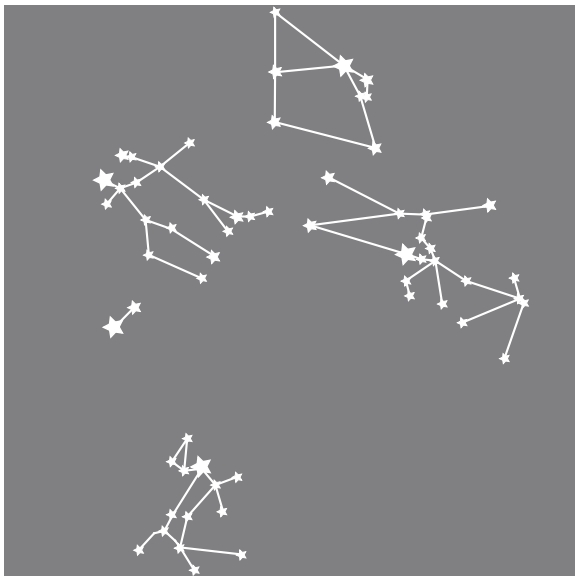
Four Stories

Recognizing the Guideposts and understanding when they appear lets you know what part of the sky you are looking at. Once you get oriented (by finding Orion or one of the other Guideposts), then you can find all the bright stars and constellations.

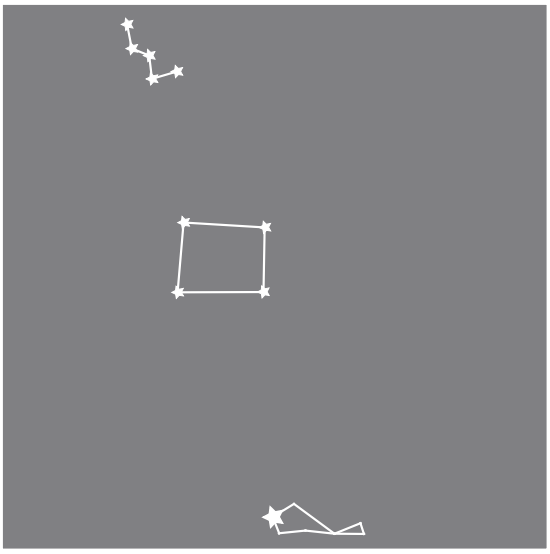
There are only about 2000 stars you can see in the sky on a clear night with the naked eye, and only about 200 of these are interesting. You could try to memorize them all, but a story is a more memorable and fun way to remember the stars and constellations. Stories about the skies have been told and retold since ancient times.

We've taken the four Guidepost constellations and created an unforgettable story about each, to guide you through the skies and help you remember where to look to find your favorite bright stars.

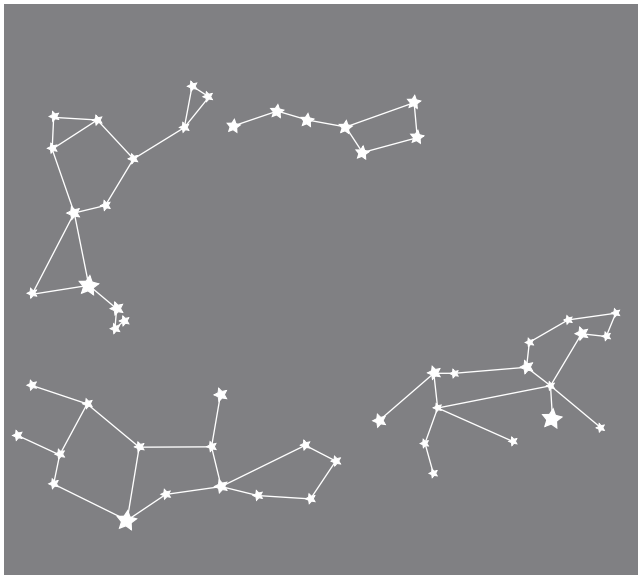
Now let's take a look at the constellations and bright stars in each part of the sky.



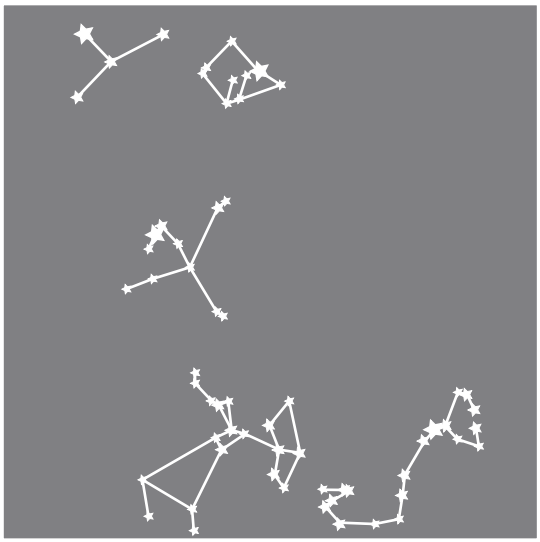
Orion's Hunting Party



The Queen Goes Fishing

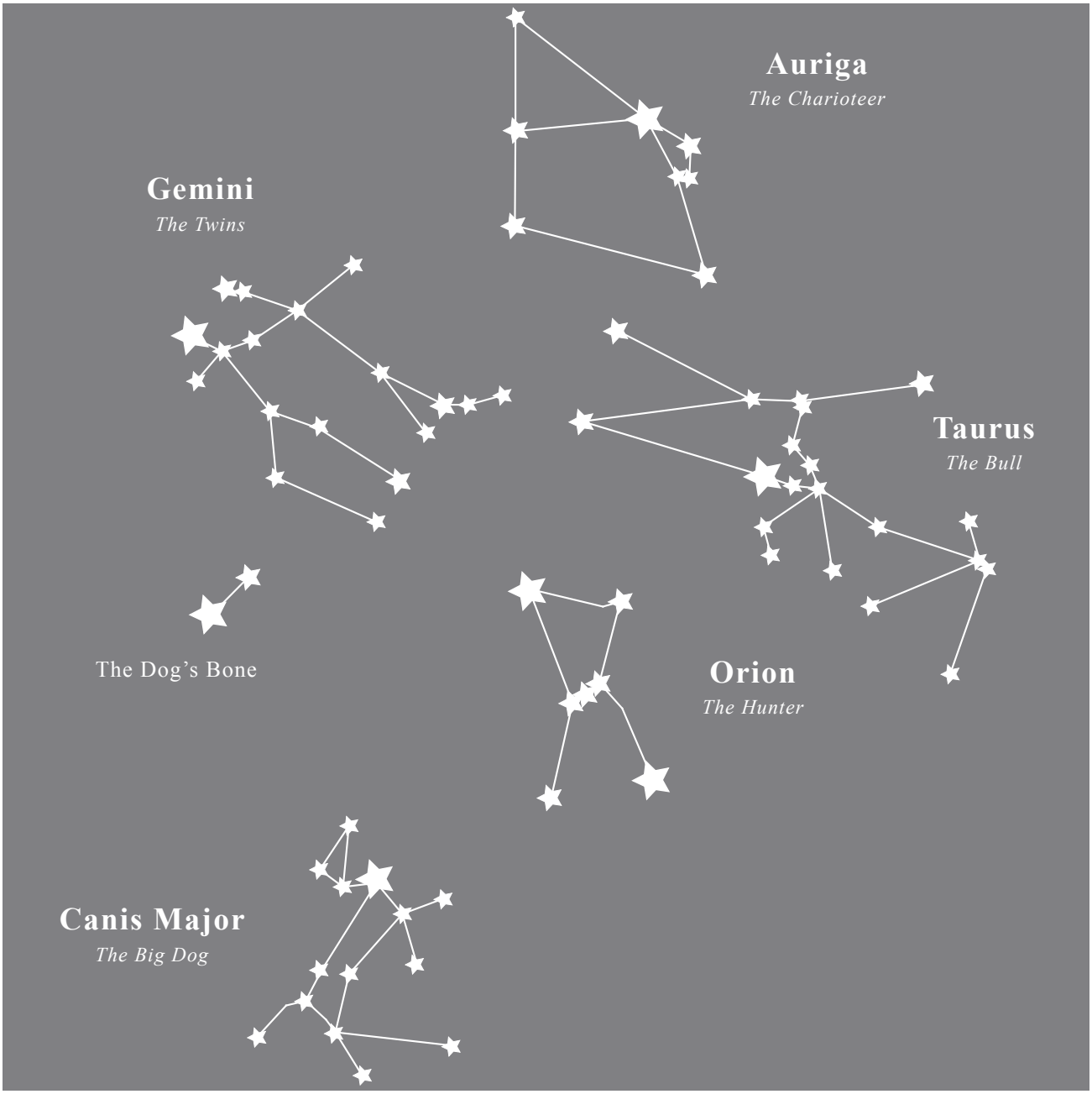


Dipper for a Distressed Damsel



Cygnus Happens Upon a Battle

These are the four stories (one for each Guidepost) that include all of the bright stars and famous constellations of the Northern Hemisphere.



