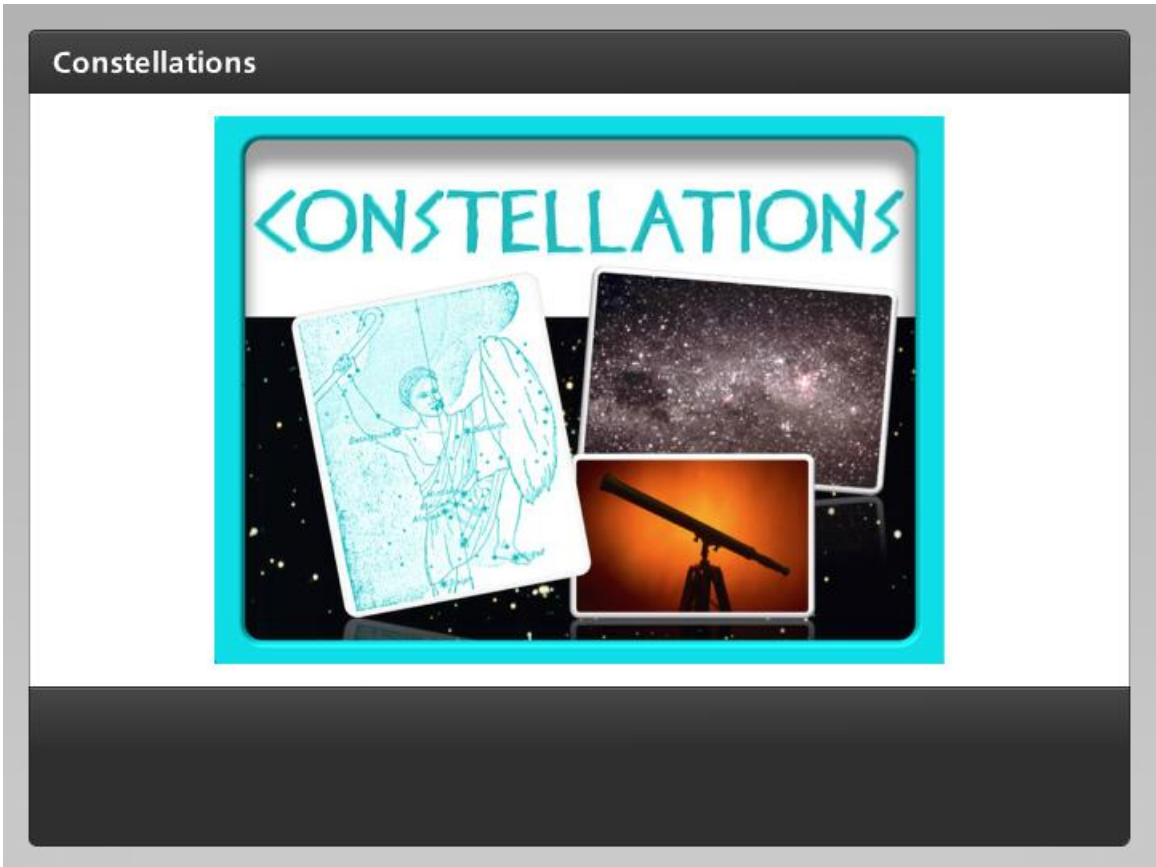


**Module 3: Astronomy – The Universe**  
**Topic 3 Content: Constellations Notes**

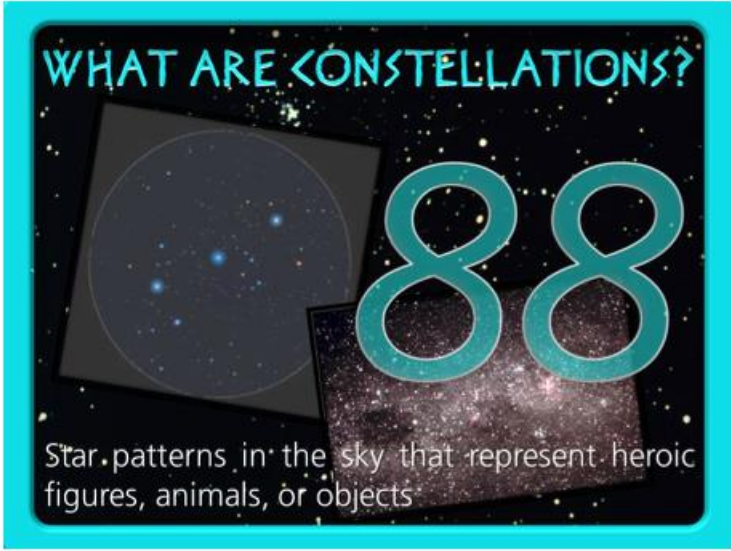


Constellations

## Module 3: Astronomy – The Universe

### Topic 3 Content: Constellations Notes

Constellations



Star patterns in the sky that represent heroic figures, animals, or objects

Constellations are star patterns in the sky that represent heroic figures, animals, or objects. Usually the brightest stars make up the majority of the pattern. The brightest stars are given names and are identified with a Greek letter. All visible stars are part of a constellation, whether they are part of the outlining pattern, or lie within the constellation's boundaries. There are 88 constellations across the Northern and Southern Hemispheres.

