

# Check Out the Stars!

Download the free app **Sky View Lite** (iPhone or Android)



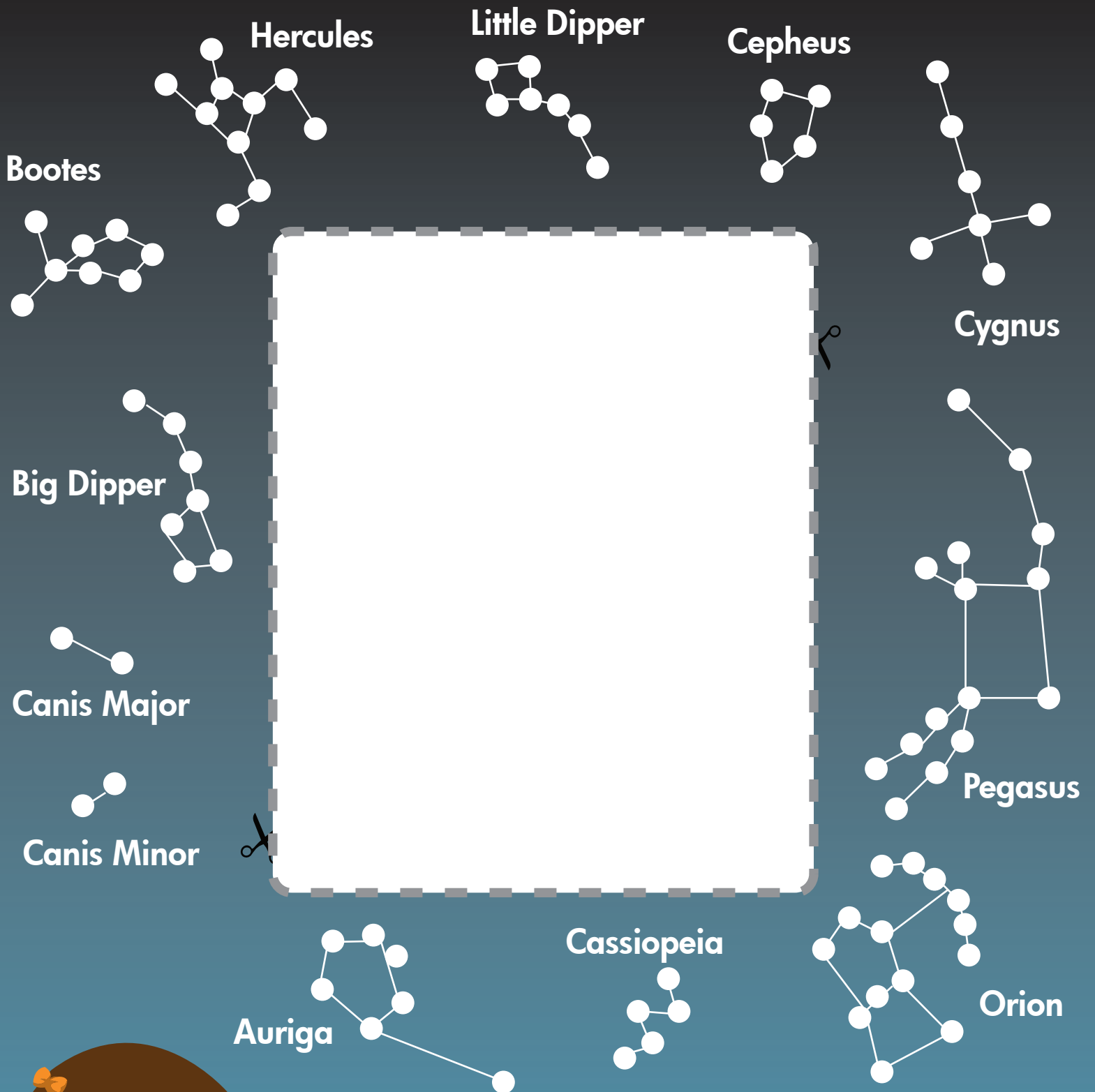
## Teacher Overview

SkyView app is a free augmented reality (AR) app for both iOS and Android devices, that uses your smartphone's camera to uncover different stars, constellations, planets, star clusters and other celestial bodies in the night sky. You can also discover coordinates and facts, which if you have kids, can turn your stargazing into an educational experience.

