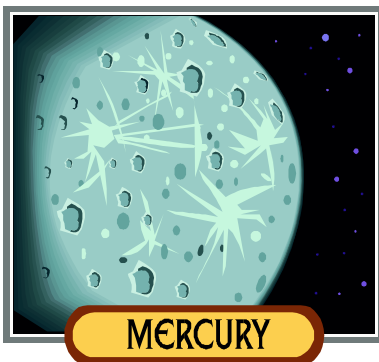


Planet Fact Sheet

There are nine planets that travel around the sun. Together with the sun, these planets make up our solar system. The planets are in motion and travel around the sun in oval shaped paths called orbits. Each planet travels in its own orbit.



The Nine Planets



- Mercury is the closest planet to the sun
- Mercury has no water
- Mercury is covered with craters
- No moons orbit Mercury
- Mercury has the shortest year (88

Earth days)

- Mercury is burning hot on the sunny side and freezing on the dark side

Name_____

- Venus is the second planet from the sun
- Venus rotates backwards compared to the other eight planets
- The clouds on Venus are thick and poisonous
- The air has enough heat and pressure to crack spaceships.



- Earth is the only planet with flowing water to drink and air to breathe
- It takes the Earth 365 days to revolve around the sun
- It takes the Earth 24 hours to rotate about the sun
- Earth is close enough to the sun to keep it warm and far enough away to keep it cool
- The third planet from the sun is Earth
- Earth has one moon

Name_____

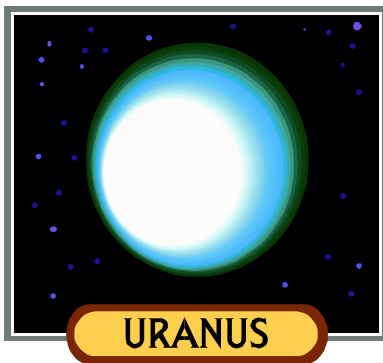
- The air on Mars is full of reddish dust (that is why it is sometimes called the Red Planet)
- Mars is the fourth planet from the sun
- Scientists think Mars may have had water in rivers or oceans at one time
- Today Mars has ice at its poles
- Mars is a desert planet
- There are two small moons that orbit Mars (Phobos and Deimos)



- Jupiter is the largest planet
 - Jupiter is the fifth planet from the sun
 - Jupiter is made up of gasses (it is called a Gas Giant)
 - There is no solid crust of land on Jupiter
- The Great Red Spot on Jupiter is a hurricane
 - Jupiter has a small ring system made of dust
 - There are 16 moons that orbit Jupiter

Name_____

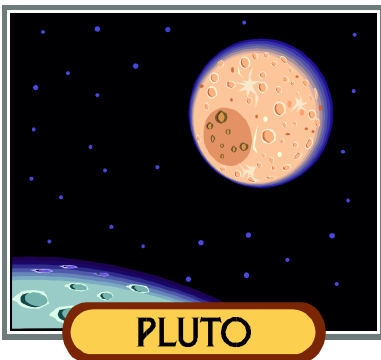
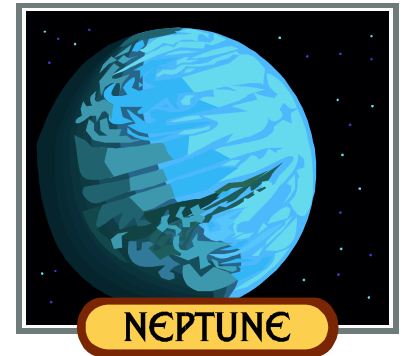
- Saturn is the sixth planet from the sun
- Saturn is the second largest planet
- There are hundreds of rings around Saturn
- Saturn's rings are made mostly of small pieces of ice
- Saturn has more than 20 moons, and scientists keep discovering new ones
- Saturn is also a Gas Giant



- Uranus is the seventh planet from the sun
- All the planets but Uranus orbit the sun upright, but Uranus lies on its side (it's tilted)
- The entire planet is covered by a thick blue-green fog
- Uranus is a Gas Giant
- Uranus has rings
- There are 15 moons that orbit Uranus

Name_____

- Neptune is the eighth planet from the sun
- Neptune has 8 moons
- Blue clouds cover Neptune
- Neptune is a Gas Giant
- Neptune has rings
- Neptune has the Great Dark Spot (which is a storm like the Great Red Spot on Jupiter)
- The winds on Neptune are the fastest in the solar system



- Pluto is the smallest planet
- Pluto is the last planet in our Solar System (the furthest planet from the sun)
- Pluto is very cold because it does not receive much heat from the sun
- There is one large moon that orbits Pluto, Charon.
- Pluto's orbit is strange; it sometimes crosses the orbit of Neptune making Neptune the furthest planet from the sun for a few years.

