Constellations

SUPPLIES NEEDED:

- Pipe cleaners
- Pony Beads
- Constellation Flash Cards

INTRODUCTION:

In this activity, you will be recreating four constellations using beads as stars and pipe cleaners to draw the imaginary lines between them.

INSTRUCTIONS:

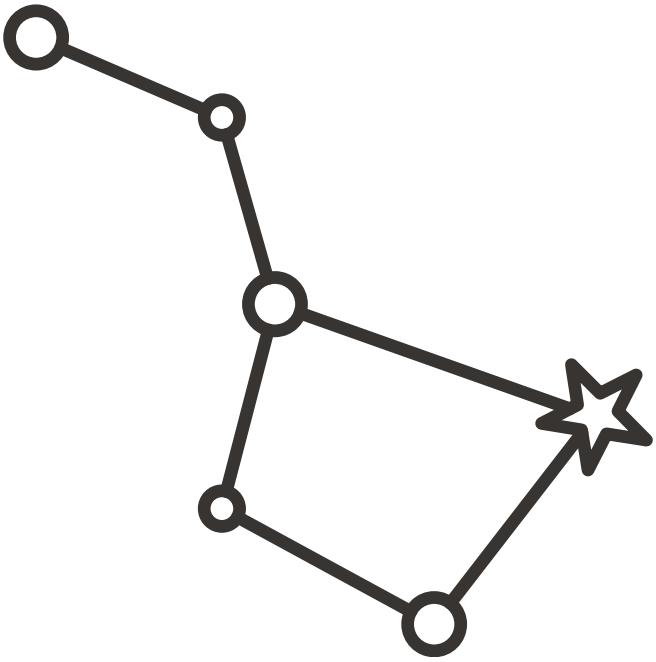
Step 1: Pick one of the constellations from the flash cards provided to recreate.

Step 2: To one of the pipe cleaners add a pony bead for each of the stars in the constellation.

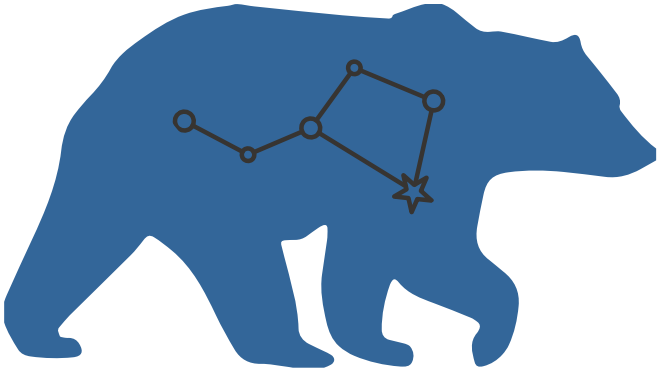
Step 3: Bend and twist the pipe cleaner to recreate the constellation. For some constellations you may need to cut the pipe cleaner to get the desired shape.

Step 4: Repeat and see if you can find the constellations in the night sky!

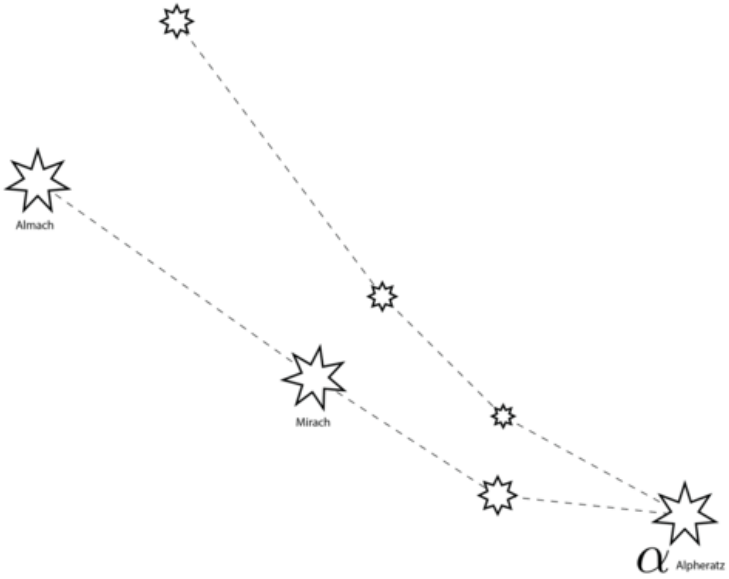
Ursa Minor



Ursa Minor means little bear and is also called the Little Dipper.