## Teacher Review

In SkyView Universe, kids can see what's in the sky above them. They point the device in any direction and see what planets, constellations, and even satellites are in the sky. When they see something, they can tap on it, and then read a bunch of facts about it.

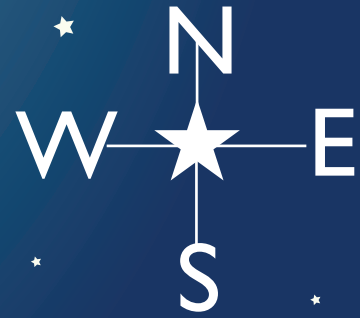
Kids can learn about astronomy and tons of sky-related factoids, from astronauts and their missions to distances of stars from Earth. They can build their research skills by tracking and recording the trajectory of their favorite planet. SkyView Universe is well-suited to give kids who are already interested in astronomy the information they seek and also to inspire kids who may not have wondered about the sky to be more curious. SkyView Universe gives loads of science information with some cool features, but the amount and depth of exploration is up to the kids.

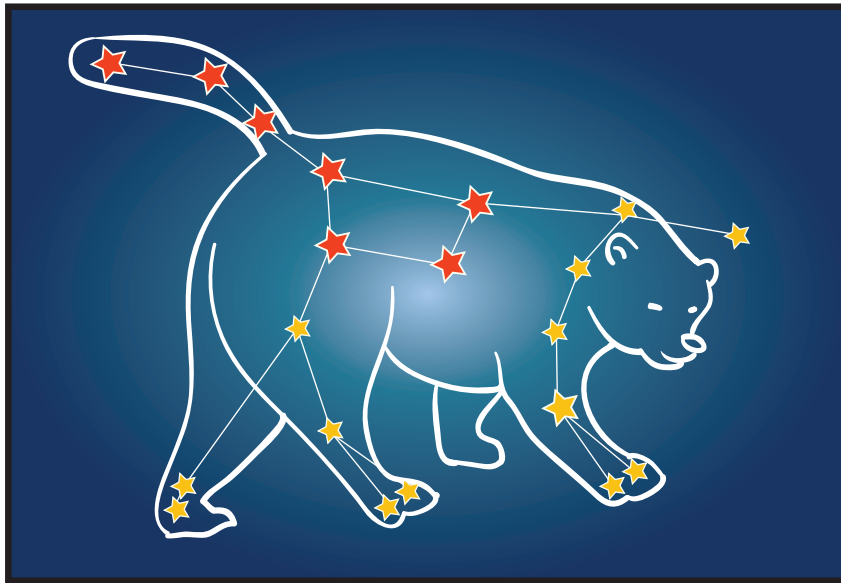


# Constellations

Constellations are groups of stars that make an imaginary shape in the night sky. Cut out the middle square on the dotted lines. Which constellations can you find?

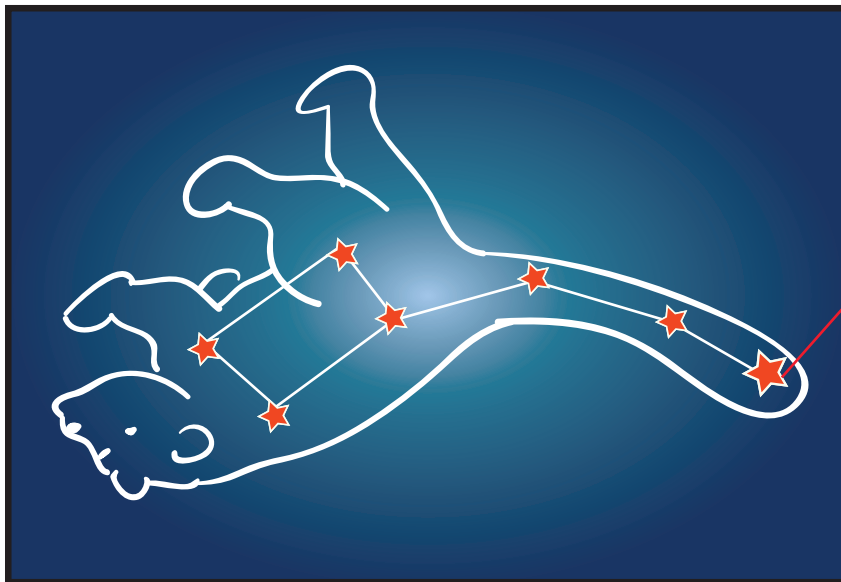
# ★ ★ STAR GAZING ★ ★





*Ursa Major (big bear)*

A woman named Callisto was turned into a bear by an angry goddess, Hera, and was put up in the sky, where she still lives today. The orange stars are known as the Big Dipper.