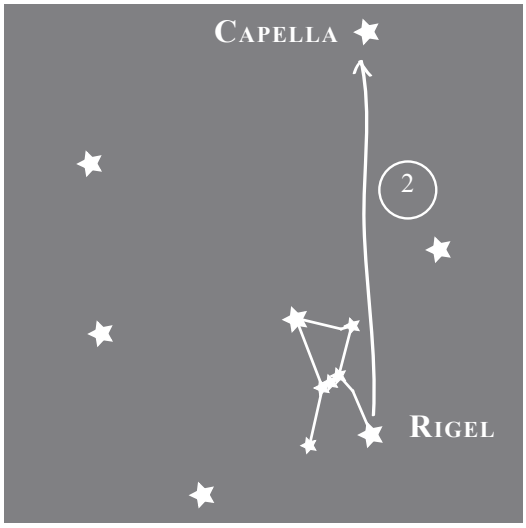
Orion's Hunting Party

Orion *The Hunter* doesn't travel alone. He leads an impressive hunting party including a chariot driver, a dog, the dog's bone, and some twins. Along the way, he encounters a ferocious bull that charges toward his group.

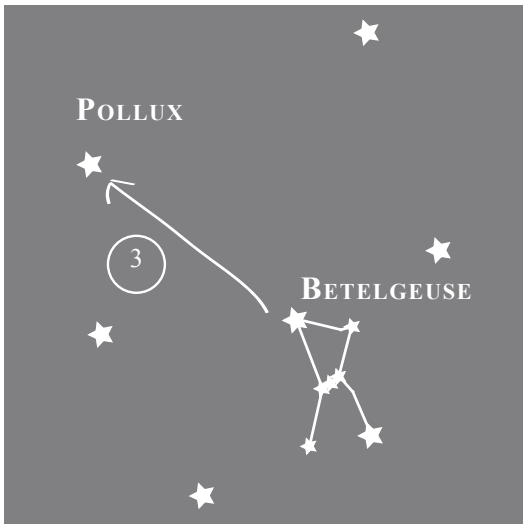
It won't be long before you know this story by heart and can easily find these constellations. But we won't try to learn them all at once. First we'll just learn how to find all the bright stars around Orion.

1. **Aldebaran is found by following the line of Orion's belt upwards.**

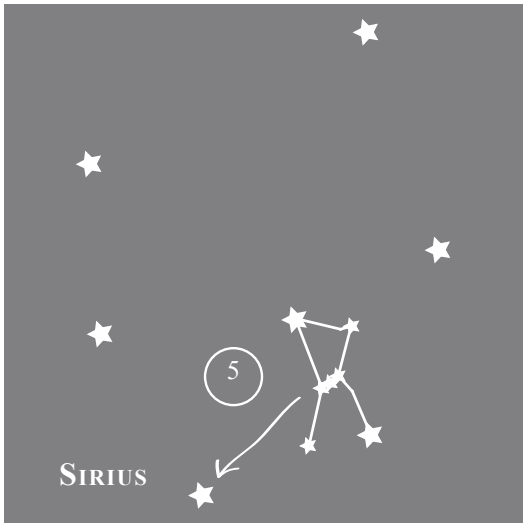
Orion points to five of the brightest stars in the sky.



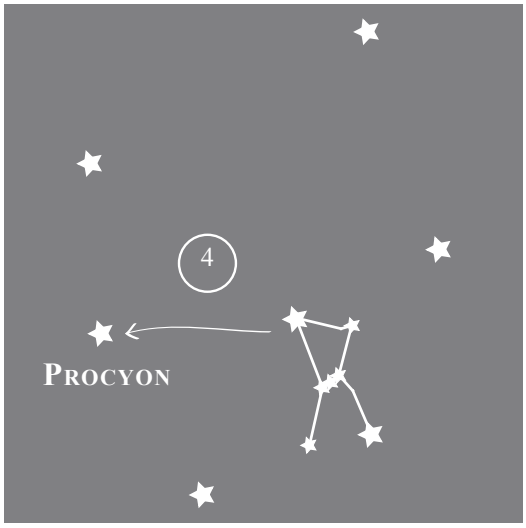
2. **Capella is above Orion's right foot, Rigel.**



3. **Pollux is kitty-corner up from Orion's shoulder, Betelgeuse.**

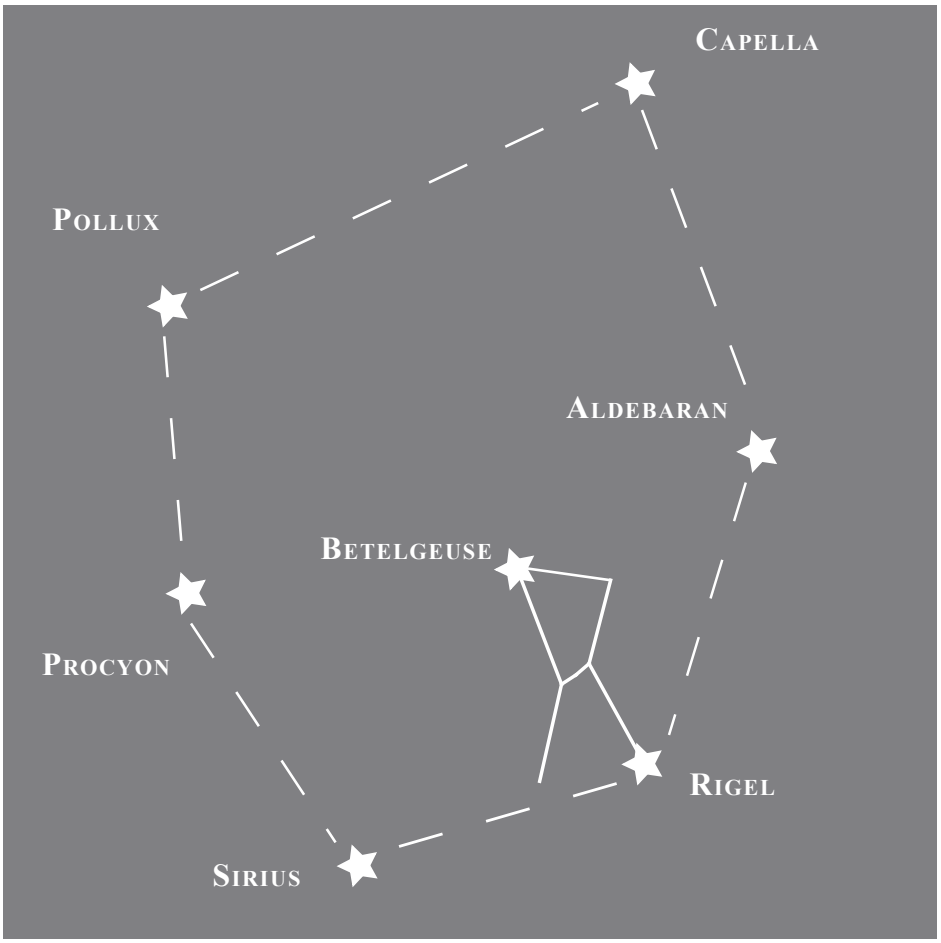


5. **Sirius can be found by following the line of Orion's belt downward.**



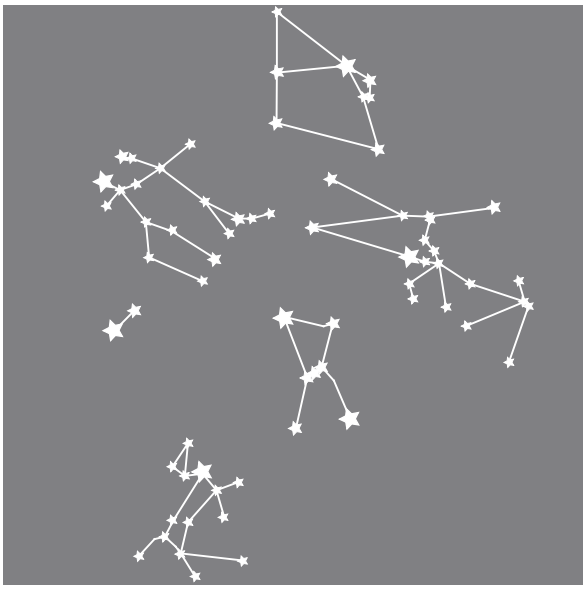
4. **Procyon is to the left of Orion's shoulders.**

Together, along with Rigel (Orion's foot), this formidable group is known as the Winter Hexagon. The six stars of the hexagon plus Betelgeuse in the middle comprise nearly half of the 15 brightest stars in the Northern Hemisphere.