Pluto
*dwarf planet

NEPTUNE

URANUS

SATURN

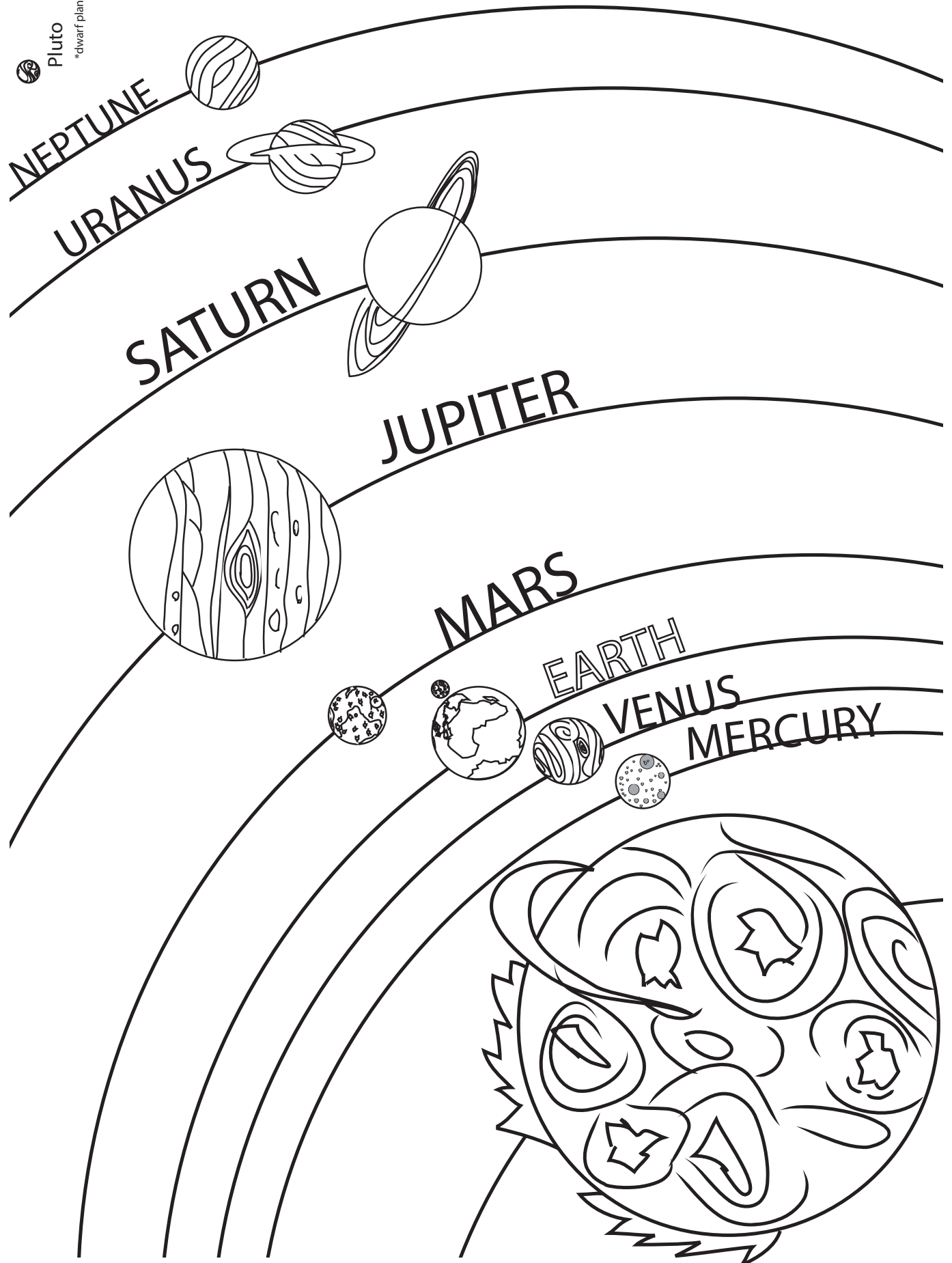
JUPITER

MARS

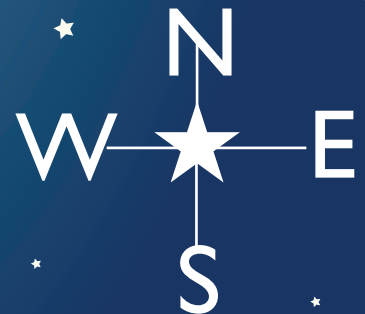
EARTH

