



THE BIG DIPPER



CALENDAR, COMPASS, AND CLOCK



Red Herring Puppets

RESOURCE AND STUDY GUIDE
FOR TEACHERS

THE BIG DIPPER: CALENDAR, COMPASS, AND CLOCK

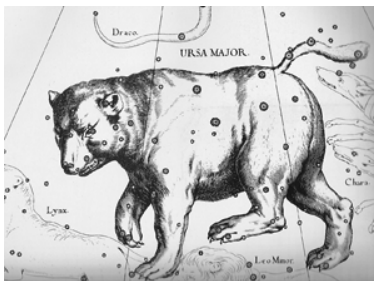
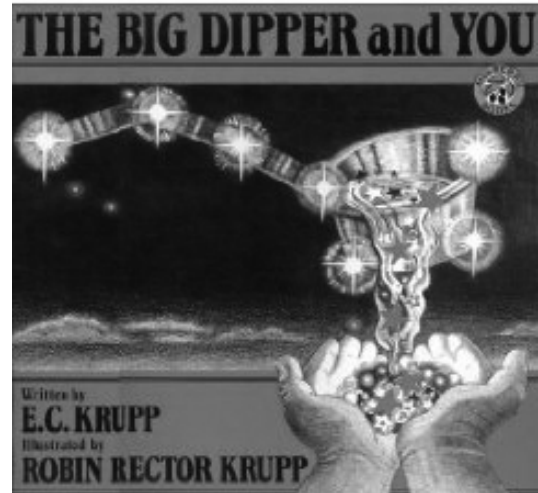
This production is inspired by the book
The Big Dipper and You

written by E.C. Krupp
and illustrated by Robin Rector Krupp.

The book is available through amazon.com

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Our early ancestors were familiar with the stars of the night sky. They recognized certain patterns, gave them names, and told stories about them. Observing the way these star pictures moved throughout the year helped primitive peoples to navigate and tell time at night and to keep track of the Seasons.

The Greek astronomer Eudoxus living 400 BC, made lists of some of the known star patterns. Ptolemy (100 BC) compiled a list of 44 constellations (mostly from the Northern hemisphere) which are still used today. Through the centuries, many more were added and today most astronomers recognize 88 constellations.

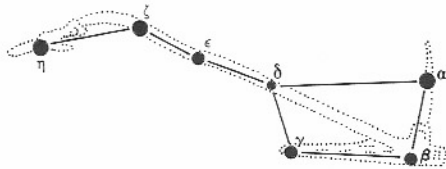
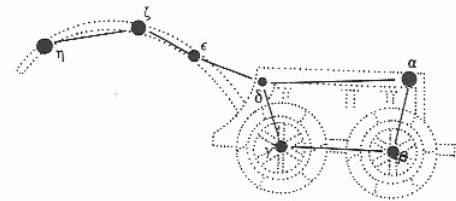
The Big Dipper is not considered a constellation; but rather an asterism which is part of the greater constellation of Ursa Major (The Big Bear). It contains seven stars with a distinctive dipper-like shape. Because of its close proximity to the North Pole, the stars are seen most of the year by more than 50% of the world's population.

The stars of the Big Dipper were probably known to peoples of the Stone Age culture 8,000 to 12,000 years ago; the estimated time of the last migration from Siberia to North America across the Bering Strait. The star lore of Siberia and that of most native North American Indian tribes recognize these stars to be a bear pursued by hunters as she moves in the sky above them. The Arctic region is the abode of Arktos, which in Greek literally means bearish.



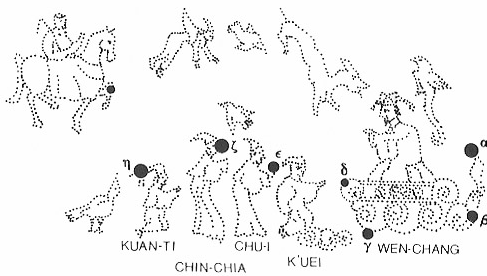
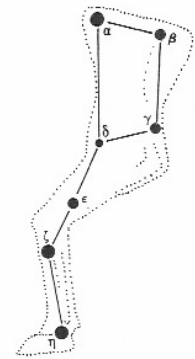
Different cultures group the stars differently so many of the legends do not correspond exactly. It is only since the 19th century in North America that the stars have been called a "big dipper" as it closely resembles the tin dippers which were used to drink water from a bucket. Some believe that this name originated with African slaves who called it a drinking gourd.

