called Earth's 'sister planet' because they have a similar size, mass and physical composition (a core, molten mantle and crust).

Venus is hot! The average surface temperature on Venus is 863 degrees Fahrenheit - that's almost 2.5 times hotter than your oven when you bake chocolate chip cookies!

A day on Venus is longer than a year! It takes the planet 225 days to orbit around the Sun, and 243 days to rotate on its axis.

Astronomers use **lightyears** to measure the distance between celestial objects. A lightyear is equal to the distance light travels in a single year, about six trillion miles. It would take 225 million years to walk that far!

# M35 & NGC2158

**DISTANCE FROM EARTH:** 2,800 Lightyears

**LOCATING DIFFICULTY:** ★★ (MEDIUM)

**LOCATION:** Gemini Constellation

## THE TELESCOPE PROS SAY...

**MAGNIFICATION:** Low/Medium Power

**TELESCOPE SIZE:** 4" Or Larger

**INSIGHTS:** Don't forget to look southwest of M35 to view the fainter NGC2158 cluster. More difficult to see, it's a great challenge and very rewarding!



NASA

While they are both located in the constellation Gemini, star clusters M35 and NGC2158 are 9,000 lightyears apart.

At two billion years old, NGC2158 is the older of the two clusters. M35 is estimated to be around 110 million years old.

You can tell an older star and a younger star apart by their color - older stars are reddish, while younger stars are blue. Stars are white or gold towards the middle of their lives.

# ORION NEBULA

**DISTANCE FROM EARTH:** 1,344 Lightyears

**LOCATING DIFFICULTY:** ★ (LOW)

**LOCATION:** Orion Constellation

## THE TELESCOPE PROS SAY...

**MAGNIFICATION:** Low/Medium Power. Use a higher power to see quadral star Theta Orionis in the center.

**TELESCOPE SIZE:** 4" Or Larger

**INSIGHTS:** Under steady skies and a 6" or larger scope, six stars can be seen with effort.



At 1,300 lightyears away (and measuring 25 lightyears across) the Orion Nebula is the closest star forming region to Earth.

Say cheese! The Orion Nebula was the first object of its kind to be photographed back in 1880.

The brightest region of the nebula is the Trapezium star cluster, made up of massive younger stars.

Many of the stars in the Orion Nebula are surrounded by debris, a sign of early planetary formation.

The Orion Nebula is a stellar nursery where new stars are born - astronomers have observed at least seven hundred stars in different stages of formation.