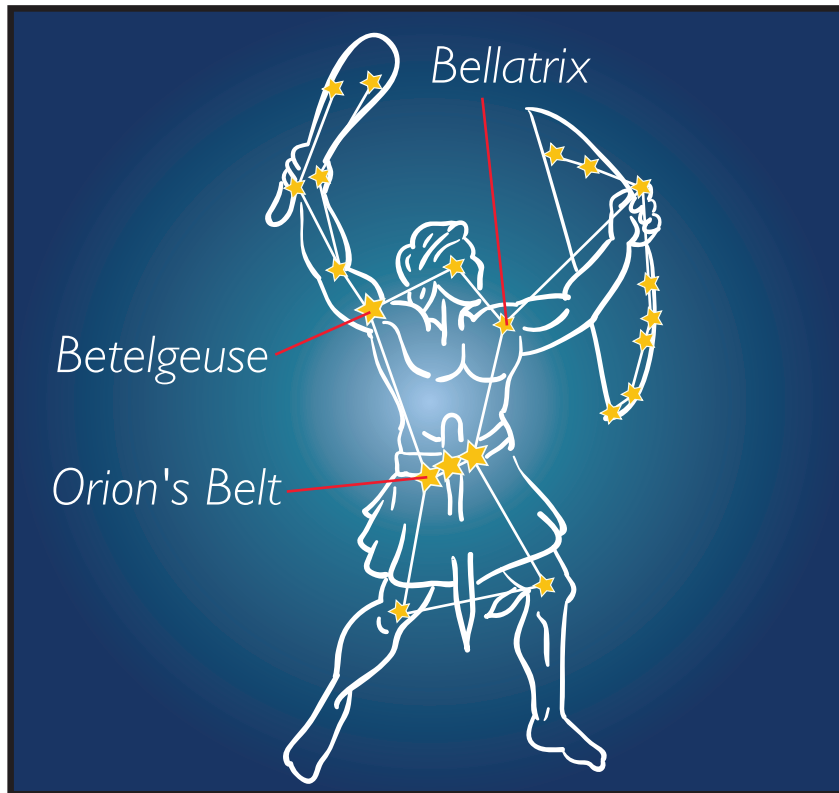


*Polaris  
(the north star)*

*Ursa Minor (little bear)*

The little bear is Arcas, Callisto's son. He was also turned into a bear and put up in the sky. The orange stars are known as the little Dipper.

Polaris (the north star) is the tail of the little dipper, an important star that hunters and travelers can use as a compass to find north.



*Orion*

Orion was a hunter in ancient Greek mythology. After he was killed by a scorpion, the gods put him up in the sky. Orion's Belt - The three brightest stars in the Orion constellation.



*Sirius (the dog star)*

Orion's hunting dog Sirius is the brightest star in the sky!



*Cassiopeia*

Cassiopeia was a very vain, self-centered queen. The gods hung her upside-down in the sky as punishment.



*Cepheus*

Cepheus, the king, was Cassiopeia's husband.



*Lyra/Lyre*

The lyra was a stringed instrument that Orpheus used to charm wild animals. When he died, the lyra was placed in the sky to honor him.



*Aquila*

Aquila was an eagle of the gods. He did many things for the gods, such as carry Zeus' thunderbolts.



