

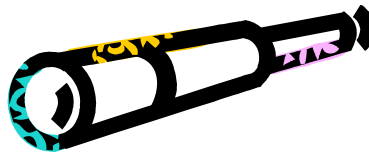
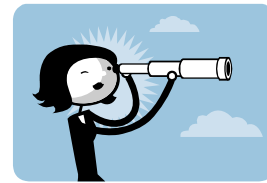
StarMaster Viewer

A constellation is a grouping of stars that appears to form a pattern or picture. Constellations help people orient themselves using the night sky by appearing as recognizable organizations of stars, such as the stars that make up the constellations Orion, Cygnus and Hercules. Stars and constellation are used in navigation. There are 88 “official” constellations. Many of the names we use today for constellations come from the ancient Greeks. They assigned their gods and heroes to certain star groupings in the sky.

In this activity, your child will design different star pattern templates to observe a few of the constellations that are visible in the night sky.

What You Need:

- ❖ 1 cardstock StarMaster Viewer template
- ❖ 1 cardstock StarCards template
- ❖ SkyChart
- ❖ Tape
- ❖ Scissors
- ❖ Embroidery needle with yarn
- ❖ Popsicle sticks
- ❖ Pen or pencil
- ❖ Various craft materials to decorate your StarMaster Viewer
- ❖ Constellation Description Page



What to Do:

- ❖ Using your Constellation Description Page, have your child choose a few constellations that they will design for their viewer. Talk about the constellation.
- ❖ Get copies of the cardstock StarCard and StarMaster Viewer templates.
- ❖ Allow your child to decorate the StarMaster Viewer template using craft items.
- ❖ Cut along the bold line on the template that says “insert StarCard here”. Do not cut the entire line; the cards will be inserted in the partially cut slit.
- ❖ Have them construct the viewing tube by cutting along the designated line shown on the template.
- ❖ Roll the paper into a tube, and tape the tube securely on the edge shown.
- ❖ Have them cut out the cardstock circles — the StarCards. They should cut on the outside edge of the larger circle.

What to Do (Cont'd):

- ❖ On the front of each StarCard, have your child carefully reproduce the arrangement of the stars in the constellation by placing a pencil dot for each star.
- ❖ Have them draw or color the object that each constellation represents.
- ❖ Help your child use an embroidery needle (with yarn attached) to poke a small hole in the cardstock for each star in the constellation.
- ❖ Tape a Popsicle stick to the back (on the edge of the larger circle) trying not to block any of the small holes that were punched.
- ❖ On the back of each StarCard ask your child to write the name of the selected constellation.
- ❖ Once you have completed your StarMaster Viewer, look through it at a light source and enjoy your constellation!!
- ❖ Invite your child to tell you why their constellation is named what it is. Without looking at the back of the StarCard, can they identify their constellations?

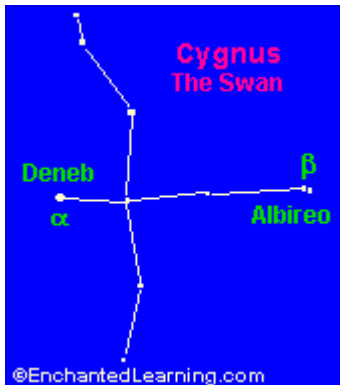
Warning: Do not look at
the sun through the
viewer!



Adapted from:

http://www.lpi.usra.edu/education/skytellers/constellations/activities/star_master.shtml

Constellation Description Page

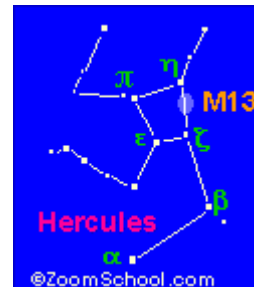


CYGNUS

Cygnus (the swan) is a constellation that is shaped like a large cross. It is also known as the Northern Cross. It is seen along the Milky Way in the northern hemisphere. At its tail is the very bright star Deneb, and at its head is the double star Albireo.

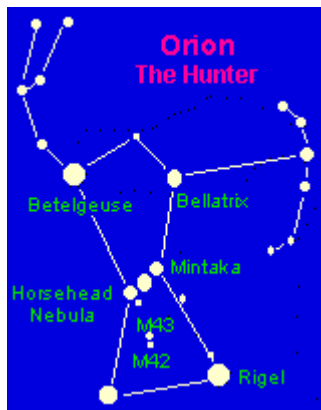
HERCULES

Hercules is a Northern Hemisphere constellation that is the fifth largest in the sky. It is named for Hercules, the legendary hero of Greek mythology. The brightest of its rather dim stars is Ras Algethi, a variable red supergiant.



ORION

Orion, also known as "The Hunter," is a constellation. The brightest stars in Orion are Rigel, Betelgeuse, and Bellatrix. The Horsehead Nebula and the Orion nebula (M42 and M43) are also in this constellation.



URSA MAJOR

Ursa major (The Great Bear) is a well-known constellation in the Northern Hemisphere that contains the 7 stars of the Big Dipper.