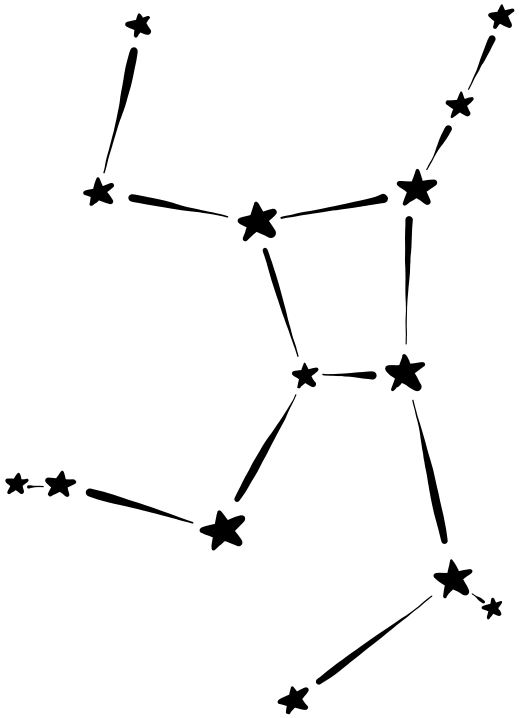


Andromeda



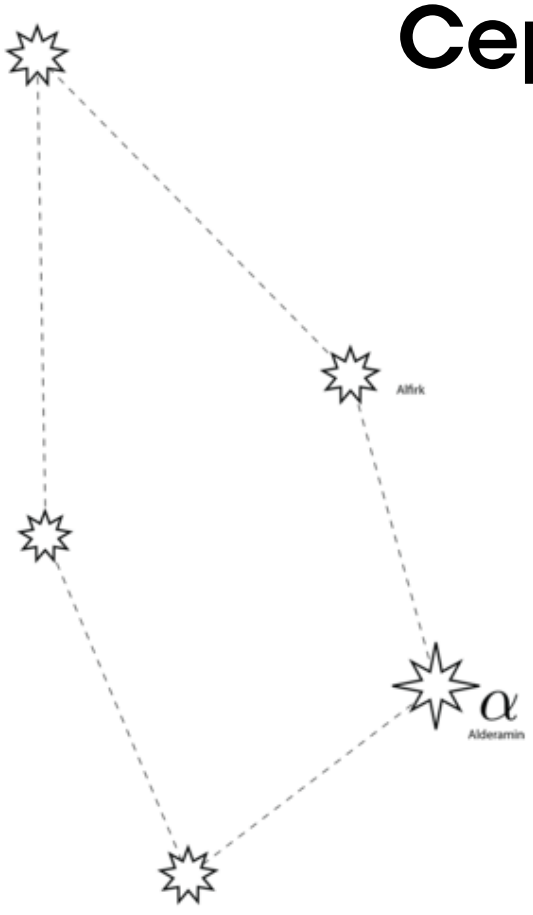
The Andromeda constellation is named after a princess from Greek mythology.

Hercules



The constellation Hercules can be found in the northern sky. It is named after Hercules from Greek mythology.

Cepheus



Cepheus is one of 17 constellations based on Greek mythology. It is named after a king.