Many European countries including German, Scandinavian, Slavic, Romanian and French people saw the Big Dipper as a great wagon circling through the sky. At different times it was attributed to Odin or Charlemagne.



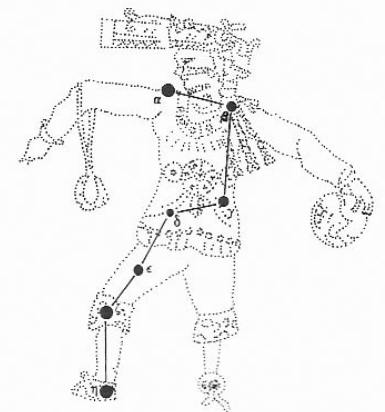
In England and parts of Ireland and France, it is also known as a plough.

The Egyptians called the Big Dipper the "forever" stars. From their latitude, the constellation never disappeared from the night sky and thus symbolized eternity. Priests donned themselves in leopard skin robes symbolizing the night sky and held an azde in the shape of the Big Dipper when conducting ceremonies that released a mummified body into the afterlife. The Egyptians thought the stars resembled the thigh bone of a bull. The bull was associated with the goddess Seshat who is credited with aligning the great pyramids to face North.



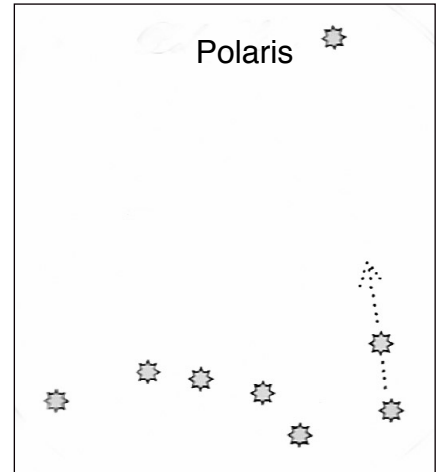
The ancient Chinese depicted a carriage with Wen Ch'ang, The God of Literature, seated on a platform represented by the four stars that form the bowl. The stars that form the handle of the dipper represent his chief ministers - K'uei, who oversees the distribution of degrees and diplomas, Chu-I who looks over the welfare of students, Chin-chia, who searches for talent among young people and Kuan-Ti, the protector of the Kingdom.

The Aztecs saw the stars of The Big Dipper as their destructive god Texcatlipoca (He Who Can Go into All Places) who was a sorcerer and could assume any shape he wished. The Mayan name for this god is Hunracan which is the root of the word hurricane. Texcatlipoca was known to move around with the swiftness of a jaguar and the force of a hurricane. He appears in the sky with one leg missing because as he was rushing about, his enemies slammed the door to the underworld causing him to loose his lower leg. His brother Quetzalcoatl was his opposite and was known for his kindness and usefulness. When Texcatlipoca tried to destroy him, Quetzalcoatl turned him into a puppet where he must dance forever in the sky, sometimes on his peg-leg, and sometimes on his hands depending on the season.



C MPASS

The Big Dipper is easily recognizable and is seen from any point in the Northern Hemisphere. The two bright stars at the front of the dipper, Merak and Dubhe, are called the pointer stars. If you draw an imaginary line between these two stars and extend it five times its length, you will arrive at the North Star, also known as Polaris or "the pole star". The Earth is tilted on an axis with Polaris at the top like the center of an umbrella. The whole sky seems as if it is turning around the north star. If you walk towards Polaris you will be heading due North.

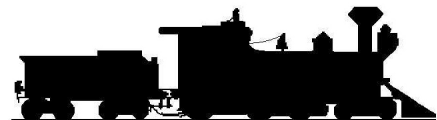


The Underground Railroad

The Underground Railroad was not a real train. It was an informal network of secret routes and safe houses that helped Southern slaves escape to freedom in the northern United States and Canada. At its height between 1810 and 1850, between 60,000 and 100,000 passengers are estimated to have escaped. The people who helped them were called Conductors and the houses in which they were hid were called Stations. By the beginning of the Civil War in 1861, about 500 people a year were traveling in the South teaching slaves the routes to escape.