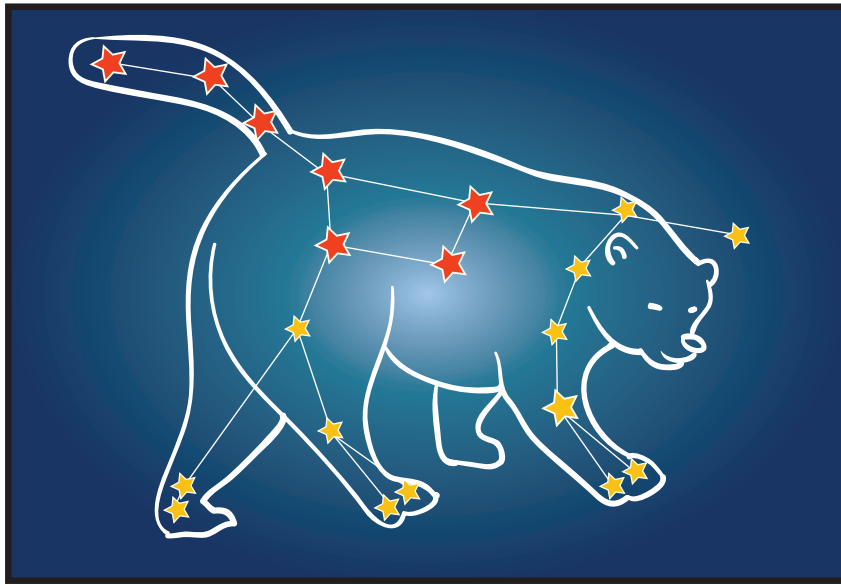
VENUS

MERCURY



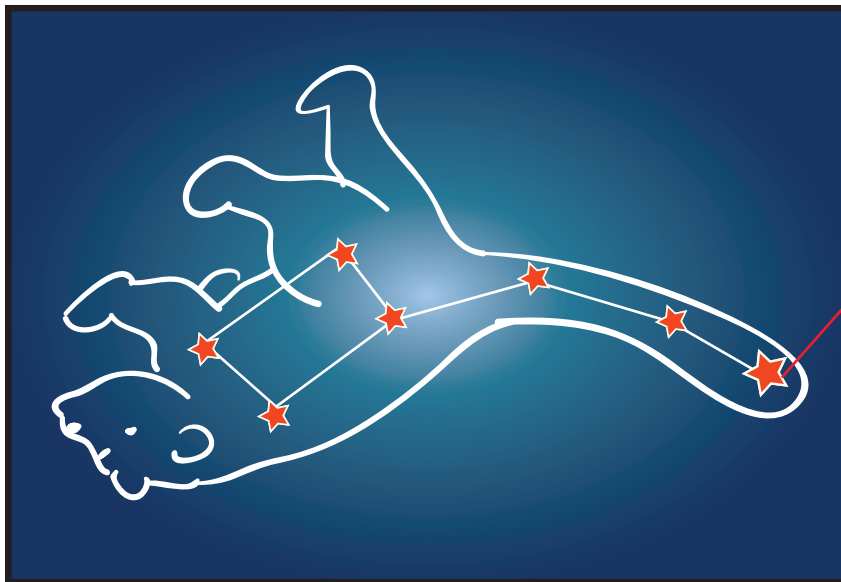
★ ★ STAR GAZING ★ ★





Ursa Major (big bear)