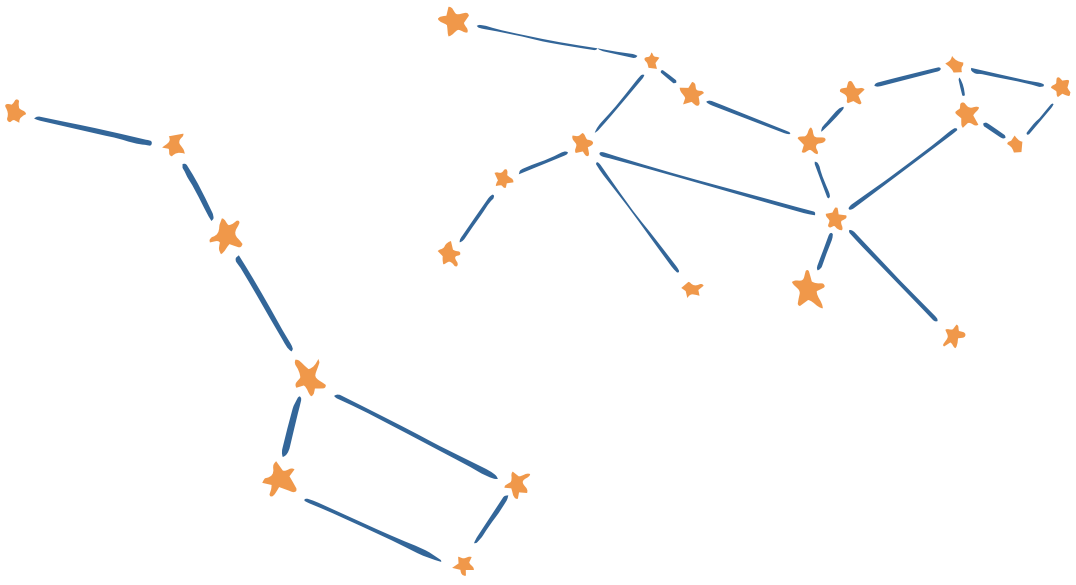
Constellations

Constellations are a group of stars joined by imaginary lines to form a shape. Many civilizations have created different legends and stories around constellations giving them special meaning. Today there are 88 constellations that are recognized internationally.

The earliest depictions of constellations can be found on the walls of caves from more than 17,000 years ago.

As the earth rotates throughout the year, the constellations that can be seen in the sky change. Ancient cultures often used the positions of stars and constellations like a calendar.

Although it appears as if constellations are close together, the stars they are formed of can actually be more than 2,000 light-years away from each other.