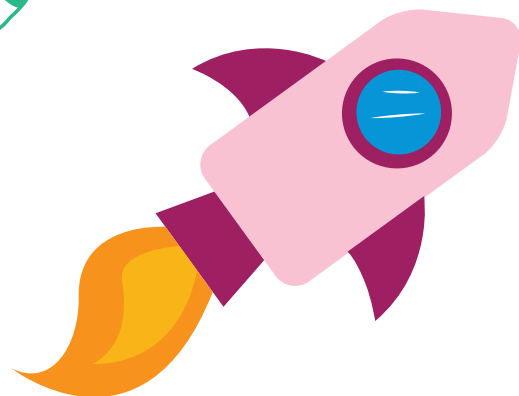
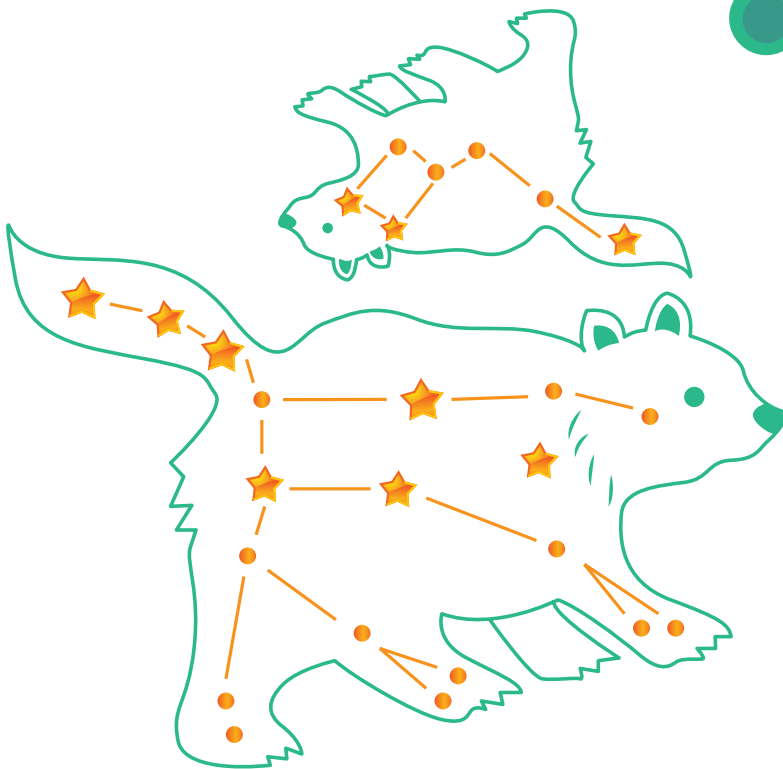


## URSA MAJOR AND URSA MINOR: ALWAYS VISIBLE IN NORTHERN SKY

Not all constellations can be seen by everyone on Earth. Because of the way Earth spins on its axis people who live in the northern hemisphere can see different constellations than people in the southern hemisphere.

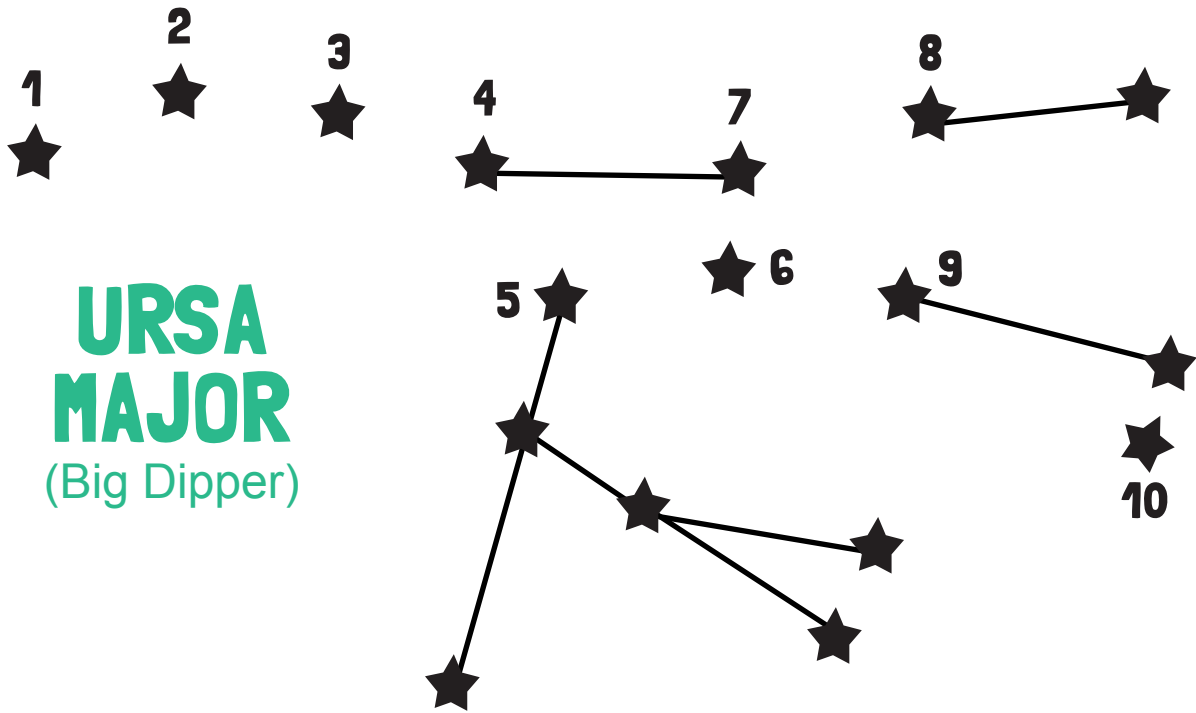
Ursa Major, the “big bear”, and Ursa Minor, “little bear”, are two of five constellations that can be seen all year long from Earth’s northern hemisphere because they are so high in the sky.