If the sky is clear and dark enough to see Orion, then these seven will be visible.

Before we finish telling the tale of Orion, we need to discuss why we make a big deal out of some stars and ignore others.



NOTE: To remind the reader of the "big picture," a tiny inset of the larger image from the previous page set has been included here. If a view of the larger image is preferred, just flip back one page.

It's obvious to any stargazer that some stars are brighter than others. If we want to write about stars and constellations, we need a systematic way to describe their brightness.

The Greek astronomer Hipparchus invented such a system around 150 BC when he made the first star catalog. He called the top 21 brightest stars **first magnitude**. The stars that are about half as bright as those he called **second magnitude**, and so on down to 6th magnitude, the dimmest stars you can see (without a telescope).

There are not that many really bright stars in the sky, and it doesn't take very long to know them all.

First magnitude stars in order of brightness:

1. Sirius (SEER-ee-us)
2. Canopus (kah-NO-pus)*
3. Alpha Centauri (AL-fah sen-TAUR-eye)*
4. Arcturus (ark-TOO-rus)
5. Vega (VAY-gah)
6. Capella (kah-PEL-ah)
7. Rigel (RY-jel)
8. Procyon (PRO-see-on)
9. Achernar (AY-ker-nar)*
10. Beta Centauri (BAY-tah sen-TAUR-eye)*
11. Betelgeuse (BET-el-jooz)
12. Altair (al-TAYR)
13. Aldebaran (al-DEB-ah-ran)
14. Acrux (AY-kruhks)*
15. Antares (an-TAIR-eez)
16. Spica (SPY-kah)
17. Pollux (POL-lucks)
18. Fomalhaut (FO-mal-ought)
19. Deneb (DEN-eb)
20. Becrux (BEE-kruhks)*
21. Regulus (REG-you-lus)

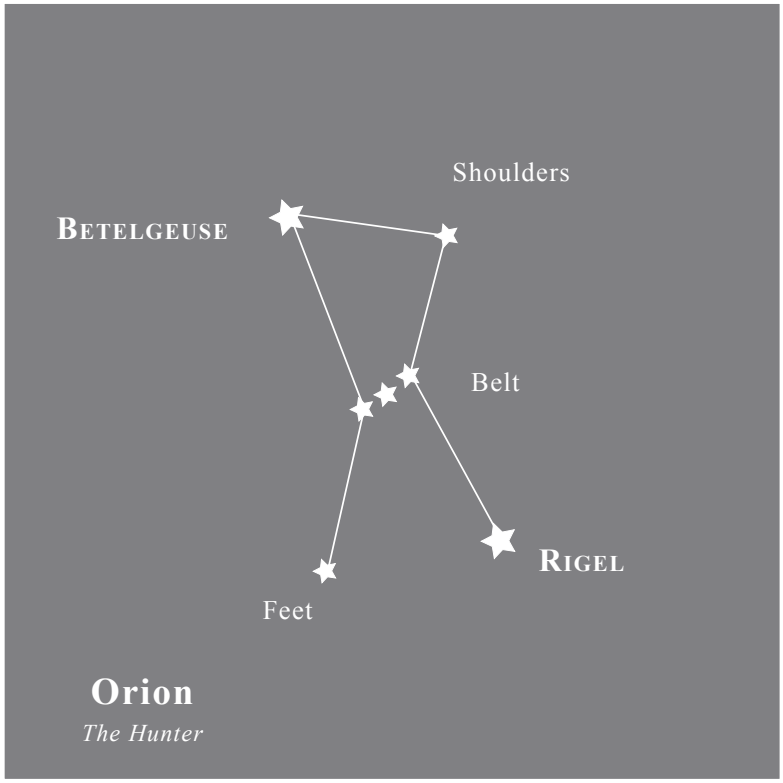
* Six of the brightest stars cannot be seen from Northern Latitudes. To view them, you need to be below about 20° N latitude, which means in the tropics.

All the best constellations are made from mostly 1, 2, and 3 magnitude stars. That means you can become quite a stargazing expert with only about 200 stars.

1st Magnitude - 21 stars
2nd Magnitude - about 50 stars
3rd Magnitude - about 170 stars
4th Magnitude - about 500 stars
5th Magnitude - about 1600 stars
6th Magnitude - about 5000 stars

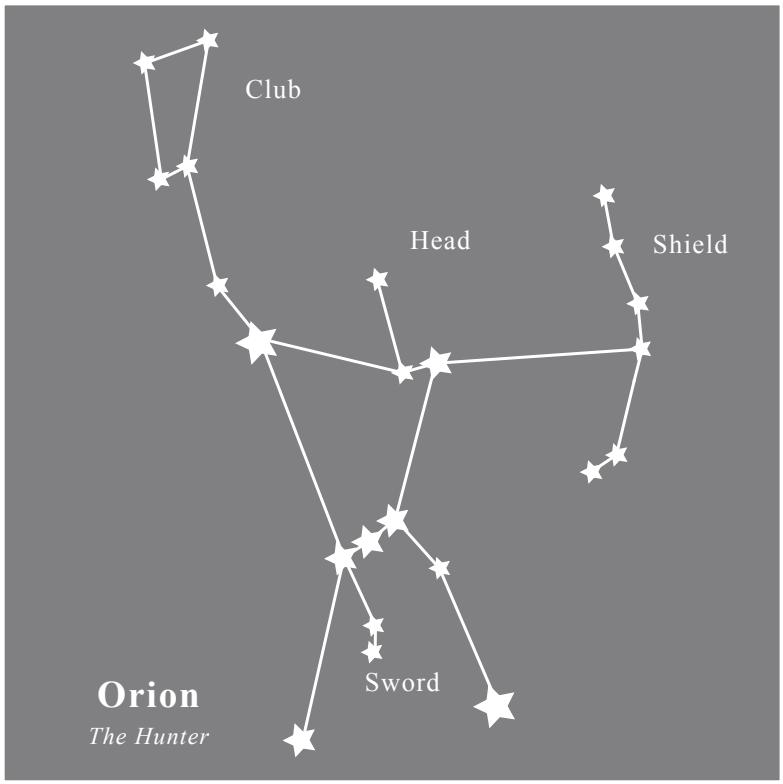
Here we've re-numbered the first-magnitude star list, including only the 15 bright stars that you can see from the Northern Latitudes. Also, a poem to help you remember their names:

1. Sirius	*Serious*
2. Arcturus	*Arctic*
3. Vega	*Voyagers*
4. Capella	*Capably*
5. Rigel	*Rig*
6. Procyon	*Protractors for*
7. Betelgeuse	*Betelgeuse's*
8. Altair	*Altitude*
9. Aldebaran	*Although*
10. Antares	*Antarctic*
11. Spica	*Sailors are*
12. Pollux	*Probably*
13. Fomalhaut	*Faster*
14. Deneb	*Divining*
15. Regulus	*Regulus*



Orion has two first-magnitude stars: number five Rigel, and number seven Betelgeuse.