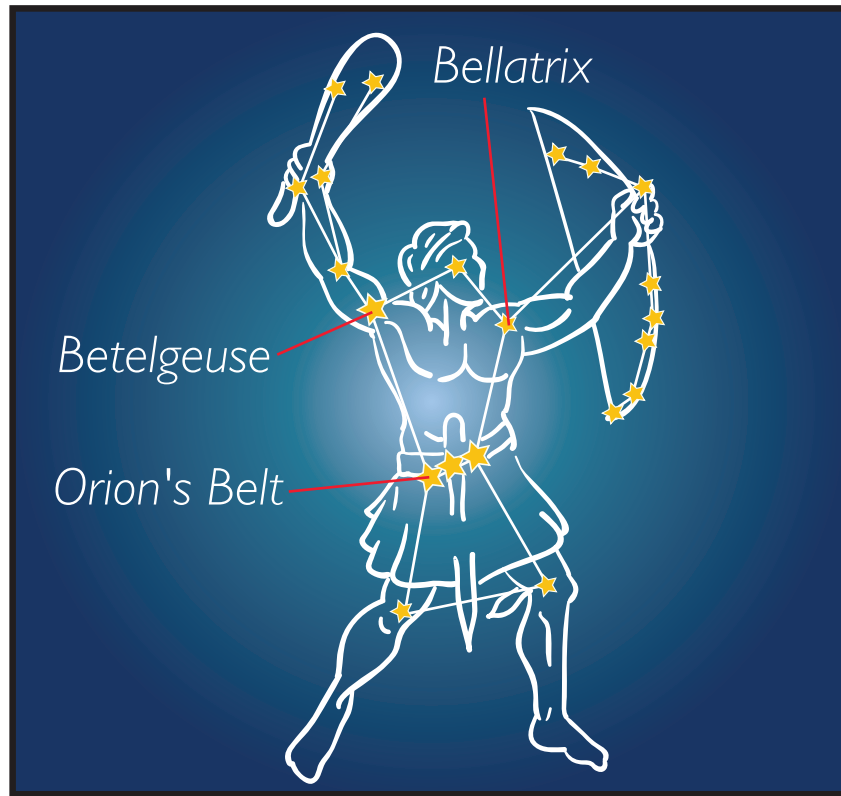
A woman named Callisto was turned into a bear by an angry goddess, Hera, and was put up in the sky, where she still lives today. The orange stars are known as the Big Dipper.



Ursa Minor (little bear)

The little bear is Arcas, Callisto's son. He was also turned into a bear and put up in the sky. The orange stars are known as the little Dipper.

Polaris (the north star) is the tail of the little dipper, an important star that hunters and travelers can use as a compass to find north.



Orion

Orion was a hunter in ancient Greek mythology. After he was killed by a scorpion, the gods put him up in the sky. Orion's Belt - The three brightest stars in the Orion constellation.



Sirius (the dog star)

Orion's hunting dog Sirius is the brightest star in the sky!



Cassiopeia

Cassiopeia was a very vain, self-centered queen. The gods hung her upside-down in the sky as punishment.



Cepheus

Cepheus, the king, was Cassiopeia's husband.



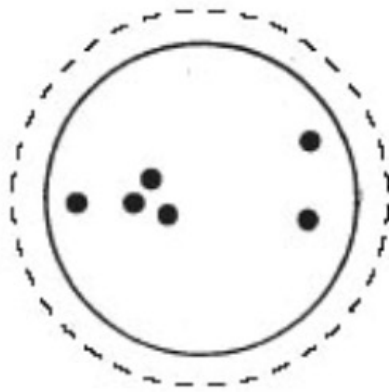
Lyra/Lyre

The lyra was a stringed instrument that Orpheus used to charm wild animals. When he died, the lyra was placed in the sky to honor him.

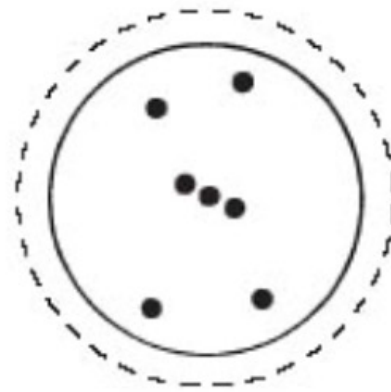


Aquila

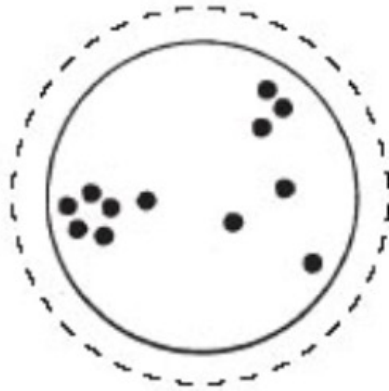
Aquila was an eagle of the gods. He did many things for the gods, such as carry Zeus' thunderbolts.



