

BIG BEAR

Spring 2000

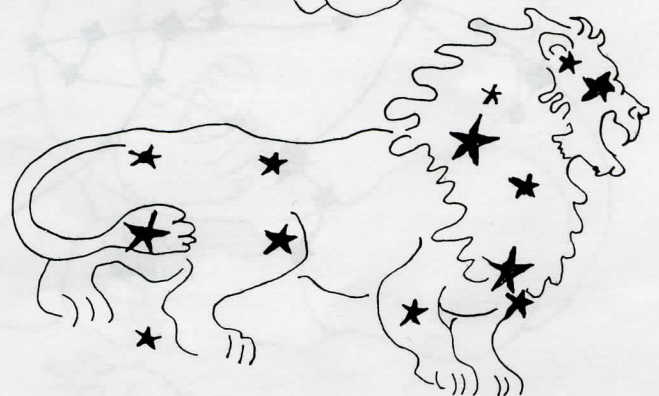
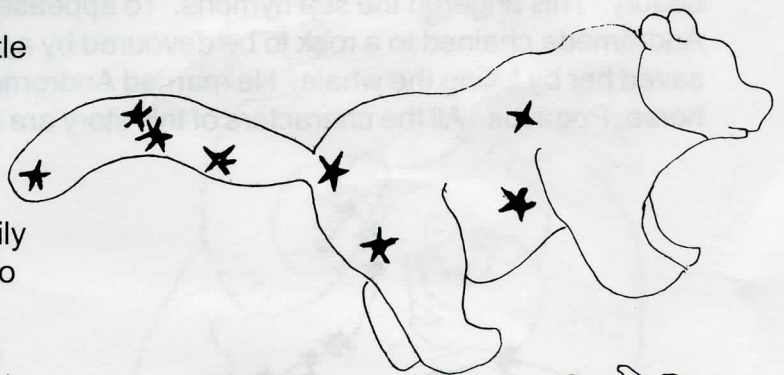
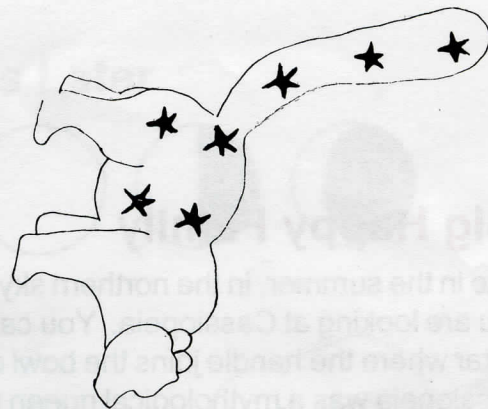
NATURE DETECTIVES

Dramas in the Night Sky

Look at the stars on a clear night. It may seem like you are seeing millions of stars, but really, you can see a few hundred (about 2500) with your "naked eye". Just like you try to see animals or other shapes when you look at clouds, people tried to see something familiar in the stars. So they drew imaginary lines between the stars to create star patterns called "constellations".

A star pattern seen throughout the year is the Big Dipper. It is made up of the seven brightest stars of the constellation, Big Bear (the entire constellation is on the upper left corner of this page). Why do the Big and Little Bears appear to have long tails (the tails are the handles of the dippers)?

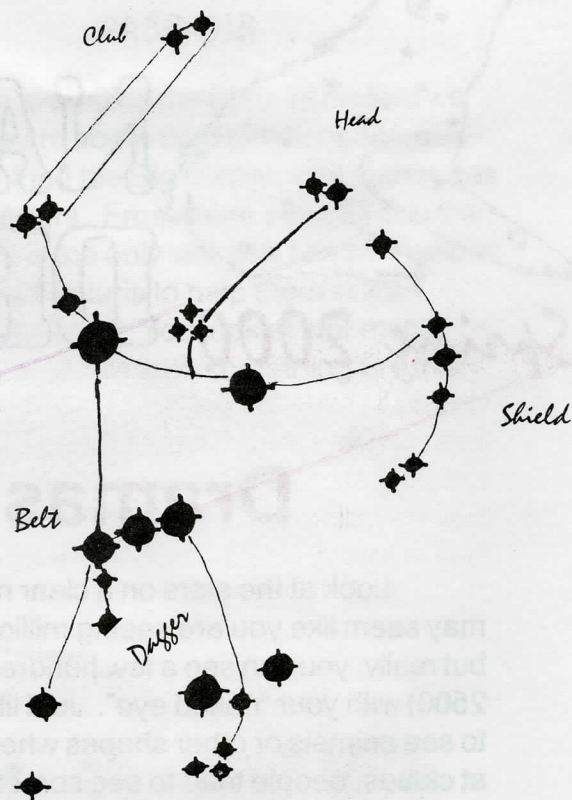
The long tailed mouse, the long tailed hare, the long tailed pig, the long tailed bear and the long tailed hippopotamus lived happily in an ancient forest. One day a lion came into the woods. He chased all the animals because he wanted to be the only one with a long tail. The mouse was quick and could hide before the lion could catch its tail. But the hare, the pig, the hippopotamus and most of the bears were not that fortunate. They all lost their tails to the ferocious lion. Only the Big Bear and her cub the Little Bear could escape. The lion chased them up a mountain. At the top of the mountain they asked the stars for help. The stars told them to jump up into the sky. And so they did. They were saved and can still be seen in the night sky.