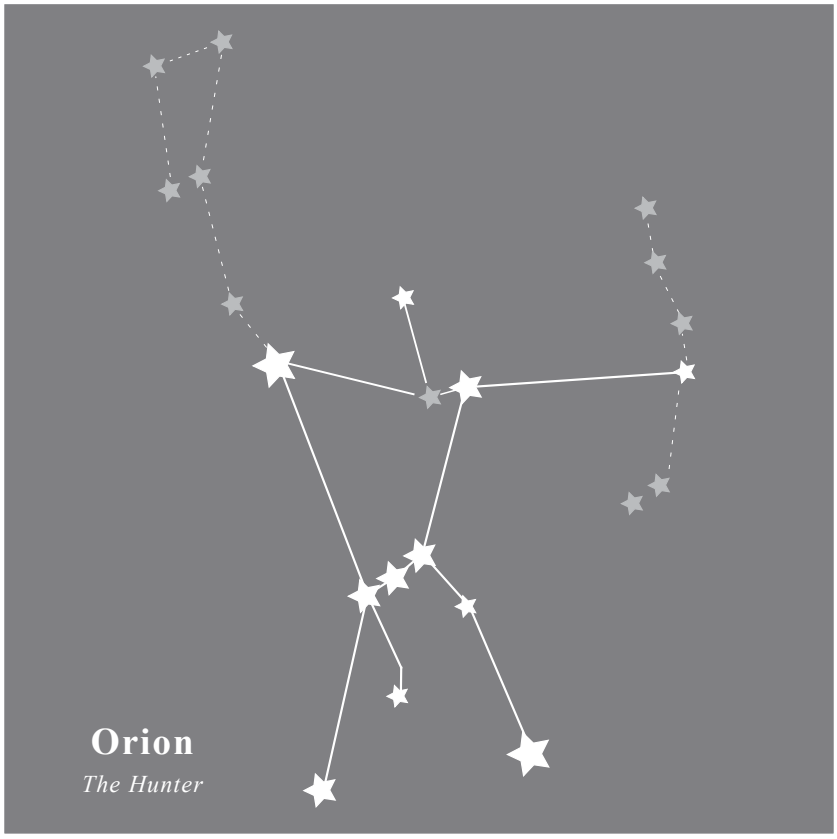
Orion is such a striking sight not just because of Rigel and Betelgeuse, but also because the other five stars of his basic shape are also quite bright. All five are second-order magnitude stars. In fact, all seven of Orion's main stars would make a top 50 list.



On a very dark, clear night, more details of Orion become visible. Now we can pick out his head, club, shield, and sword.

But these features are made up of dimmer stars, and require excellent viewing conditions. Depending on where you usually stargaze, you may not see all the details of Orion.

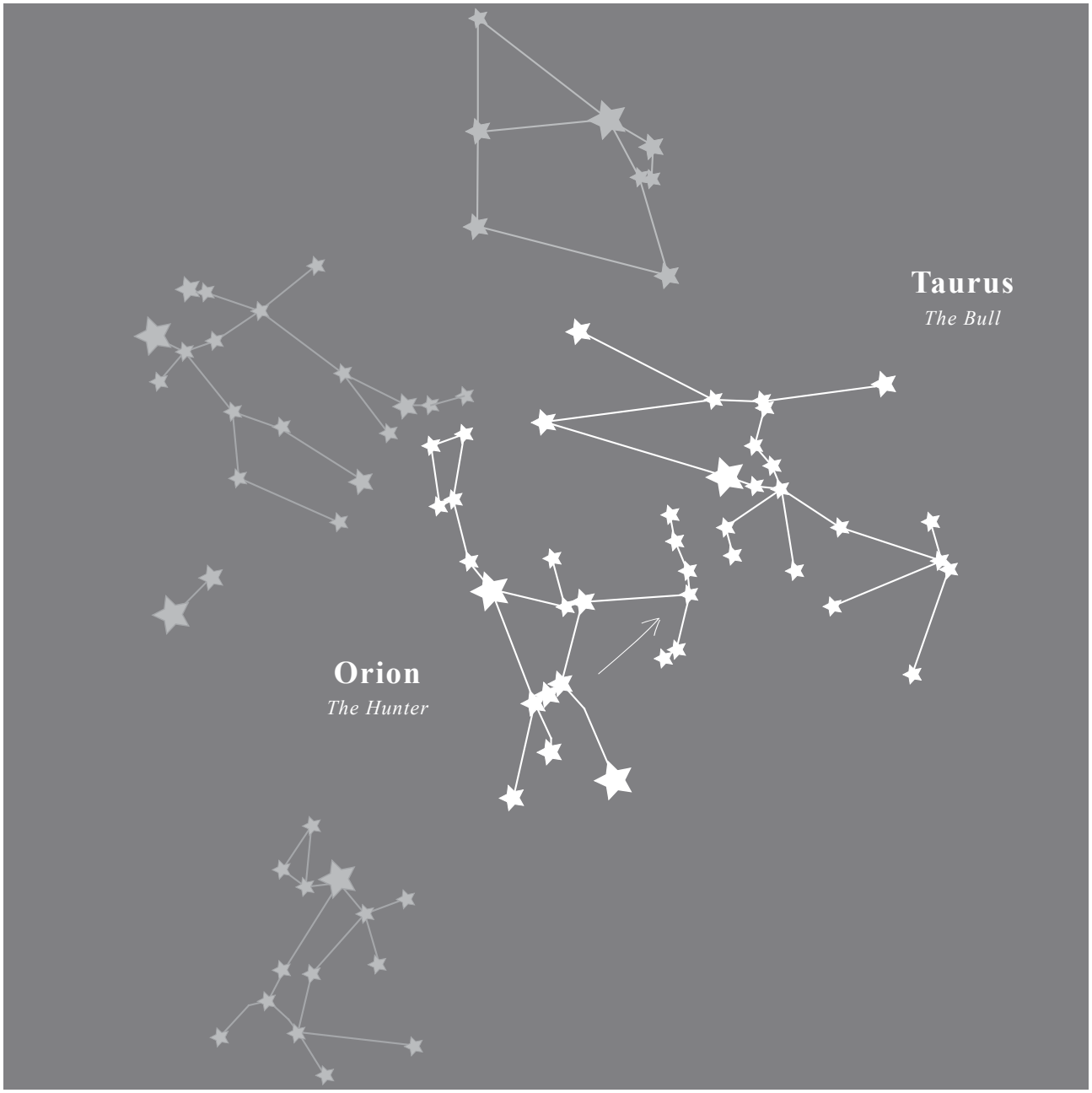
It's fun to be able to recognize Orion and other constellations regardless of how many of the stars are visible.



On an average viewing night, Orion may appear like this. The main seven stars of his body are clearly visible, and you can see his head, the center of his shield, and the tip of his sword.

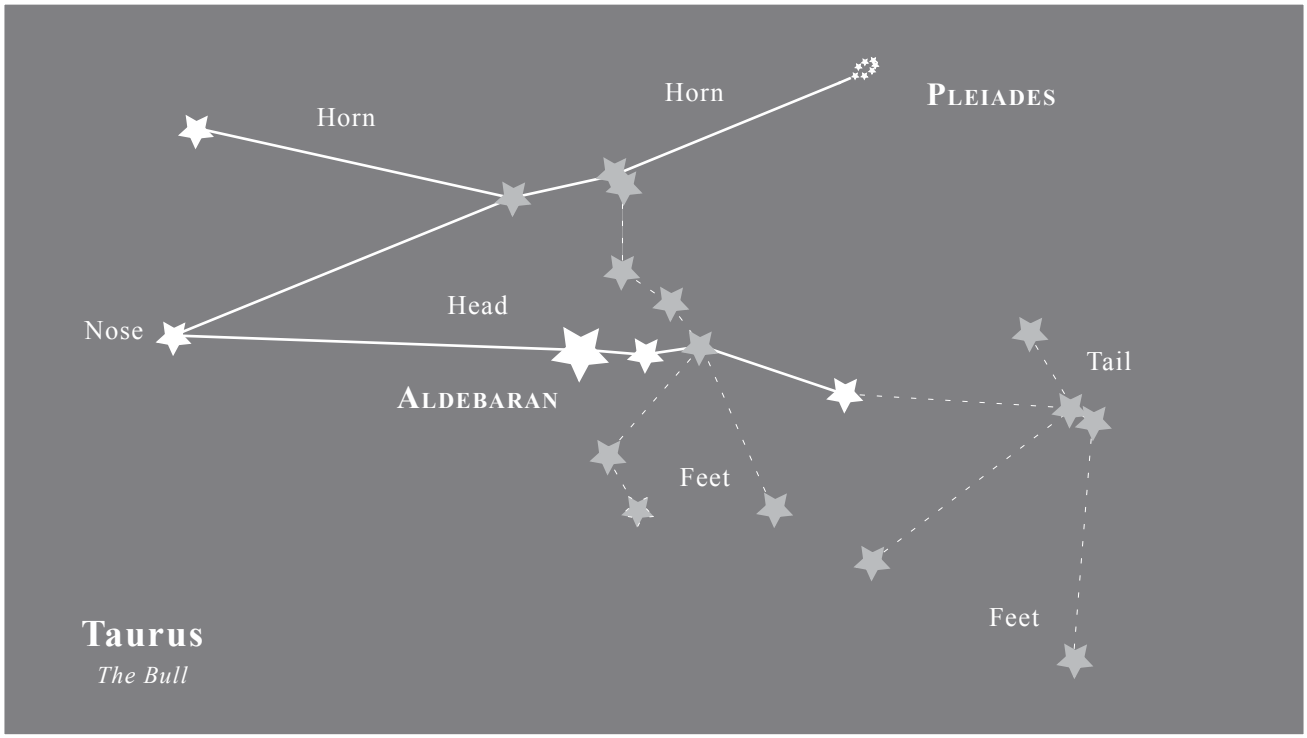
It takes darker skies to make out the rest of his shield and his club.