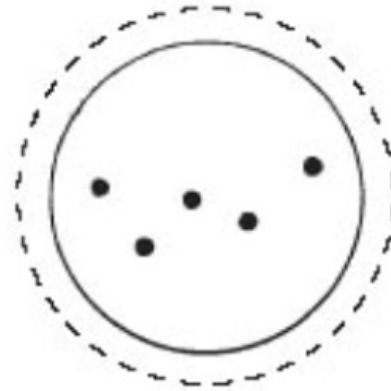
TAURUS
The Bull



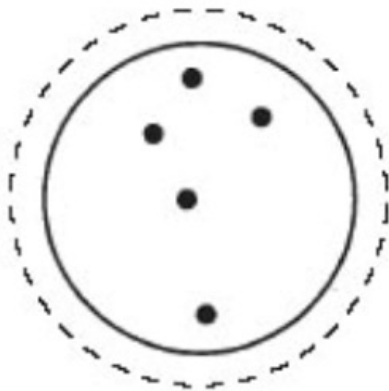
ORION
The Hunter



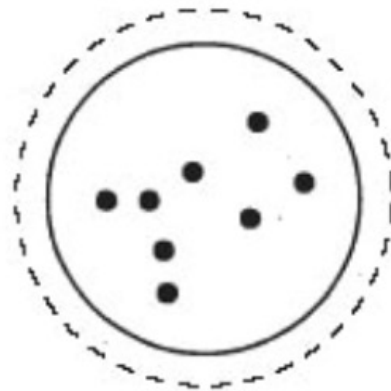
PISCES
The Fishes



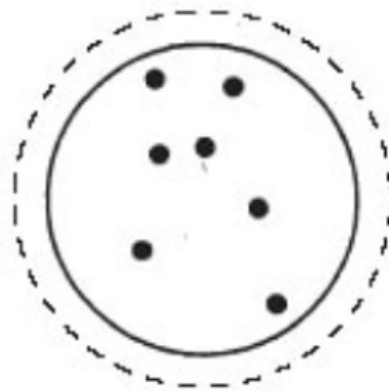
CASSIOPEIA
The Queen



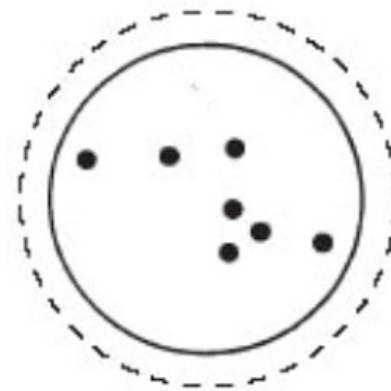
BOOTES
The Herdsman



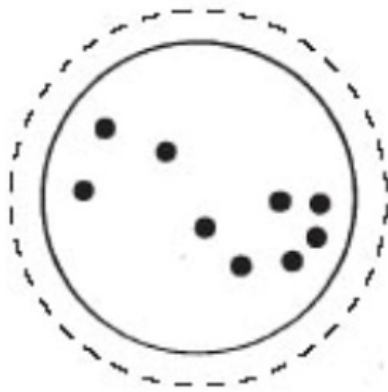