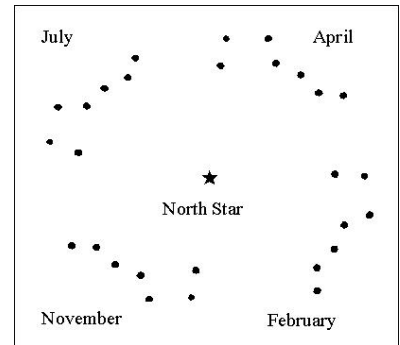
Harriet Tubman (1820–1913) was one of the most famous Conductors. Born a slave in Maryland, Harriet was beaten and whipped by various masters as a child. In 1849, Tubman escaped to Philadelphia, then immediately returned to rescue her family. She made thirteen trips back to the South to rescue relatives and guide dozens of other slaves to freedom. When the Fugitive Slave Law was passed in 1850, she helped guide fugitives further north into Canada, and helped newly-freed slaves find work.



CALENDAR

THE COSMIC HUNT

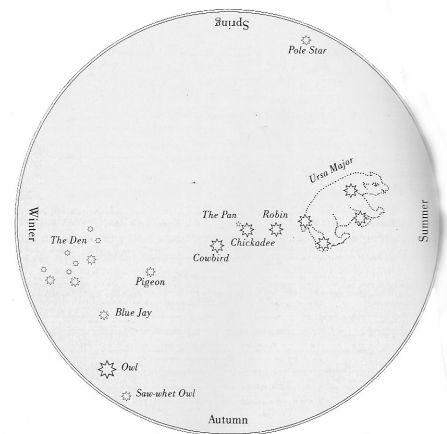
There are many stories about the Big Dipper that describe a celestial hunt. This common motif suggests an historical link between the Native Americans of the United States and Canada with the inhabitants of Siberia. In most versions, the four stars forming the dipper are seen as an animal, (most commonly, a bear in North America or an elk in Siberia) and the three stars of the handle are hunters; the faint star Alcor is a dog or a cooking pot.



The Micmac Indians lived in the area around the Bay of Fundy in New Brunswick and Nova Scotia, Canada. Their northern climate made for a short growing season and harsh winters. They lived in wigwams, made canoes out of birch bark and decorated with quills. Fish was their most stable food; but in winter they hunted seal, moose, caribou, and bear. In Fall they feasted on large game and in Spring they ate Canadian geese and waterfowl eggs. They lived close to nature and observed stellar movements carefully. At the latitude of the Micmac (45 degrees N), the Big Dipper never dips below the horizon. When observed at the same time every day, the Dipper's gradual shift in

position throughout the year indicates the passing of the Seasons and can be used as a celestial calendar.

The Micmac tell the tale of a huge giant with magical powers called Gluscap. According to legend, it was he who shaped the landscape, taught the people to hunt and fish and named the constellations. The four stars that make up the bowl of the dipper represent a bear. The hunt begins in early May when the bear leaves her den. During midsummer, she runs across the horizon pursued by the seven bird hunters. By mid-autumn She-bear is nice and fat and stands erect prepared to defend herself. At this time four hunters dip below the horizon one at a time and so the owls, pigeon, and blue jay grow weary of the chase. Later in the season, just before Winter; she is well fed and strong, but rather sluggish and is slain by Robin. She appears to be falling over onto her back. The Micmac say that it is the bear's blood that turns the autumn leaves a bright red and stains the breast on the robin. By midwinter, a new bear appears in the East and the hunt is repeated.



Follow the Drinking Gourd



Instead of a metal dipper, slaves used a hollowed-out gourd to scoop water from a bucket and thus referred to the Big Dipper as the Drinking Gourd. It became a symbol of freedom for those who dreamed of escaping to the North where there was no slavery. By 1831 the Underground Railroad was established. They began to send travelers into the South to secretly teach slaves specific routes they could navigate using Polaris.