# MESSIER 37

**DISTANCE FROM EARTH:** 4,511 Lightyears

**LOCATING DIFFICULTY:** ★ (LOW)

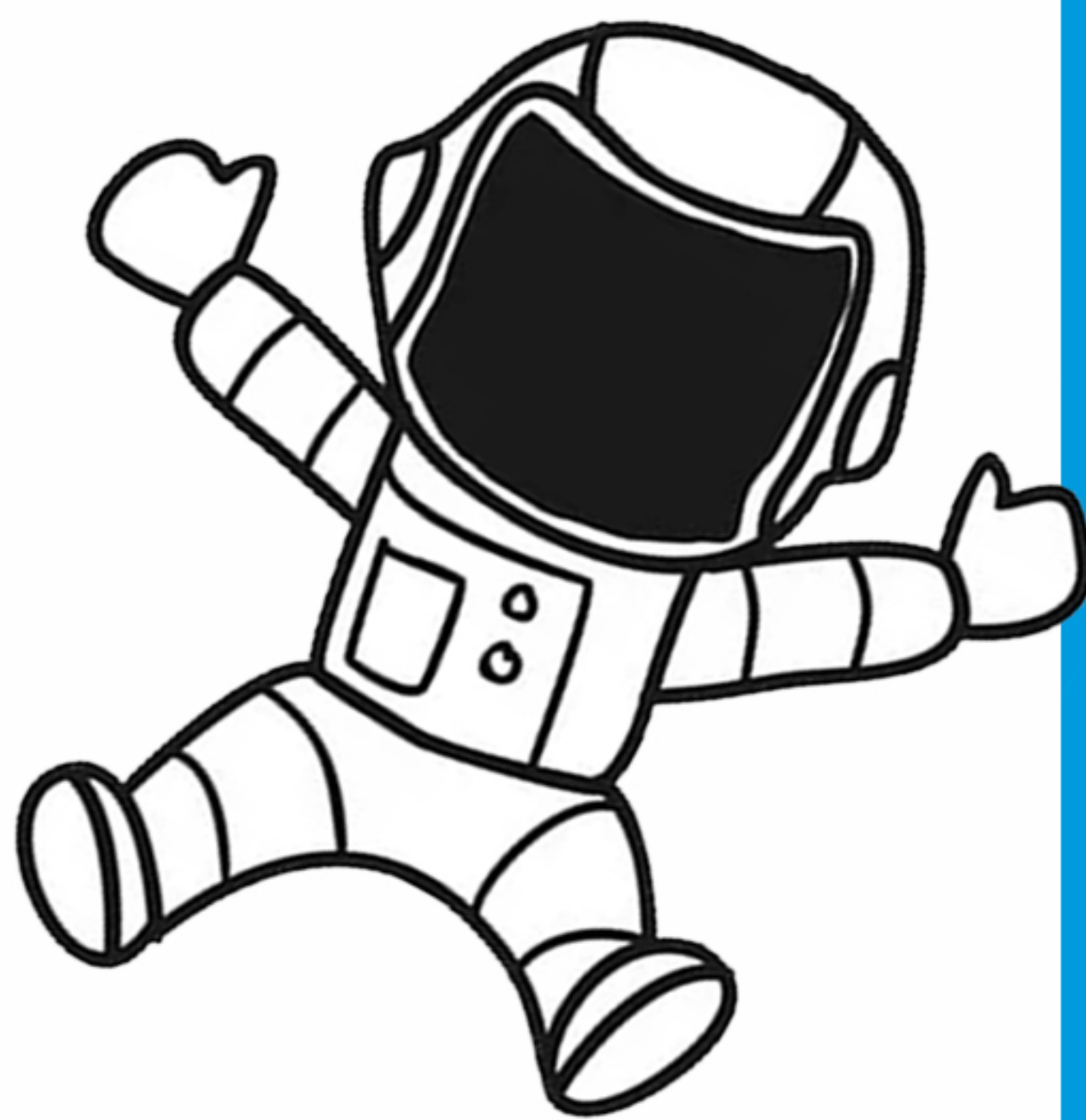
**LOCATION:** Auriga Constellation

## THE TELESCOPE PROS SAY...

**MAGNIFICATION:** Low Power

**TELESCOPE SIZE:** 4" Or Larger

**INSIGHTS:** Plenty of stars can be resolved in a small telescope and under everyday conditions.



NASA

Messier 37 is the brightest star cluster in the constellation Auriga, which lies outside of our solar system.

Put on some comfortable shoes! It would take you more than seven-and-a-half trillion years to walk to M37 - but only around twenty to get to the Moon!

Messier 37 has more than a dozen red giants, which are dying stars that heat up and expand to many times their size.

## DID YOU KNOW?

The Apollo astronauts' footprints on the moon will likely be there for at least 100 million years.

# CASTOR

**DISTANCE FROM EARTH:** 50.88 Lightyears

**LOCATING DIFFICULTY:** ★ (LOW)

**LOCATION:** Gemini Constellation

## THE TELESCOPE PROS SAY...

**MAGNIFICATION:** Medium/High Power

**TELESCOPE SIZE:** 4" Or Larger

**INSIGHTS:** Very bright star and easy to see, yet can be tricky to see the separation.



Rogelio Bernal Andreo

Six stars in one! Though it looks like a single star to the naked eye (and even through a telescope), Castor is actually a double-double-double star that's made up of three star pairs.

Castor and its neighboring star Pollux are the 'heavenly twins' of the constellation Gemini, named after two best friends who were heroes of Roman and Greek myths.

Castor is the twentieth brightest star in the night sky, and can easily be found by tracing a line from the handle of the Big Dipper diagonally through it's bowl.