GEMINI
The Twins



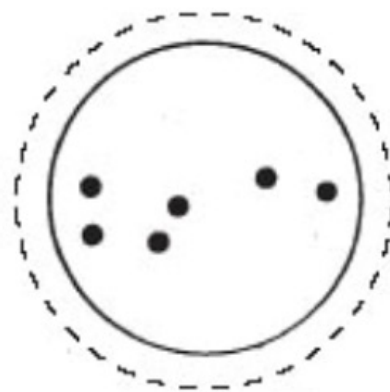
HERCULES



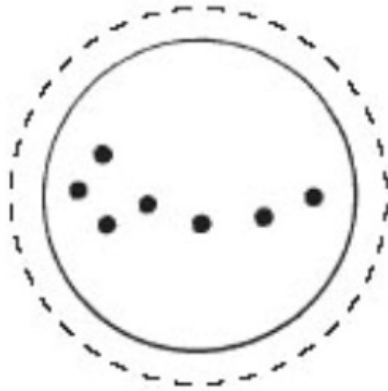
CANIS MAJOR
The Big Dog



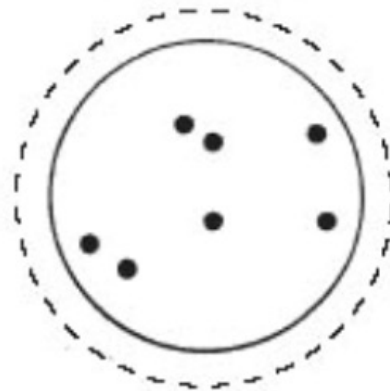
SCORPIUS
The Scorpion



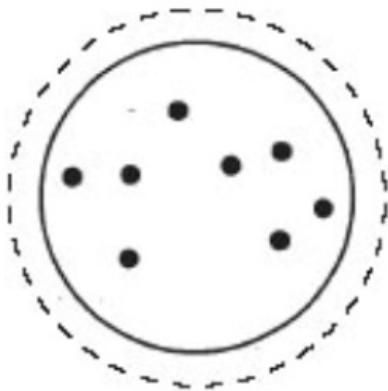
URSA MAJOR
The Great Bear



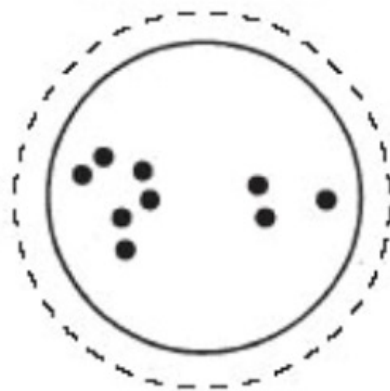
URSA MINOR
The Little Bear