Now that we can find Orion and pick out the bright stars of the Winter Hexagon, let's continue on with the story of Orion's Hunting Party.



Orion wages battle with a fierce beast, Taurus (TAW-rus) *The Bull*. Our hero has his shield in position and his club raised to face his bovine foe.

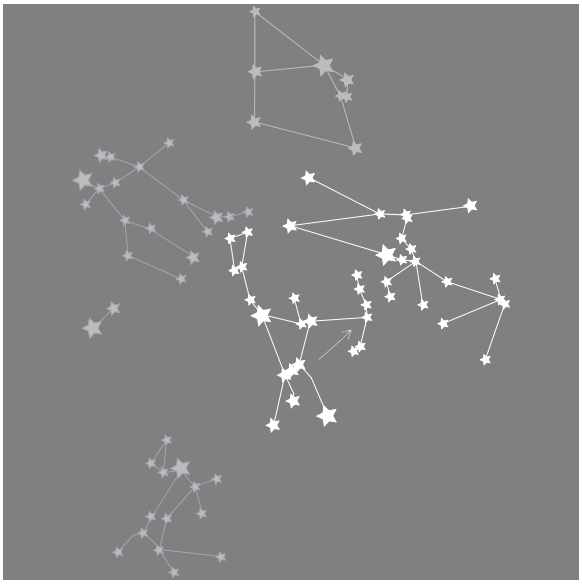
Follow the line of his belt up to find Taurus. Over the course of the night, Orion attacks and the Bull retreats.

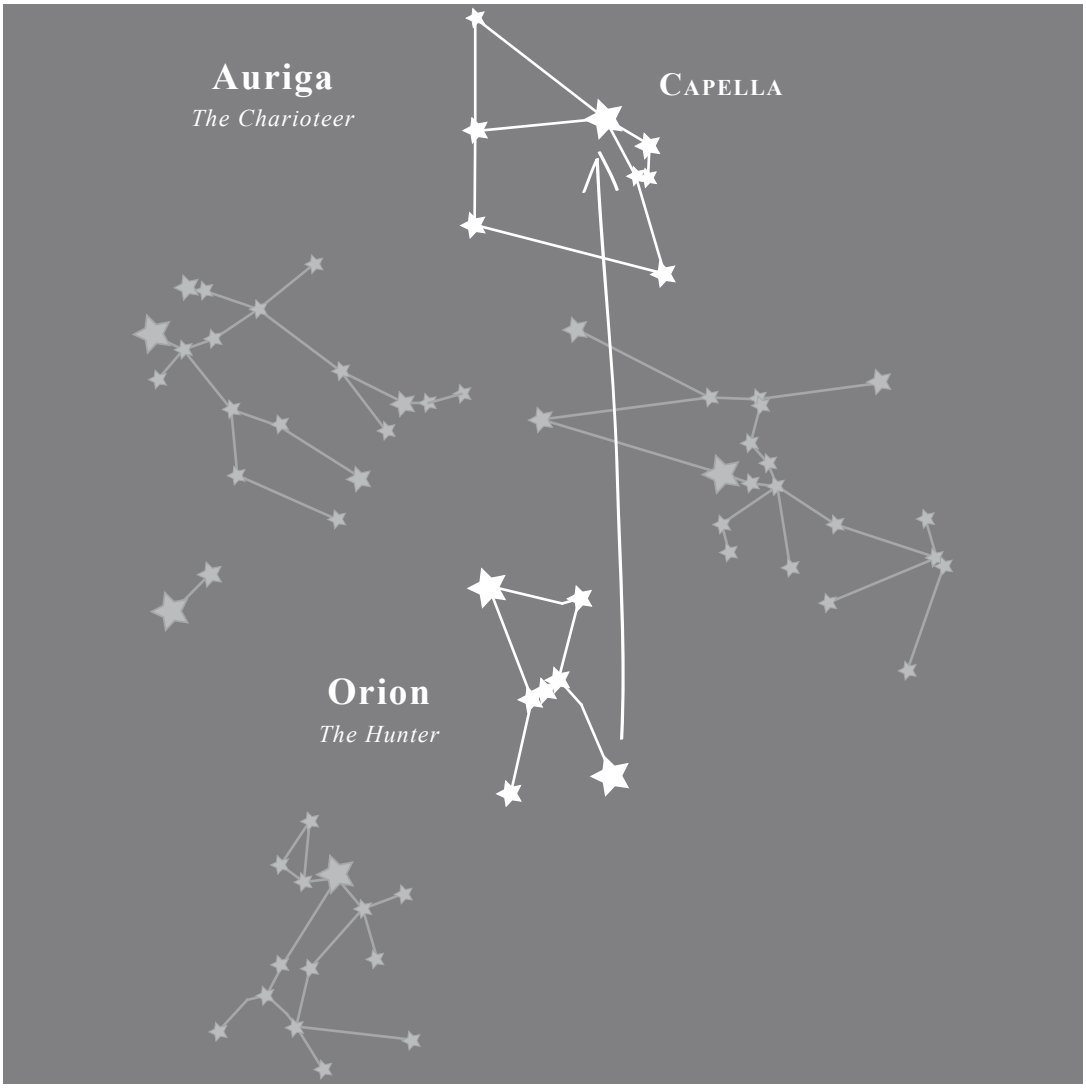


Taurus is a large, impressive constellation. His neck is marked by the bright orange star Aldebaran, number 9 on our list. On an average night, you can see his nose, horns, two stars in his neck, and one in his back.

The tip of the Bull's rear horn is marked by an interesting group of stars called the Pleiades (PLEE-ah-deez), also known as the Seven Sisters.

1. Sirius
2. Arcturus
3. Vega
4. Capella
5. Rigel
6. Procyon
7. Betelgeuse
8. Altair
9. Aldebaran
10. Antares
11. Spica
12. Pollux
13. Fomalhaut
14. Deneb
15. Regulus



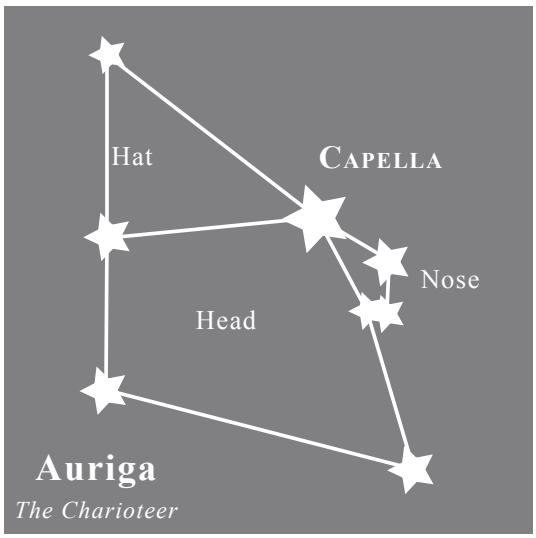


Orion's companion rides a chariot as he leads the hunt.

Anytime you can see Orion, you can always find his chariot driver, Auriga (oh-RYE-ga).