Pull Out and Save

A Hunter in the Night Sky

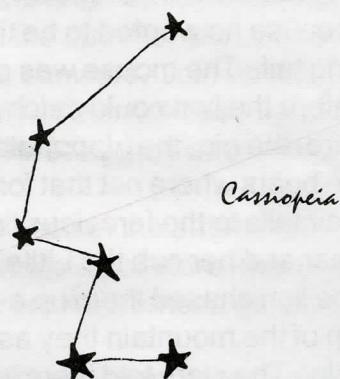
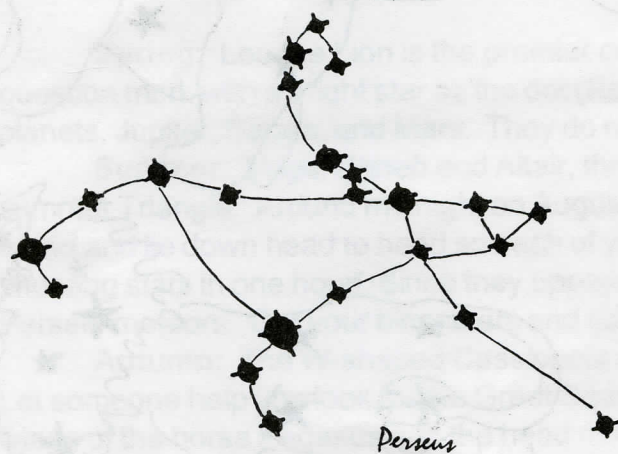
All winter long in the southern sky, you will see three bright stars in a straight line. They form the belt of the mythical hunter, Orion. Armed with a raised club, a shield, and a sword dangling from his belt, Orion is impressive. And, he has a bright star each on his left shoulder and his right foot. Orion is surrounded by animals -- the Bull, Unicorn, Hare, and the Big and Little Dogs -- but never the Scorpion. The Scorpion killed Orion, so it stays away from him and can be seen only in the summer sky.



One Big Happy Family

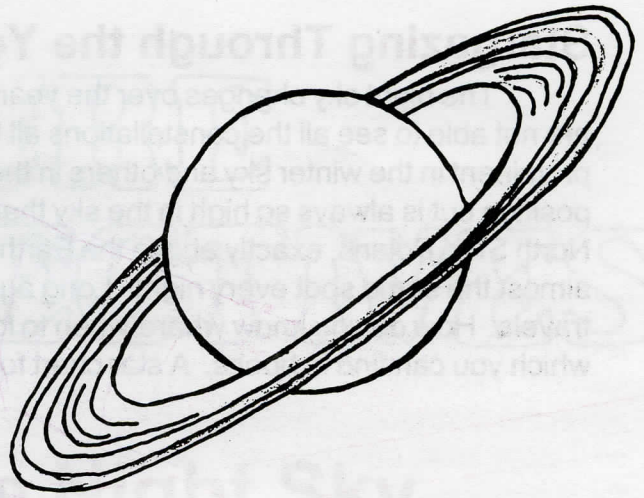
Late in the summer, in the northern sky, you may notice a group of stars that make a 'W' or 'M' - you are looking at Cassiopeia. You can find this constellation by drawing a straight line from the star where the handle joins the bowl of the Big Dipper to the Pole Star and beyond.