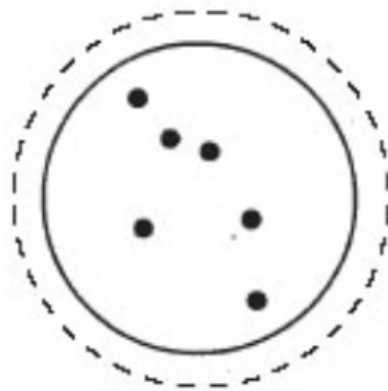
PEGASUS
The Flying Horse



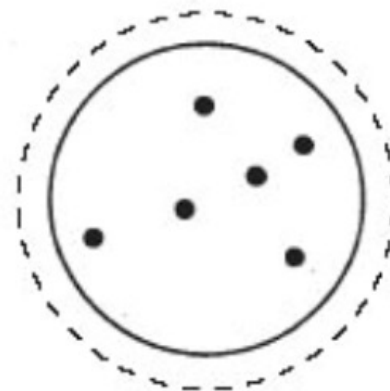
SAGITTARIUS
The Archer



LEO
The Lion



PERSEUS



CYGNUS
The Swan

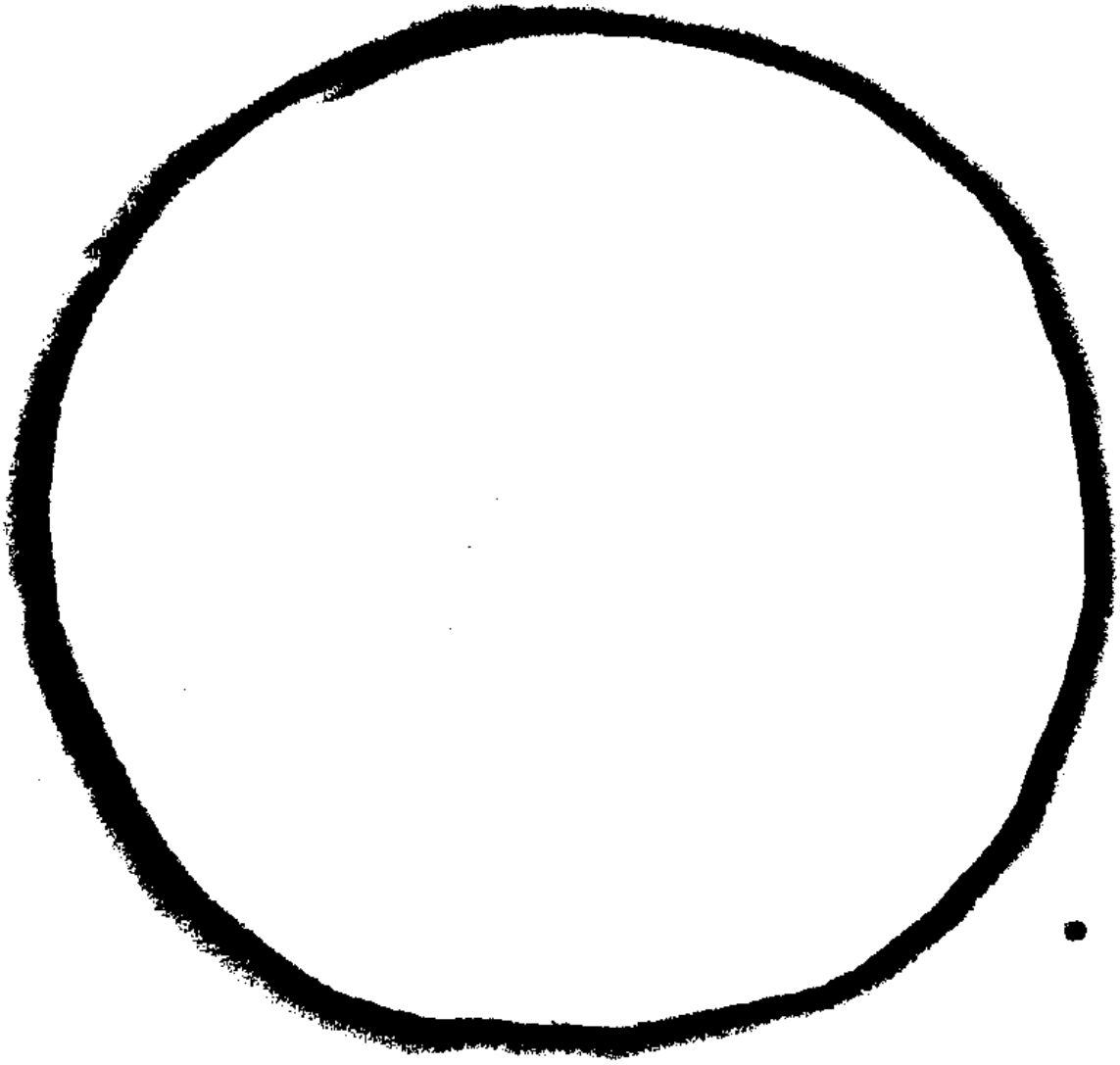


Our Very
Own Star:
the Sun

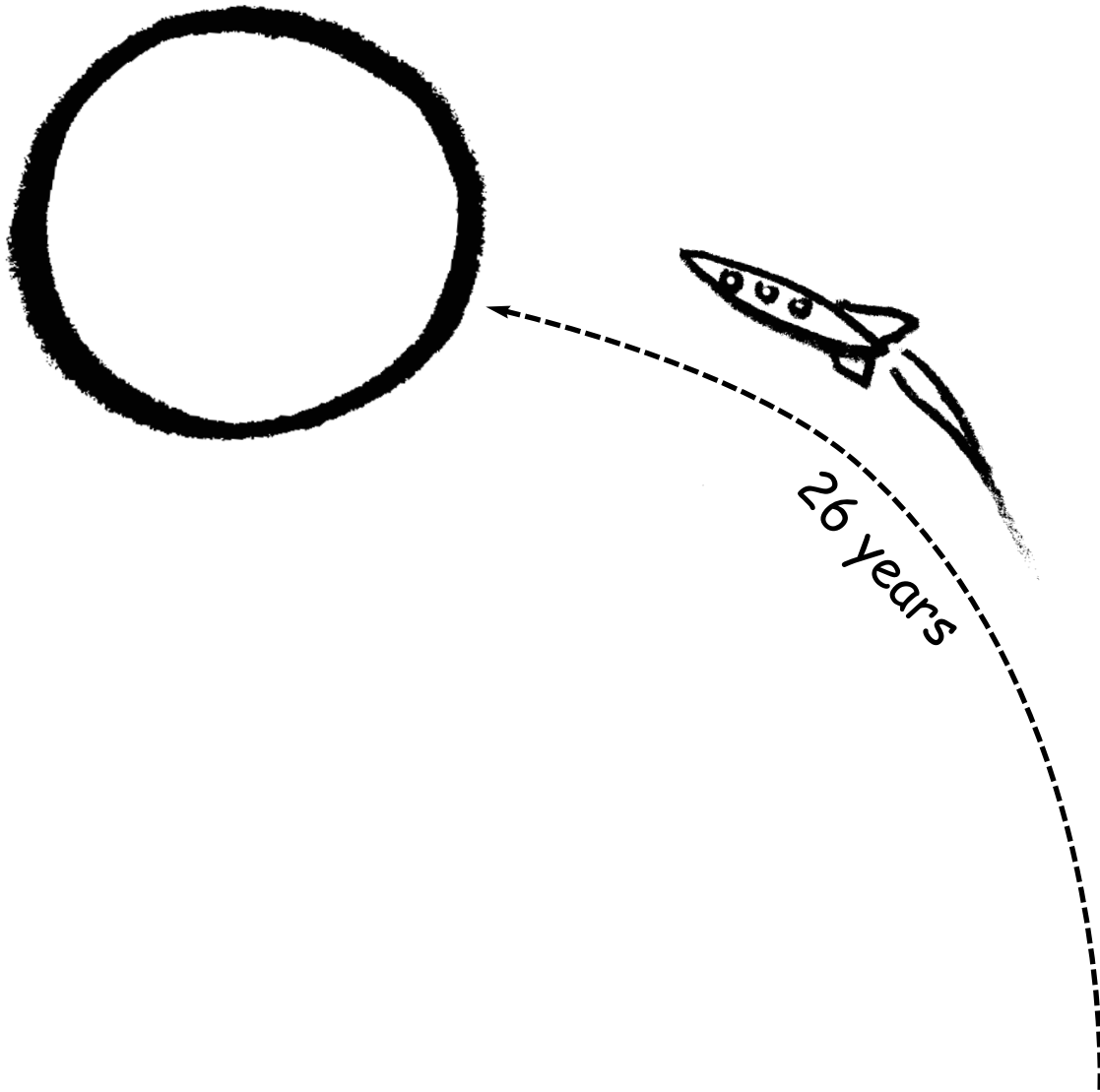