# MESSIER 3

**DISTANCE FROM EARTH:** 33,900 Lightyears

**LOCATING DIFFICULTY:** ★★ (MEDIUM)

**LOCATION:** Canes Venatici

## THE TELESCOPE PROS SAY...

**MAGNIFICATION:** Medium/High Power

**TELESCOPE SIZE:** 4" Or Larger

**INSIGHTS:** Don't be afraid to push the magnification on this beautiful object!

## WHAT DOES MESSIER MEAN?

Charles Messier was a famous French astronomer from the 1700s that was interested in studying comets. After mistaking a nebula for a comet in his search of the night sky, Messier decided to record its location to avoid confusion in the future. Over the course of twenty-three years, he cataloged over one hundred objects, and was personally responsible for discovering forty of them! Many astronomers still refer to these astronomical objects by their Messier number.



NASA

Messier 3 is one of the largest and brightest globular clusters, a collection of old stars circling a galactic core.

Globular clusters are home to some of the oldest stars in the galaxy, and many are believed to have supermassive black holes at their center.

M3 was the first celestial object discovered and cataloged by astronomer Charles Messier in 1764, and is one of the most studied deep sky objects.

# DESIGN YOUR OWN PLANET



## DESIGN & NAME YOUR PLANET!

**WE'RE GIVING AWAY  
3 TELESCOPES  
FOR THE BEST PLANET  
& GALAXY DESIGNS**

Share your creation with us on social media for a chance to win a Celestron StarSense Explorer LT80!

 **@HIGHPOINTSCIENTIFIC  
#HIGHPOINTSCIENTIFIC**

 **HIGH POINT SCIENTIFIC**

## DESCRIBE YOUR PLANET!

NAME OF YOUR PLANET: \_\_\_\_\_

DISTANCE (LIGHTYEARS) FROM EARTH: \_\_\_\_\_

AVG. TEMPERATURE ON YOUR PLANET: \_\_\_\_\_

WHAT IS YOUR PLANET MADE OF? \_\_\_\_\_  
\_\_\_\_\_

DOES YOUR PLANET HAVE A MOON? \_\_\_\_\_

DOES ANYTHING LIVE ON YOUR PLANET? \_\_\_\_\_  
\_\_\_\_\_

## FUN FACTS ABOUT YOUR PLANET

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# DESIGN YOUR OWN GALAXY



## DESIGN & NAME YOUR GALAXY!

We live on Earth! Earth is one of eight planets in our solar system and it resides in the Milky Way Galaxy! What is a galaxy you ask? A galaxy is made up of millions of stars, planets, gasses and dust. Try designing your own galaxy!

A large, empty rectangular box with a dashed black border, intended for drawing a galaxy. It is located on a light blue background within a white-bordered area.

## DESCRIBE YOUR GALAXY!

GALAXY NAME: \_\_\_\_\_

WHAT SHAPE IS YOUR GALAXY? \_\_\_\_\_

WHAT COLOR IS YOUR GALAXY? \_\_\_\_\_

DISTANCE FROM THE MILKY WAY: \_\_\_\_\_

HOW MANY STARS ARE IN YOUR GALAXY? \_\_\_\_\_

HOW MANY PLANETS ARE IN YOUR GALAXY? \_\_\_\_\_

## FUN FACTS ABOUT YOUR GALAXY

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# DRAW WHAT YOU OBSERVED

VENUS

M35 & NGC2158

ORION NEBULA

CASTOR

M37

M3

## GET CLOSER WITH A TELESCOPE

Gone are the days of struggling to find celestial objects under the night sky!

The Celestron StarSense Explorer is the ultimate beginner telescope! All you have to do is download the Celestron StarSense Explorer app, mount your smartphone to the telescope, and follow the step-by-step instructions to get your time machine up and running! This telescope is great for the whole family because the telescope and app offer a number of educational tutorials so that you and your children can learn about each celestial object as you adventure around the universe! This is by far our favorite telescope for beginners -- it checks off all the boxes!



**LT \$169.95**

Share your planet/galaxy design with us on social media for a chance to win one!

**DX \$384.95**



**Contest details:** Share your planet and/or galaxy design with us on Instagram (@highpointscientific or #highpointscientific) or Facebook (High Point Scientific) for a chance to win one of three Celestron StarSense Explorer LT80 telescopes. Offer valid in the US and Canada only. Winners will be announced on Instagram the week of 5/10/2020.