Cassiopeia was a mythological queen who boasted about her daughter, Andromeda's, beauty. This angered the sea nymphs. To appease them, Andromeda's father, Cepheus, had Andromeda chained to a rock to be devoured by a whale. Perseus, who happened to pass by, saved her by killing the whale. He married Andromeda and carried her away on his winged horse, Pegasus. All the characters of this story are neighbors in the summer night sky.

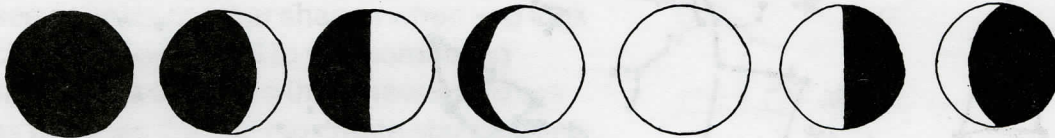


Twinkle, Twinkle Little Star...

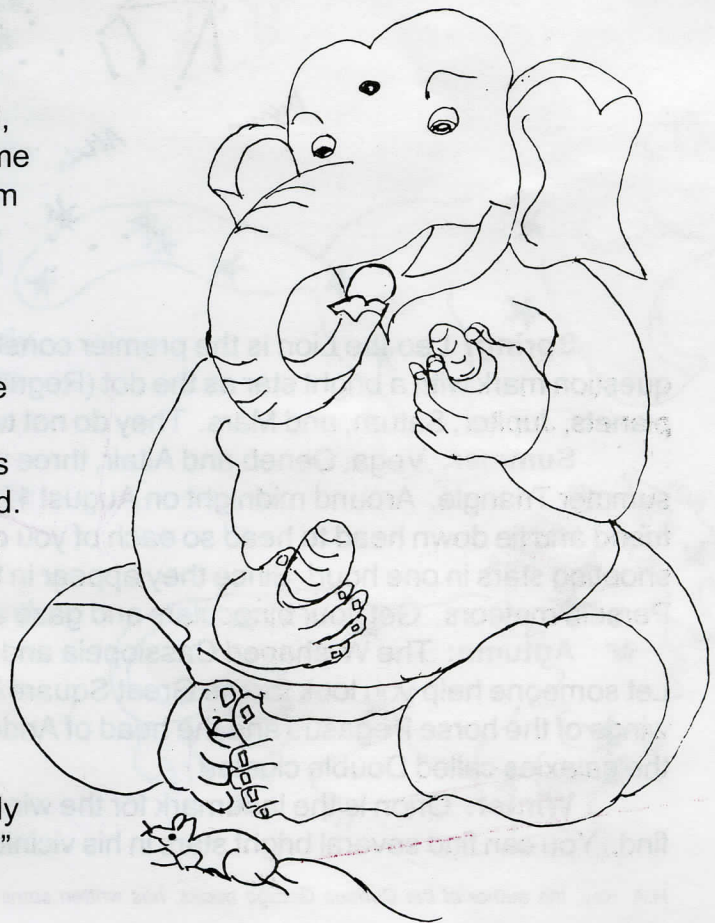
But, wait a minute, not all the stars are twinkling. That is because you sometimes see planets in the night sky. Like the earth, the planets also go around the sun. What else can you see? Satellites that have been sent to outer space and that usually go around the earth; comets -- those funny looking stars that have a long tail -- these go around the sun too but they spend most of their time far away from the sun; meteor showers or shooting stars which are pieces from outer space that are falling towards earth and burning up before they get here; and of course, the moon which is...