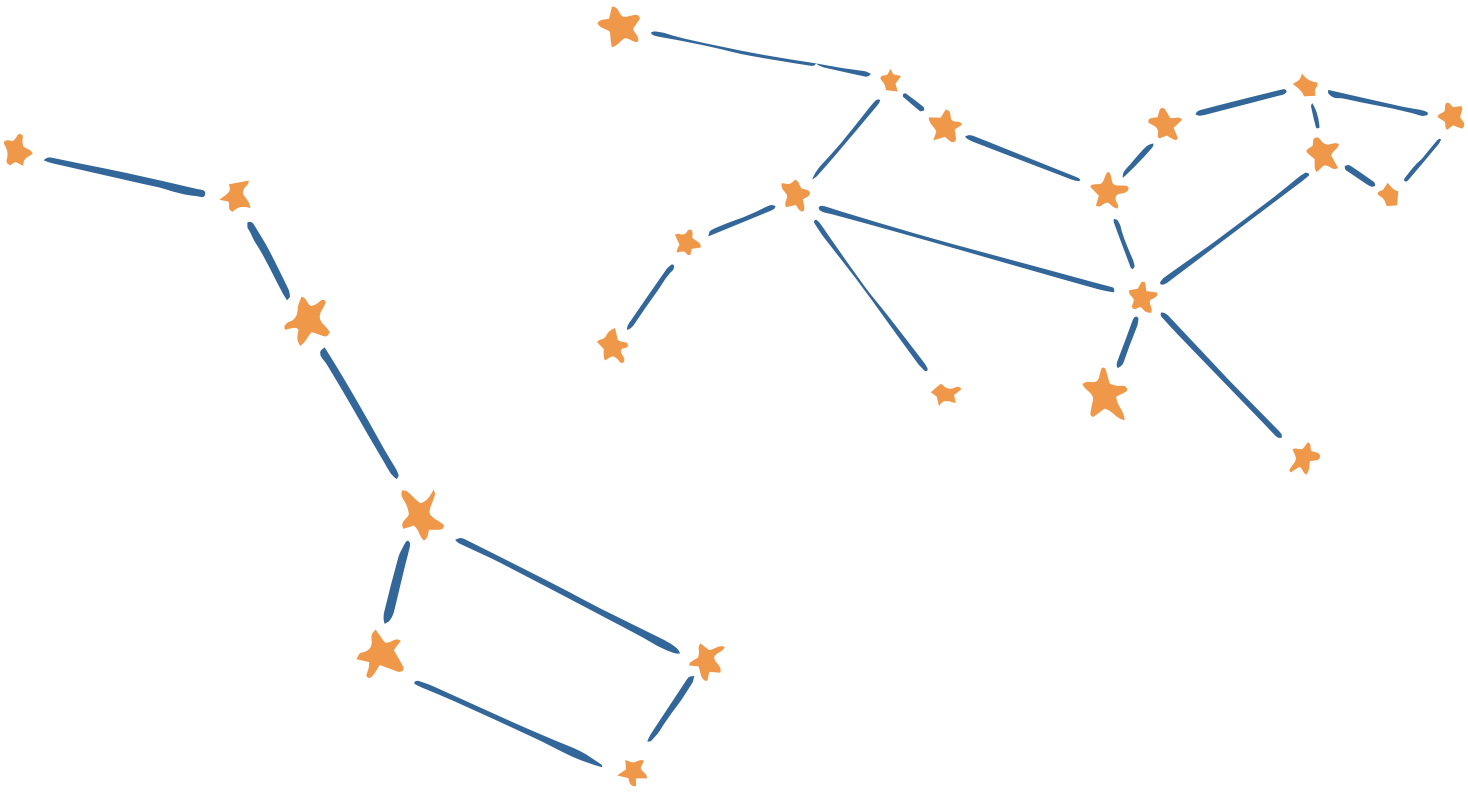


Star Facts

Stars are huge balls of hot gas. At the center of stars, the pressure and temperature are so high that **nuclear fusion** reactions happen.

Nuclear fusion is a reaction where two atoms join together to form a larger atom. These reactions release large amounts of energy that escape into space as light, heat, and other forms of radiation.

Not all stars look alike. They can have different temperatures, colors, and brightness. Massive stars, which are the hottest and brightest, glow blue or white. Older stars are less hot and are either yellow, orange, or red.



Star Facts

Life of a Medium-Sized Star
Stars form inside nebulas, swirling clouds of gas and dust. As a clump of gas and dust grows larger, gravity forms to hold the material close together.

As it continues to grow, the pressure and temperature at the center gets higher until, eventually, **nuclear fusion** reactions begin and the star begins to shine.

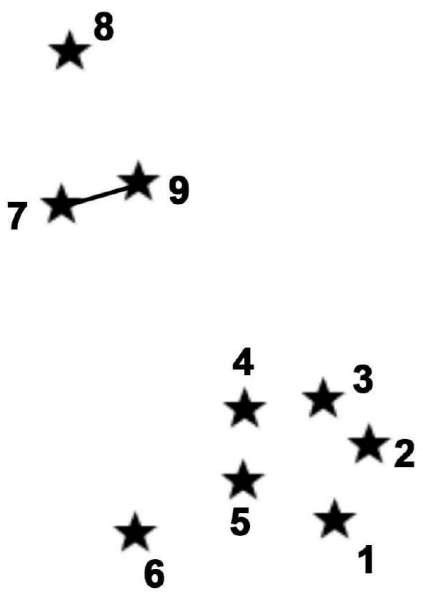
The star then burns for billions of years. As it gets older, it uses more of its fuel and becomes less bright.