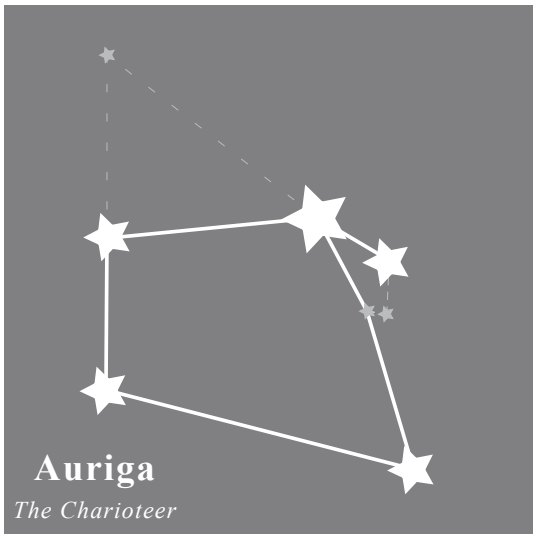
Auriga's brightest star is Capella.

1. Sirius
2. Arcturus
3. Vega
4. Capella
5. Rigel
6. Procyon
7. Betelgeuse
8. Altair
9. Aldebaran
10. Antares
11. Spica
12. Pollux
13. Fomalhaut
14. Deneb
15. Regulus

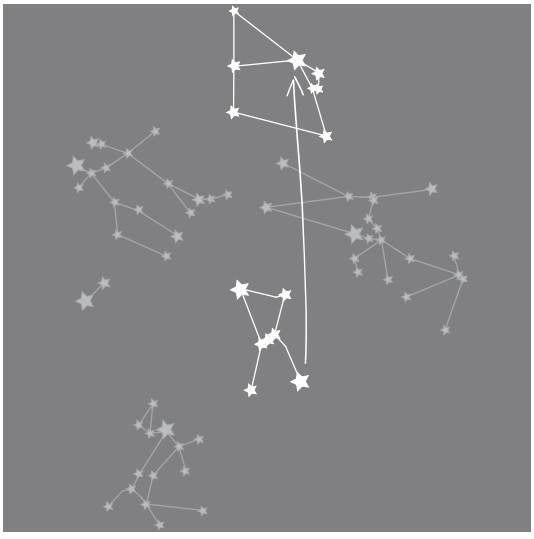


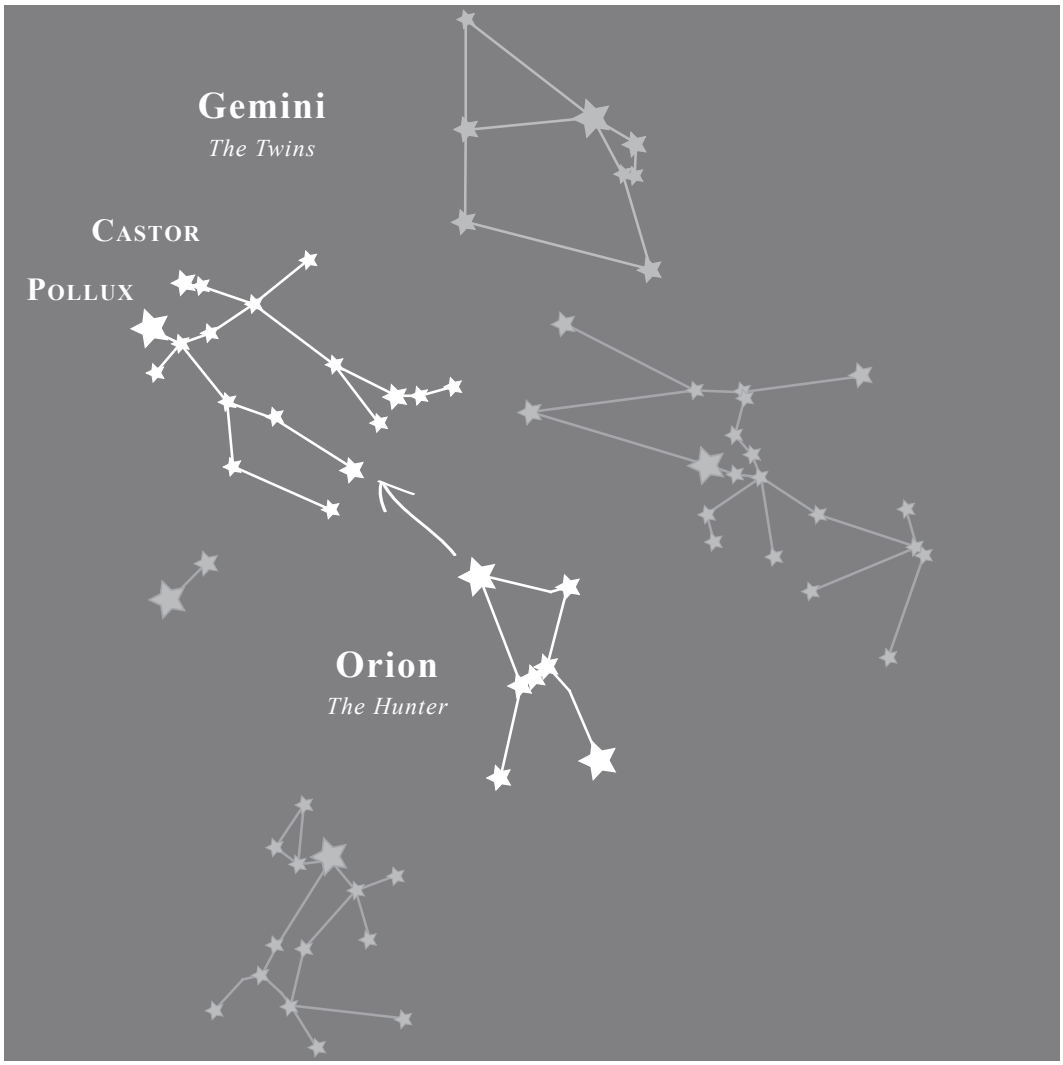
All we see of the charioteer is his head. He has a pointed hat and a prominent nose. We can imagine that the bright star Capella, 4th brightest in the sky, is his eye.

Capella is just a bit brighter than Orion's Rigel and Betelgeuse.



Get used to seeing Auriga without his hat and with only part of a nose. These stars are 4th magnitude, so you will not see them unless you have a good sky.

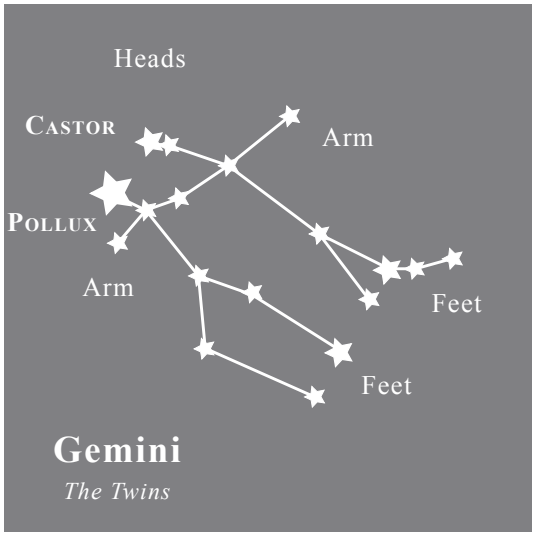




Orion is accompanied on the hunt by Gemini *The Twins*, Pollux and Castor (KAS-tur). Orion stands between the charging Bull and his friends.

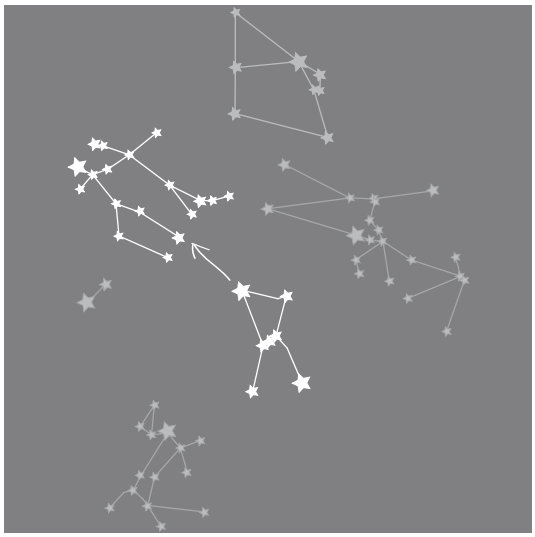
The pair have joined hands and appear to be scurrying away from the danger.