From the tribal cultures of Africa, slaves brought the custom of creating songs to transmit factual information. "Follow the Drinking Gourd" is a coded song that gives the route for an escape from Alabama and Mississippi. The route instructions were given to slaves by an old man named Peg Leg Joe, an itinerant carpenter who moved from plantation to plantation, teaching slaves this escape route.

**When the sun comes back and the first quail calls,
Follow the Drinking Gourd.
For the old man is waiting for to carry you to freedom,
If you follow the Drinking Gourd.**

Quail are migratory birds that spend winter in the South. This verse tells slaves to leave in winter and follow the Big Dipper north. The old man is Peg Leg Joe. It took most escapees a year to travel from the South to Ohio, so the Railroad urged slaves to leave in winter to arrive at the Ohio River when it was frozen and escapees could walk across the ice.

**The river bank makes a very good road,
The dead trees show you the way,
Left foot, peg foot, traveling on
Follow the Drinking Gourd.**

Slaves were instructed to follow the bank of the Tombigbee River north looking for dead trees that bore the mark of Peg Leg Joe with drawings of a left foot and a peg foot.

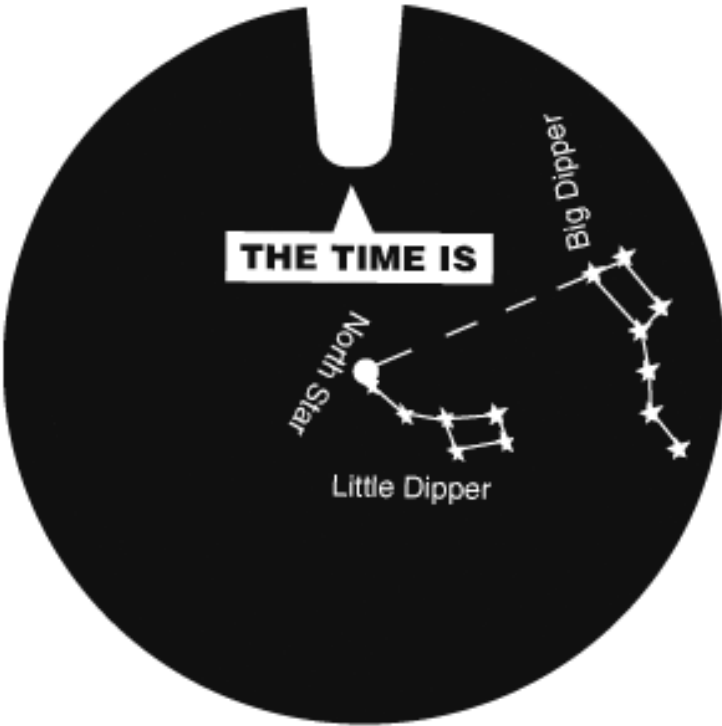
**The river ends between two hills,
Follow the Drinking Gourd.
There's another river on the other side,
Follow the Drinking Gourd.**

When the slaves reached the headwaters of the Tombigbee, they were to continue north over the hills until they met the Tennessee River.

**Where the great big river meets the little river,
Follow the Drinking Gourd.
For the old man is awaiting to carry you to freedom if you
follow the Drinking Gourd.**

The Tennessee joined the Ohio River. The slaves needed to walk across to the north where a guide from the Underground Railroad would meet them and keep them safe.