The famous constellation the Big Dipper makes up a large part of Ursa Major. Can you see where stars within the “great bear” form to make what looks like a ladle, or water dipper? Similarly, the Little Dipper makes up a large part of Ursa Minor.





**CONNECT THE STARS IN ORDER TO CREATE  
URSA MAJOR AND URSA MINOR**



Also called Polaris, it's the handle of the Little Dipper.

# How is a star born?

A star is a big ball of plasma that is formed from a cloud of dust and gas.

Sometimes particles of dust and gas float by each other in space without anything happening. Other times gravity clumps these clouds together into compact substances. The particles begin bouncing off of each other, creating friction and heat. Eventually, the heat becomes so intense that it creates a nuclear reaction which releases a massive amount of energy and light. The resulting substance is a star.



## QUESTION & ANSWER:

What is a star?

.....  
 .....

What gets released after a nuclear reaction involving intense heat?

.....  
 .....

Did you know that celebrities and actors are often called stars?

Why do you think we compare famous people to burning lights in the sky?



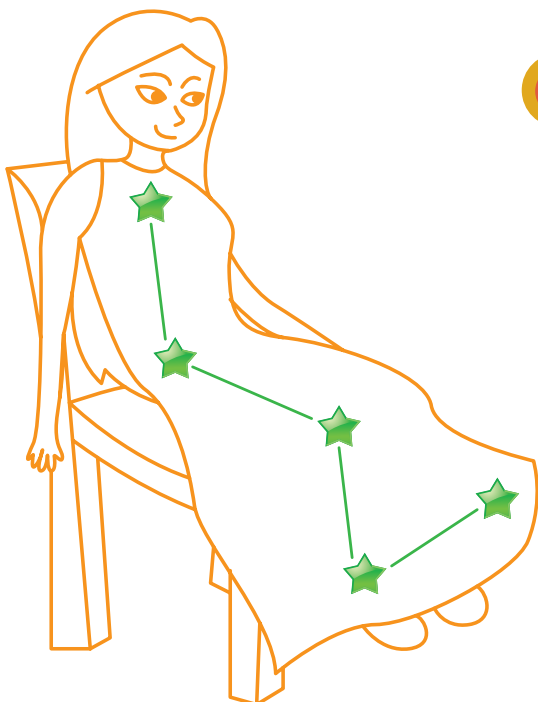
## CASSIOPEIA, THE QUEEN ALWAYS VISIBLE IN THE NORTHERN SKY



Cassiopeia was a very vain queen. She thought she and her daughter Andromeda were more beautiful than the sea nymphs, and she would brag about it. When the sea nymphs complained to Poseidon, the god of the sea, he sent a monster named Cetus to their kingdom. Queen Cassiopeia and King Cepheus were forced to sacrifice their daughter to the monster. But just before she was eaten, a hero named Perseus saved her. All of these characters are constellations you can see in the sky.



Eventually, the gods were so frustrated with Cassiopeia's vanity that they hung her upside-down in the sky, as a reminder to everyone else to not be boastful. We can see the constellation Cassiopeia as a "W" shape in the sky.