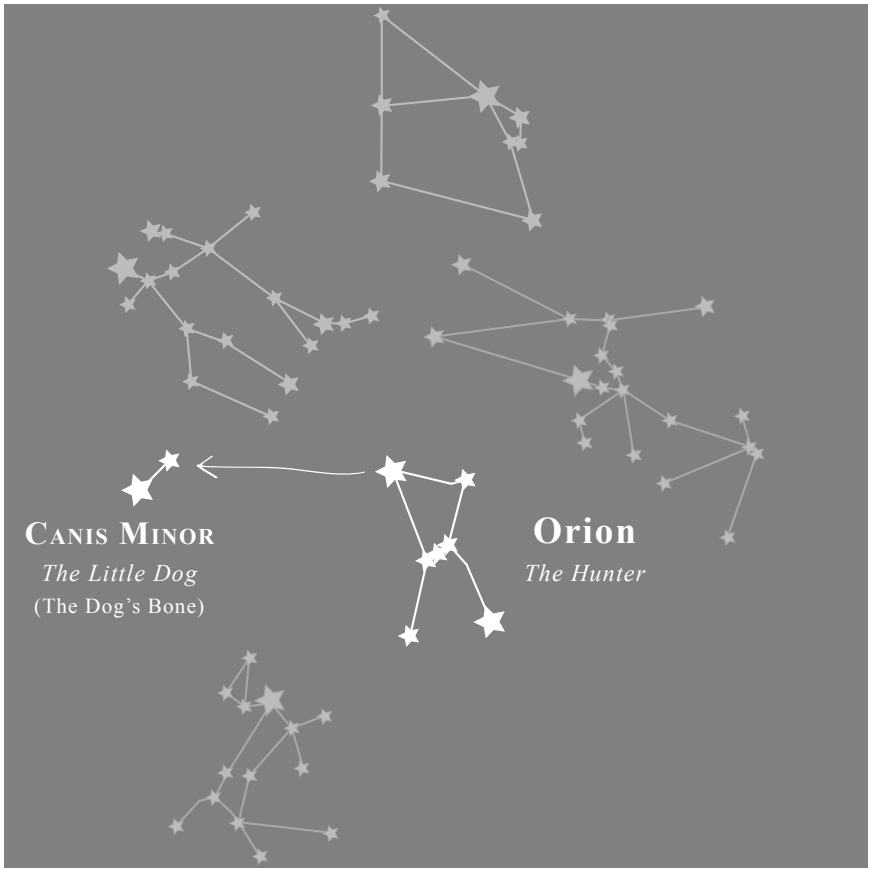
1. Sirius
2. Arcturus
3. Vega
4. Capella
5. Rigel
6. Procyon
7. Betelgeuse
8. Altair
9. Aldebaran
10. Antares
11. Spica
12. Pollux
13. Fomalhaut
14. Deneb
15. Regulus



The Twins are named the same as the bright stars that mark their heads. Pollux on the left and Castor on the right.

The next brightest stars in Gemini are the two waists and the feet. The hands are not much dimmer and will show up on a decent stargazing night.





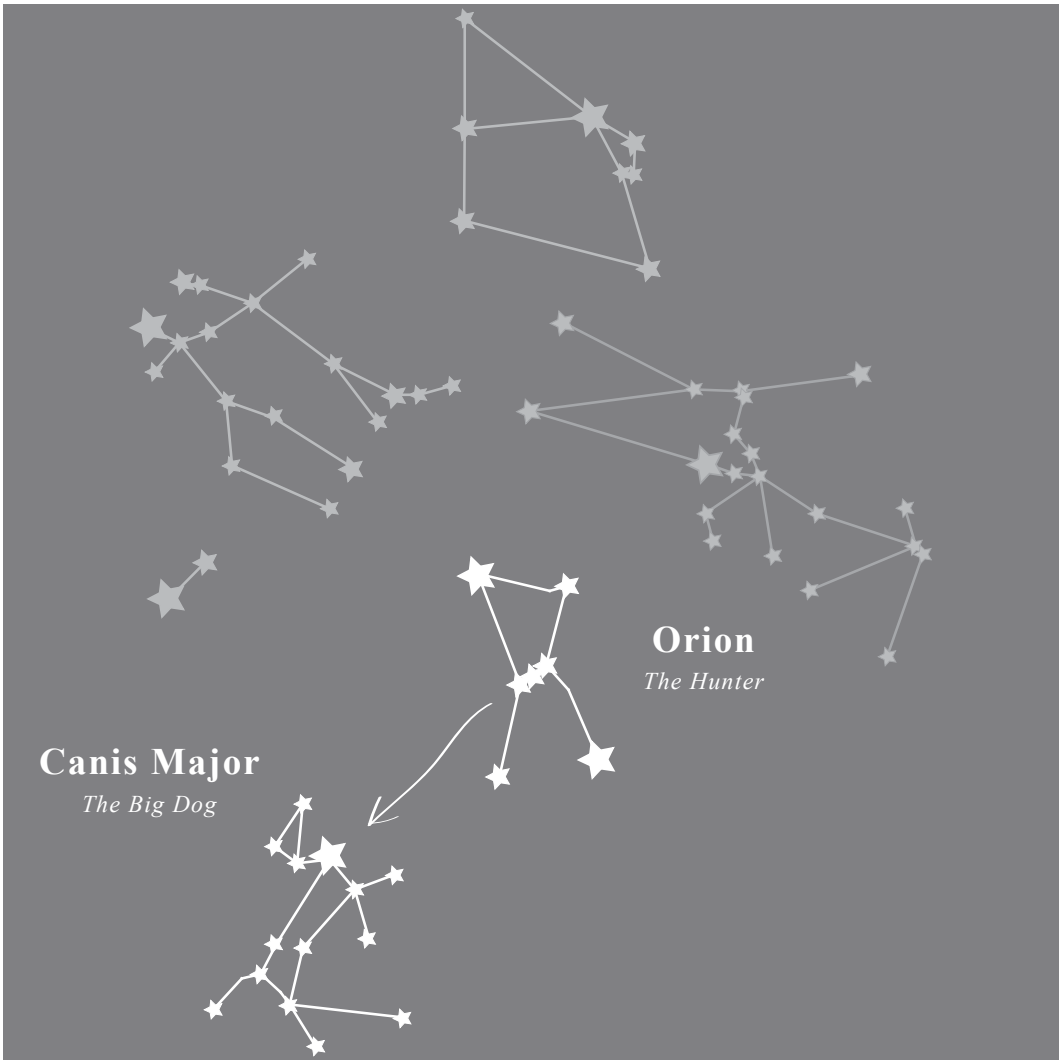
Despite the dangerous duel raging just behind them, the twins seem unconcerned.

They appear to be tossing a bone to Orion's dog. The bone is straight across from Orion's shoulders and below the Twins.

Technically, Canis Minor is the *The Little Dog*, but it's hard to justify that name when the constellation only has two stars. Calling it The Dog's Bone seems to make more sense for its shape, and it fits the story better.

Both stars in the bone are bright. Procyon ranks number 6, and the other one is about the same as the Bull's nose, or Castor's waist. The bone is at almost the same angle as Orion's Belt.

1. Sirius
2. Arcturus
3. Vega
4. Capella
5. Rigel
6. Procyon
7. Betelgeuse
8. Altair
9. Aldebaran
10. Antares
11. Spica
12. Pollux
13. Fomalhaut
14. Deneb
15. Regulus



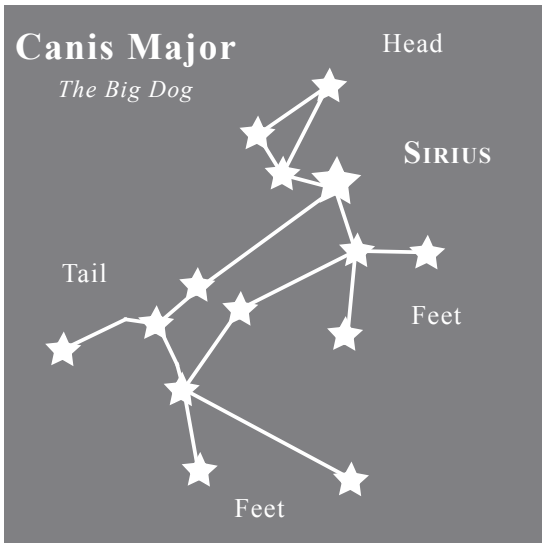
1. Sirius
2. Arcturus
3. Vega
4. Capella
5. Rigel
6. Procyon
7. Betelgeuse
8. Altair
9. Aldebaran
10. Antares
11. Spica
12. Pollux
13. Fomalhaut
14. Deneb
15. Regulus

Every hunter needs a dog, and Orion is no exception. His dog, Canis Major, frolics at his feet.