As more and more of its fuel is used, a star will become a **red giant** and the outside layers of gas will start to escape into space.

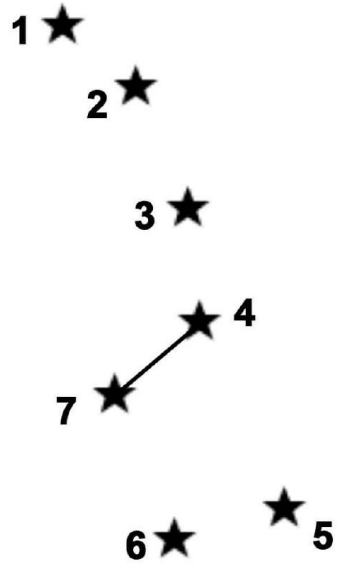
The material left shrinks to become a **white dwarf**, which is about the size of a planet.

As the white dwarf continues to cool down, it stops shining and will eventually become a **black dwarf**, which is almost invisible.

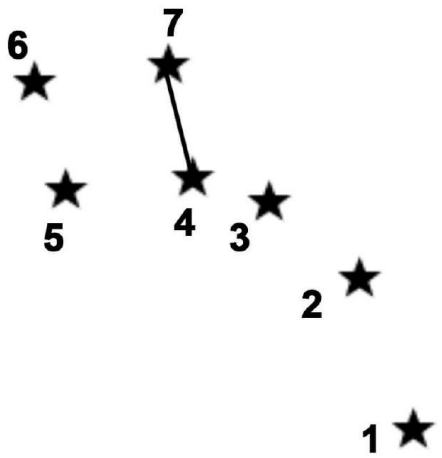
For **giant stars**, once they become red giants, they start pushing gas and dust into space. This explosion is called a **supernova**. Then, all that is left behind is a **neutron star**.



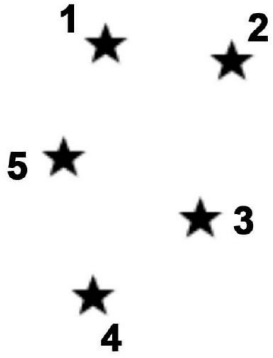
Leo



Big Dipper

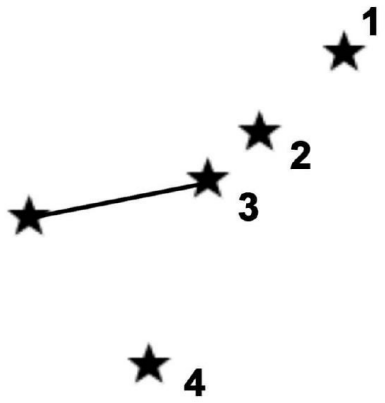


Little Dipper

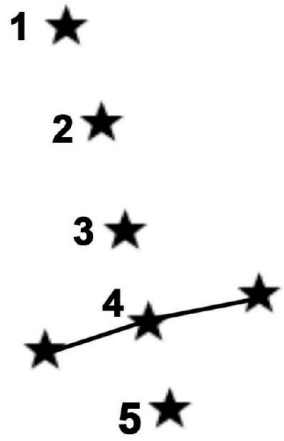


Cepheus

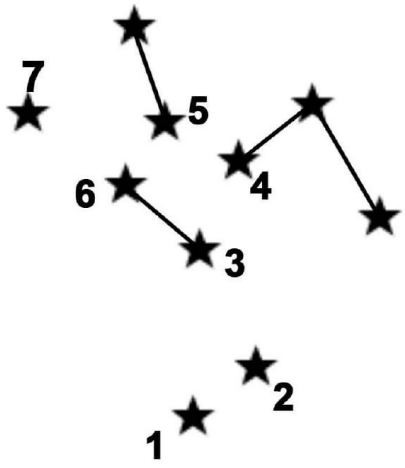
Cassiopeia



Cancer



Cygnus



Hercules