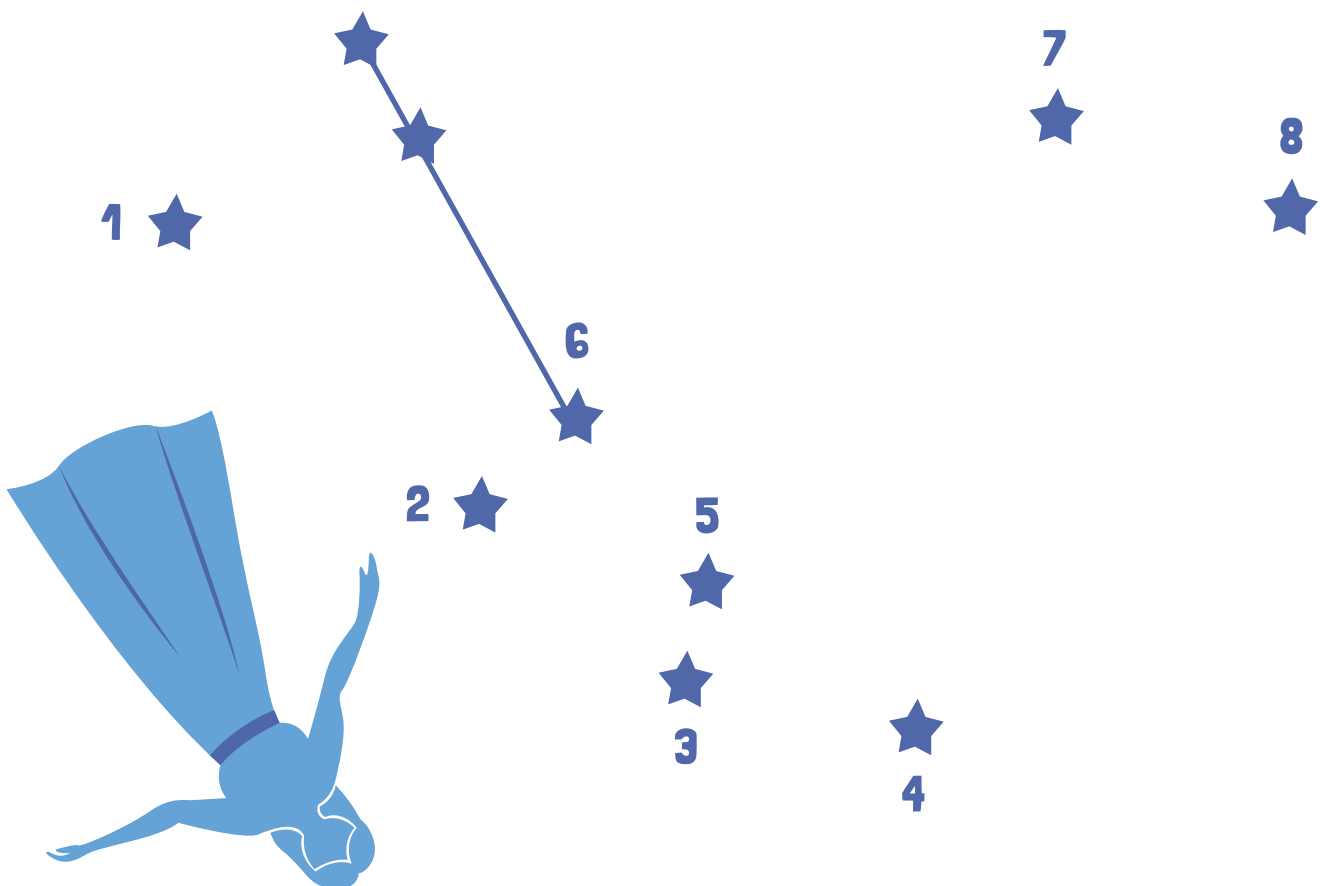
# ANDROMEDA

## VISIBLE IN THE NORTHERN SKY DURING FALL



After she was freed from the sea monster, Cetus, Andromeda kept her parents' promise to Perseus and married him. She left her country to live with her new husband who later became the king of Tiryns and Mycenae. The goddess Athena placed the image of Andromeda among the stars as a reward for keeping her parents' word.