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Constellations can be found in the night sky by looking for the patterns that they make; however, if you want to find a particular star within the constellation, you will need to know where to look. That is why the stars are labeled on sky maps with Greek letters, or the brightest few stars found within the constellation may have names.

## Module 3: Astronomy – The Universe

### Topic 3 Content: Constellations Notes

#### Constellations



Do you recognize the constellation shown here? It may be the most famous in the world. If you said the Big Dipper, then you are correct. The Big Dipper is the tail portion of a larger constellation known as Ursa Major, which is Latin for “big bear”. The scoop of the Big Dipper points towards the North Star, or Polaris, which is due north in direction. In addition, several of the stars from this constellation, including Merak and Dubhe, are important for celestial navigation.

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### Topic 3 Content: Constellations Notes

#### Constellations



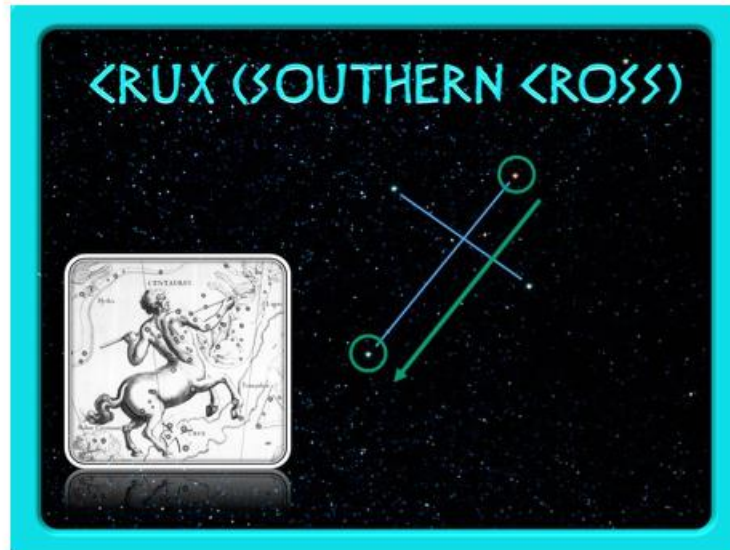
Similar to the shape of Ursa Major, is Ursa Minor, or “little bear”. Ursa Minor is a constellation in the northern sky. The tail of Ursa Minor contains the Little Dipper, at the end of which lies Polaris, or the North Star. Because Polaris appears motionless in the sky, it seems like all of the other stars seen in the Northern Hemisphere revolve around it. Polaris has been used for celestial navigation as far back as the Roman Empire.

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#### Constellations



The constellation Crux is visible in the Southern Hemisphere throughout the year. Four of the main stars in this constellation form the Southern Cross. Unlike the Northern Hemisphere, the southern sky does not have a pole star. Instead, the stars Acrux and Gacrux loosely trace a line towards the Southern Celestial Pole and assist with celestial navigation for sailors in the Southern Hemisphere.

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#### Constellations



The constellation Orion is seen here. This constellation is located on the celestial equator, which means that it can be seen throughout the world. The three stars that comprise his belt are easily identified in the winter sky. Notice that not all of the stars are white. Did you know that stars are different colors? The bright red star in the upper left is the Alpha star named Betelgeuse. The bright blue star in the lower right is the Beta star named Rigel. Below the belt, in the sword part

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#### Constellations



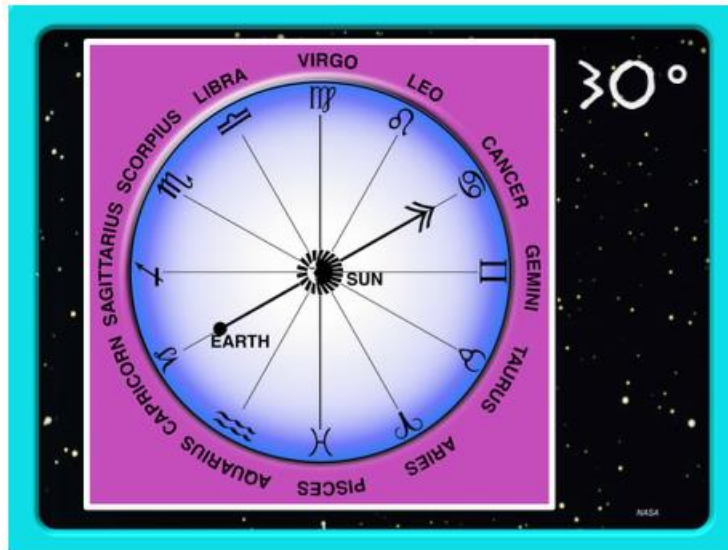
Forming a noticeable "w" shape, the constellation Cassiopeia is a northern sky pattern. This constellation is named after a queen from Greek mythology who was punished by the gods after she made claims about the beauty of her daughter, as well as her own beauty. The constellation of Cassiopeia is directly opposite from the Big Dipper traveling across Polaris.

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## Module 3: Astronomy – The Universe

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#### Constellations



In ancient times, the Sun appeared to move in front of a different constellation nearly every thirty days. The zodiac is comprised of twelve divisions along the ecliptic, the apparent path of the Sun around the sky. Notice that each division has a sign and is equal in size, with each arc measuring thirty degrees. Actually, it is the Earth that moves, but the ancients did not realize this. Instead, they focused on how the Sun moved across the ecliptic throughout the year.

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