Full One Day, Gone Two Weeks Later

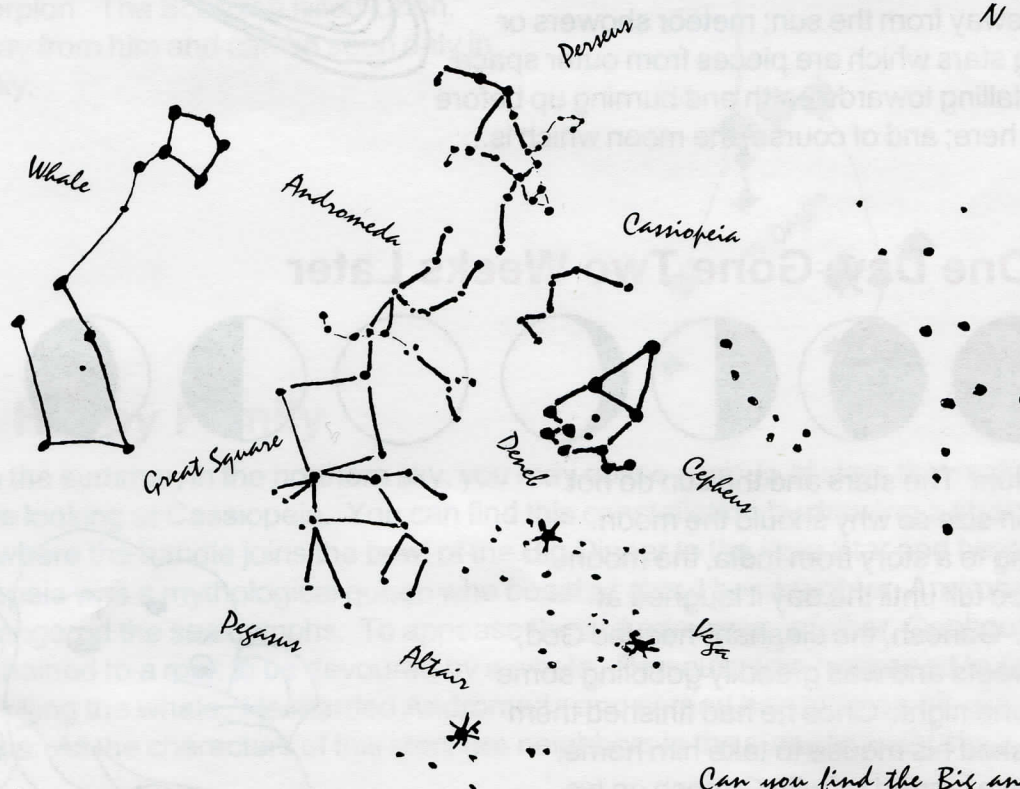


Huh! The stars and the sun do not change in size so why should the moon. According to a story from India, the moon used to be full until the day it laughed at Ganesh. Ganesh, the elephant-headed God, loved sweets and was greedily gobbling some sweets one night. Once he had finished them all, he asked his mouse to take him home. The mouse started off with Ganesh on his back. Suddenly, a snake came across the room. The frightened mouse jumped. Ganesh fell. His stomach burst open and the sweets flew out. Embarrassed, Ganesh picked the sweets, stuffed them back into his stomach and used the snake to hold it closed. He was quietly slinking away when the moon laughed, "I saw what happened, greedy Ganesh." Angrily, Ganesh flung a tusk at the moon and broke it. All was dark. "Sorry, Ganesh," said the moon. "We need the moon," said all the night creatures. "OK, Moon," said Ganesh, "you will get your light back slowly, but you will be a full moon for only one day before you start getting small again." So we have the phases of the moon.



Stargazing Through the Year

The night sky changes over the year since the earth is orbiting the sun. Therefore we are not able to see all the constellations all the time. There are some constellations more prominent in the winter sky and others in the summer sky. Find the Big Dipper, which changes position but is always so high in the sky that it never disappears. From there you can find the North Star, Polaris, exactly above the Earth's North Pole. It is the only star that can be found at almost the same spot every night. Long ago, explorers used Polaris to help them in their travels. How do you know where/when to look for a particular star? You look at star maps, which you can find in books. A star chart for the late summer would look something like this:



Can you find the Big and Little Dippers?

Spring: Leo the Lion is the premier constellation of spring. Look for a backward question mark with a bright star as the dot (Regulus). If you look west, you will see three bright planets, Jupiter, Saturn, and Mars. They do not twinkle. Jupiter is the brightest of the three.

Summer: Vega, Deneb and Altair, three very bright stars in the summer sky, form the summer Triangle. Around midnight on August 12th, look for meteor showers. Join up with a friend and lie down head to head so each of you can see half the sky. You might see up to 50 shooting stars in one hour! Since they appear in the constellation Perseus they are called Perseid meteors. Get your binoculars and gaze at the Milky Way!

Autumn: The W-shaped Cassiopeia and her family can be seen in the autumn sky. Let someone help you look for the Great Square of Pegasus. It's made up of stars from the wings of the horse Pegasus and the head of Andromeda. Look for the Andromeda galaxy and the galaxies called Double cluster!

Winter: Orion is the landmark for the winter sky. His belt of three bright stars is easy to find. You can find several bright stars in his vicinity.

H.A. Rey, the author of the Curious George books, has written some excellent books on stars.