CLOCK



1. Cut out both circles making sure to cut out the notch on the darker star circle.

2. Put the darker circle on top of the month circle and place a paper fastener in the center where the North Star is.

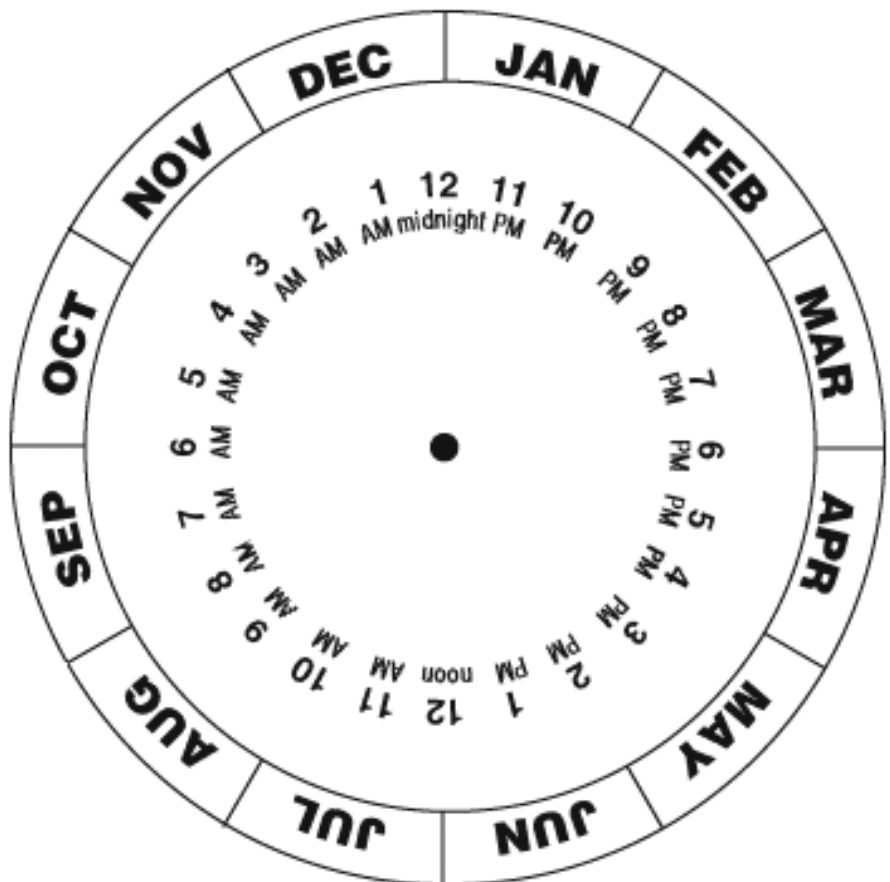
3. Go outside at night and find the Big Dipper and the North Star.

4. While facing North, turn the outer disc so that the current month is on top.

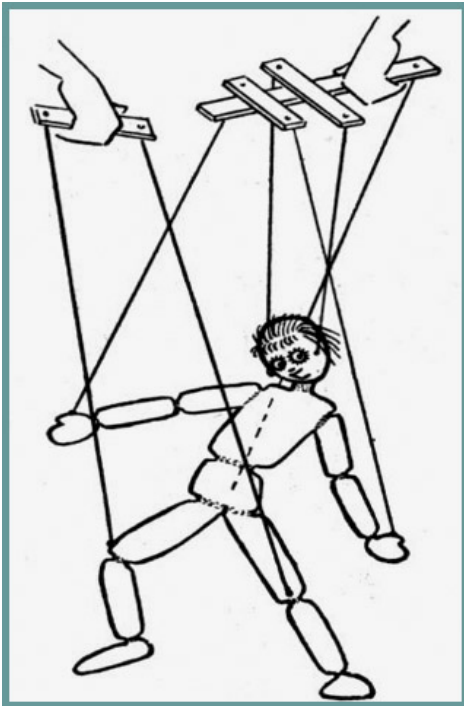
5. Holding the current month on top with your thumb, rotate the inner circle until the position of the stars match what you observe in the sky.

6. Read the time in the window. (If you are on Daylight Savings time, add one hour.)

7. Go back out in one hour and see how the time has changed on your star clock.



PUPPETRY is an ancient art form that began, like traditional theatre, as an expression of ritual and magic. Puppetry is the art of transforming inanimate objects into believable characters. There are many different kinds of puppets which are usually distinguished by how they are manipulated.

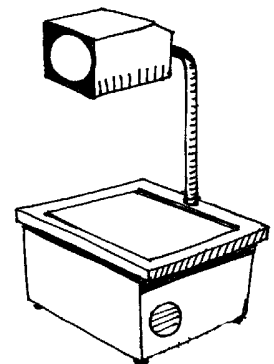


In *The Big Dipper*, we use two basic types of puppets. Most of the stories are told with three dimensional string puppets called marionettes. In Europe during the Middle Ages, Passion Plays were performed in churches using string puppets. The word marionette comes from the French term for the "Little Marys" that were used in these plays.