**CONNECT THE STARS IN ORDER TO CREATE ANDROMEDA**



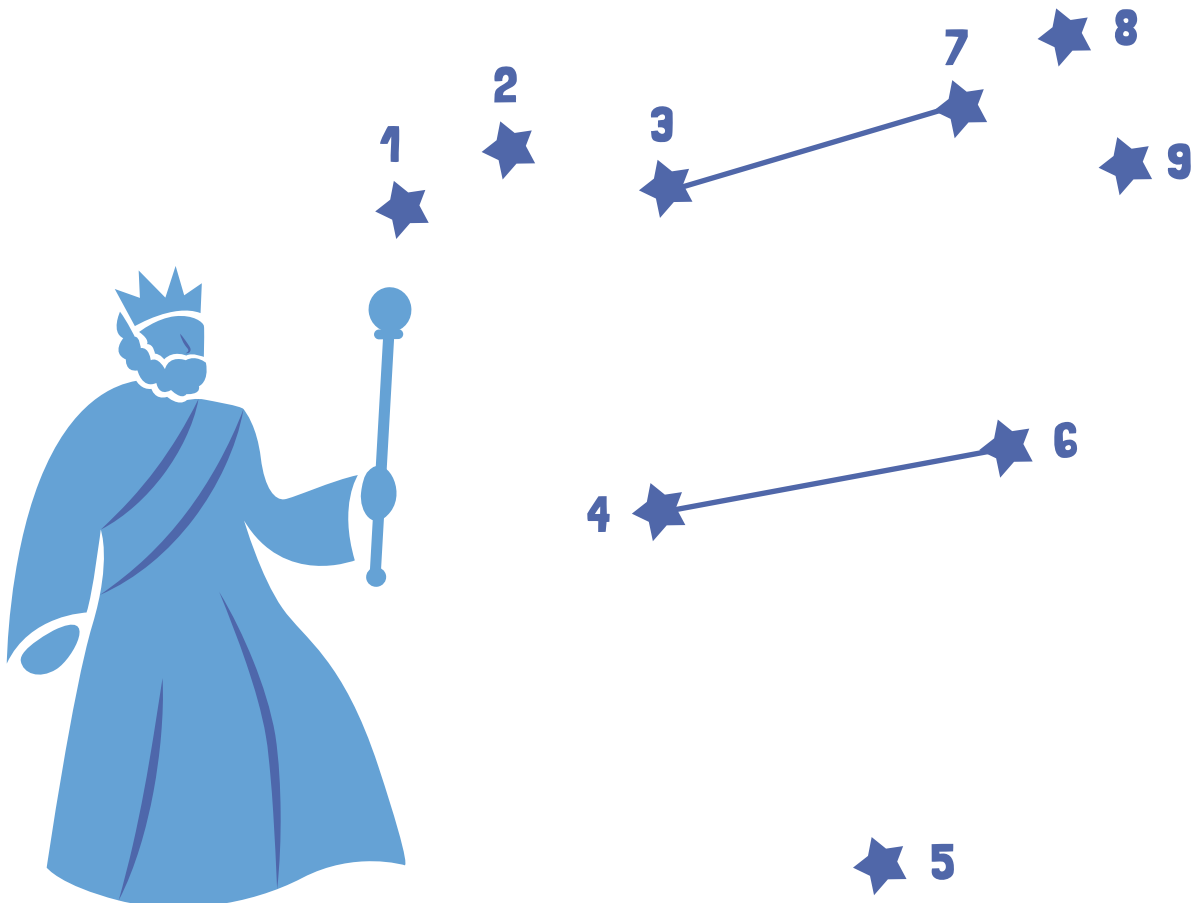
Andromeda is a "V" shaped constellation that lies right next to Pegasus, which leads some to believe that at one time, some of these stars used to be part of the winged horse.

# CEPHEUS

ALWAYS VISIBLE IN THE NORTHERN SKY



- Cepheus, also known as the King, was married to the beautiful Cassiopeia, and together they had a lovely daughter, Andromeda. Although his name is most well-known in connection with his daughter, Cepheus was placed in the sky of his own right.
- The stars of the Cepheus constellation form a shape approximately like a box with a triangle on top. When fainter stars visible to the naked eye are included, Cepheus can be interpreted as looking like a king with a crown.