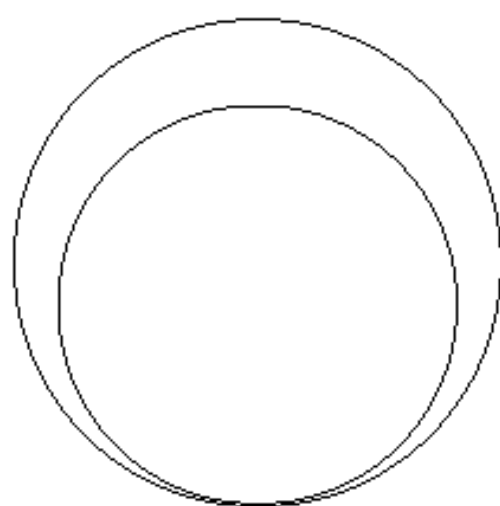
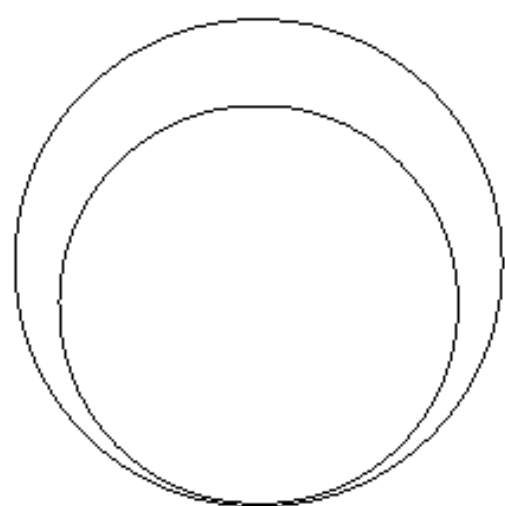
URSA MINOR

Ursa minor (The Little Bear) is a Northern Hemisphere constellation that is also known as the Little Dipper. This group of stars starts at Polaris, the pole star of the Northern Hemisphere.

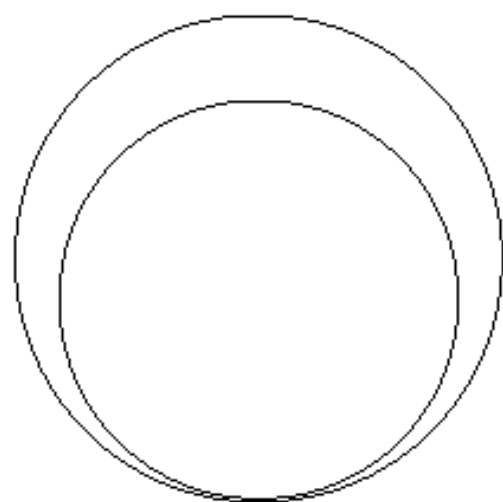
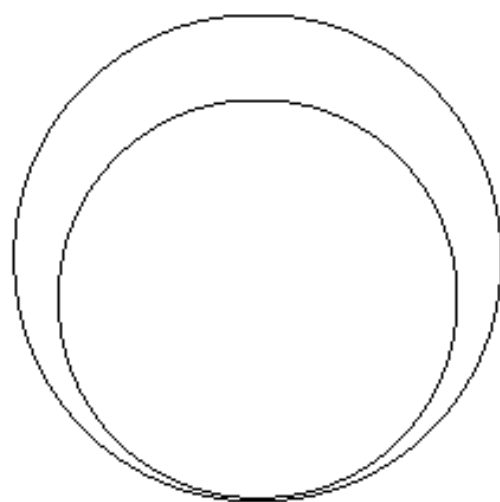
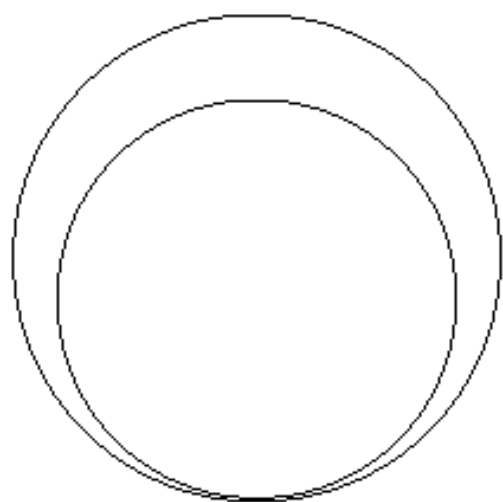
BOOTES

You can easily find Bootes by following the Big Dipper's handle. Bootes is an elongated diamond shaped constellation between the Big Dipper and Virgo. Bootes contains the fourth brightest star in the sky - Arcturus. Arcturus is so bright because it is a mere 36 light years from Earth and because it is near the end of its life span. Just as our Sun will in about five or six billion years from now, Arcturus, has run out of Hydrogen to convert to Helium and has expanded to many times its original size.





1.



StarCard
Template

1. Cut along this line

2. After cutting, roll the paper into a tube and tape along this edge

StarMaster Viewer Template