Marionettes are among the most difficult type of puppet to build and perform. Each figure is like an original musical instrument that has to be properly tuned in order to "play" correctly. The jointed bodies are carefully constructed from wood and cloth. It is important to limit the amount of movement in each joint so the figure can move realistically. The strings are connected to a wooden control held from above.

In our production, the heads and hands are first sculpted from clay. We use plaster of Paris to make a mold and then pour a hard rubber called neoprene into the mold to cast a hollow face. We paint them with acrylics and add hair and facial features.

To create the images on the circular screen above the marionette stage, we use shadow puppets performed with two overhead projectors. The puppets are mounted on sheets of clear acetate and manipulated with rods, cardboard tabs, extra acetate sheets and sliding parts. We fade back and forth between the two projectors using a heavy cardboard and the animated images are projected from behind onto the shadow screen.



If you want to learn more about puppetry, check out the website for **The Puppeteers of America**. <http://puppeteers.org/>
They host a store that has hundreds of books on the history, construction, manipulation, and scripting of puppets.
<http://store.puppeteers.org/>



Meet The Artists



RED HERRING PUPPETS

Founded in 1988, Red Herring Puppets are based in the Blue Ridge Mountains of Western North Carolina performing at schools, libraries, theaters, and special events. They delight young audiences with their lively and informative "edu-tainment."

THE BIG DIPPER is performed by LISA STURZ and ROBIN STEVENS

Lisa Sturz, Artistic Director is an Emmy-award winning puppeteer who has worked with Jim Henson Productions, Disney Imagineering, Lucasfilm, PBS, NBC, the Ice Capades, the Asheville Symphony, and the Lyric Opera of Chicago. Her giant puppets have been featured at the Field Museum, the Shedd Aquarium, and the Biltmore Estate. Film and TV credits include Elmo in Grouchland, Muppets in Space, Murphy Brown, Puzzle Place, the Flintstones, Howard the Duck, and Ninja Turtles III. Lisa is also a teaching artist with an MFA from UCLA. Her work has been supported by the National Endowment for the Arts, the Puppeteers of America and many State and local arts agencies.

Robin Stevens trained at the Cannon Hill Puppet Theatre in Birmingham UK. He worked for six years for the BBC as a puppeteer before joining the highly successful Children's Television Production Company, Ragdoll Ltd., the company that made Tellytubbies. Robin has won two British Academy awards.



Puppets Created by LISA STURZ, ROBIN STEVENS, and MARSHA SPRINGS Ruth McNair, Anne Centers, Sandie Rhodes, Manon Manavit, Theo Sturz

"Follow the Drinkin Gourd" painted by CJ Randall

CJ Randall has won numerous awards for his photo-realistic watercolors. Best known for his "Faerie Portraits", CJ has begun painting more socially and politically conscious work.



Micmac background painted by Martha Enzmann

Martha received an MFA from the Savannah College of Art & Design, which honored her as their alumni of the year in 1998. She has directed international spectacles and parades and her artwork has been featured at numerous galleries. She is the founding director of Elkland Art Center.

Marionette Consultant – Phillip Huber

Phillip Huber, an internationally recognized "artist with marionettes", is most widely known for his film work in the 3-time Academy Award nominated film BEING JOHN MALKOVICH. Phillip's stage credits feature BUSKER ALLEY starring Tommy Tune and IT'S MAGIC starring Harry Anderson.



Astronomy Consultant: Bernard Arghiere

Bernie has over 35 years of experience observing the night skies. He teaches an astronomy course at UNCA's College for Seniors.

Micmac Indian Consultant and Voice of Gluscap: Michael Dimitri

Michael is part native Micmac and part Greek. He is a singer, songwriter, musician, actor and voice over artist who has lived and performed worldwide including the Acropolis in Greece and the Grand Ole Opry.

Sound Engineer: Lief Stevens with Orange Krush Studios

Vocal Talent: Paul Chang, Michael Dimitri, Pete Koschnick, Manon Manavit, Francois Manavit, Robin Stevens, Becky Stone, Lisa Sturz, Theo Sturz

**SPECIAL THANKS to the Puppeteers of America's Endowment Fund
and the Center for Puppetry Arts in Atlanta**