**CONNECT THE STARS IN ORDER TO CREATE CEPHEUS**

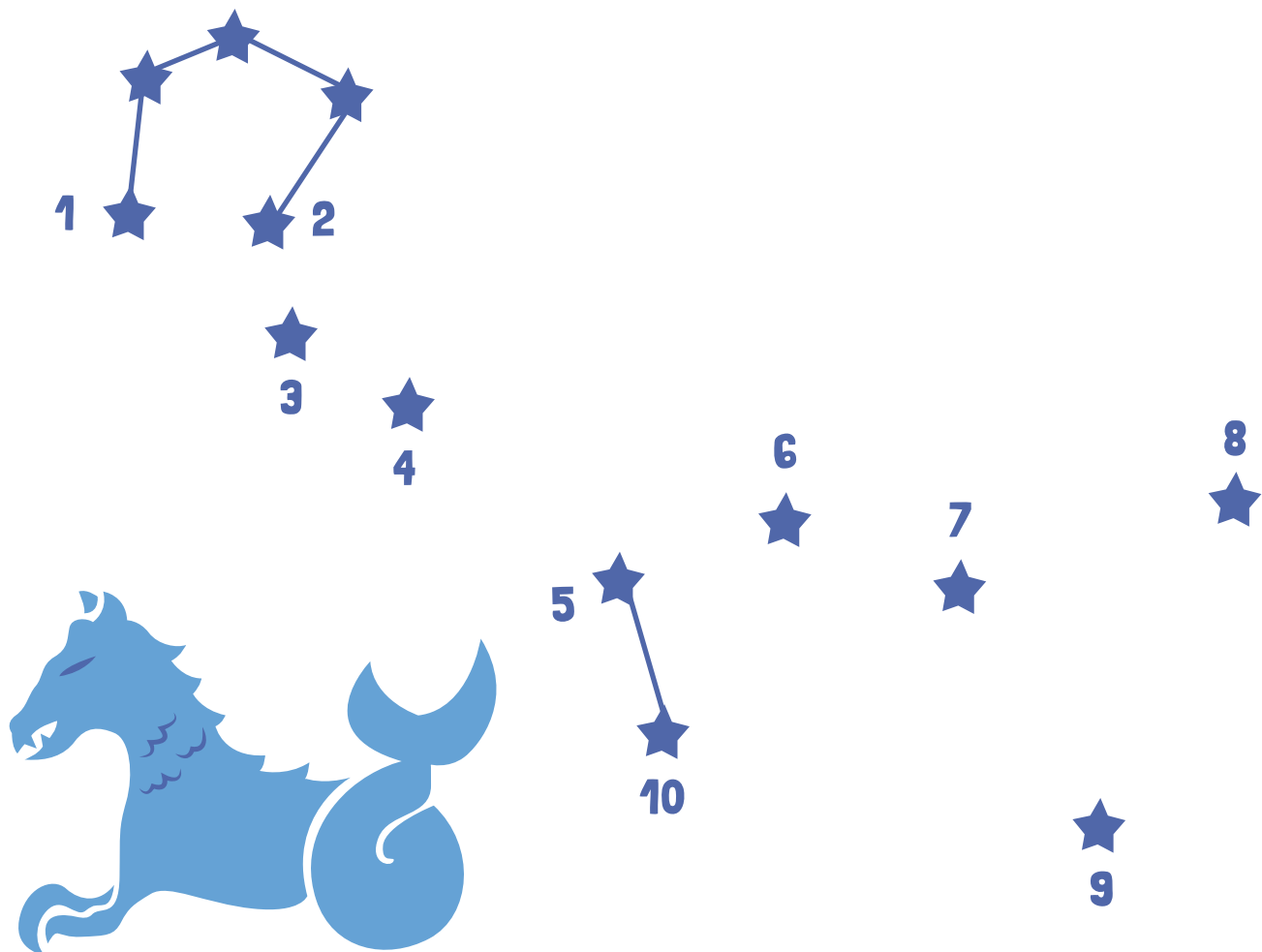


# CETUS

## VISIBLE IN THE NORTHERN SKY DURING WINTER

-  Cetus, or the Whale, represents the sea monster that almost ate Andromeda. It is one of the largest constellations known.
-  This constellation lies in the region of the sky called the Water, which is home to many other water-related constellations such as Pisces (the Fishes), Hydra (the Water Serpent) and Aquarius (the Water-Bearer).

**CONNECT THE STARS IN ORDER TO CREATE CETUS**



# PERSEUS

## VISIBLE IN THE NORTHERN SKY DURING WINTER

- Perseus, the hero, is known for beheading the snake-headed Medusa, to save the princess Andromeda from the giant sea monster.
- The location of Perseus lies in the main path of the Milky Way and can easily make out the human figure with a triangular body, legs and hands. In one hand, he appears to be holding the weapon, while in the other he appears to be holding Medusa's head.
- It is also home to the annual Perseid's meteor shower which is visible every August.

### CONNECT THE STARS IN ORDER TO CREATE PERSEUS