Follow the line of Orion's belt down to the brightest star in the sky, Sirius, on the dog's collar.

Faithfully at his master's side, this dog has his eye on the bone just above him.

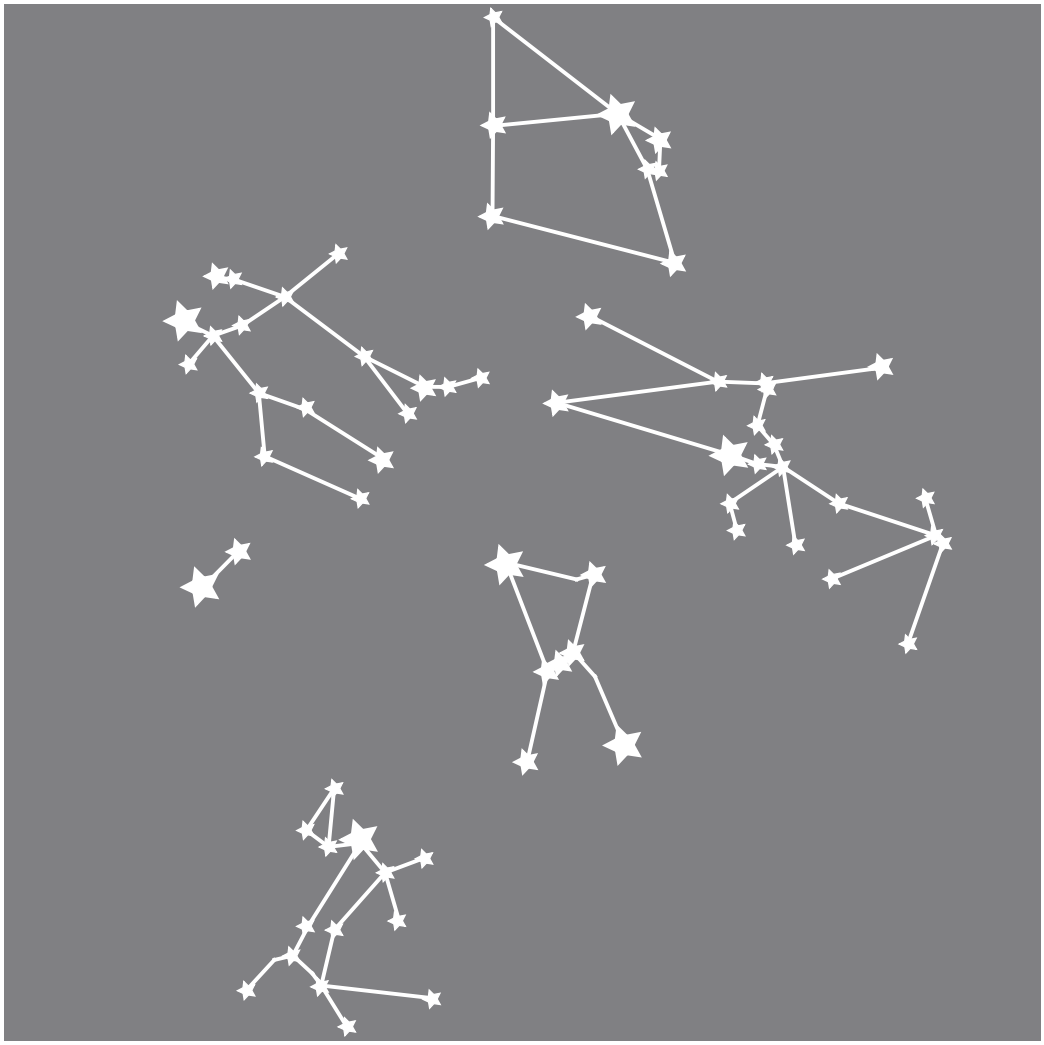
We saved Sirius for last because sometimes you can see Orion but not the dog. He rises lower and later than Orion, so he is the last of the hunting party to appear.



The star Sirius is like a bright blue jewel on the dog's collar.

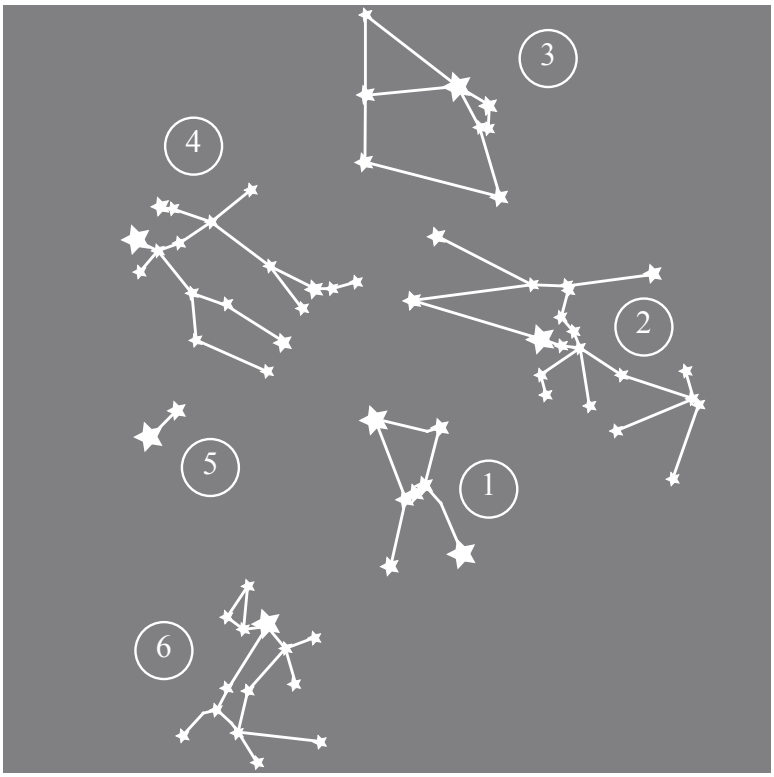
Sirius is much brighter than any other star, more than 3 times brighter than its neighbor Rigel.

The constellation Canis Major has eight fairly bright stars that will show up on a decent night.



This completes our story of **Orion's Hunting Party**. If you happen to be outside when Orion is in the sky, you'll be able to find him and all his friends.

Test your knowledge on the next page.



Orion's Hunting Party

Name the Constellations:

1 _____

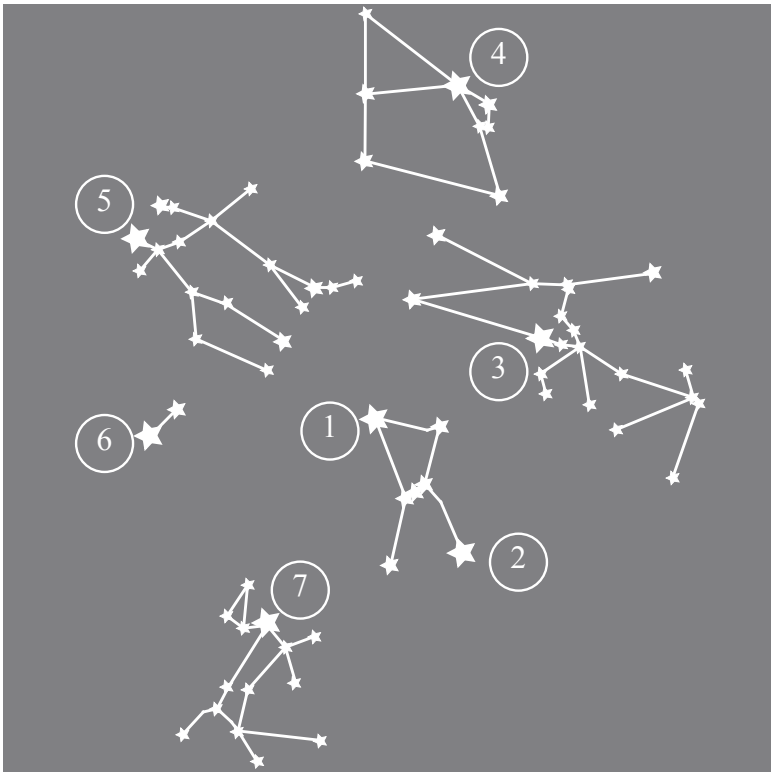
2 _____

3 _____

4 _____

5 _____

6 _____



Name the Bright Stars:

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____