When you look at the night sky filled with stars, have you ever wondered what a star is?

Walk outside on a clear day and say, "Hello!" to our very own star - the Sun! (But don't ever look directly at the Sun. You may damage your eyes.)

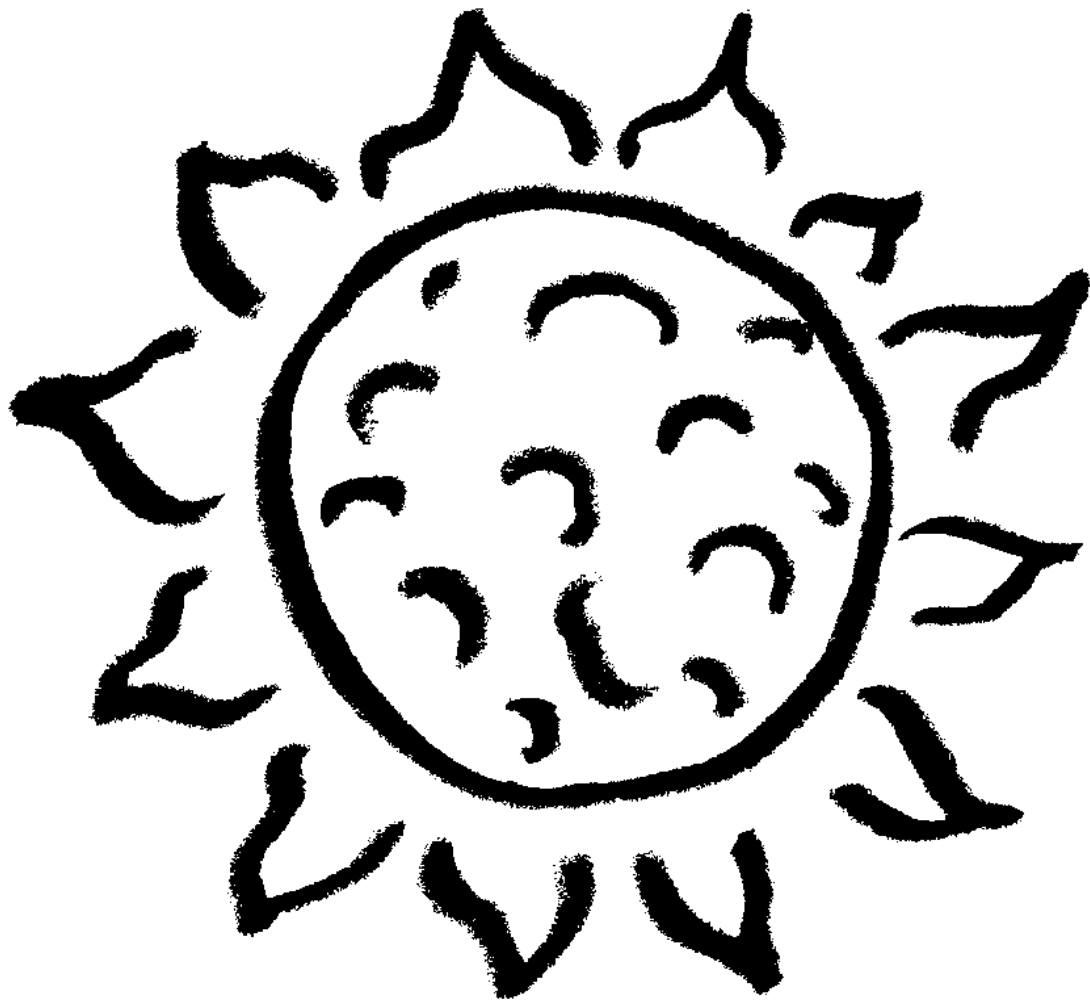


The Sun is very big! Imagine this large circle is the Sun. Then the little dot would be the size of the Earth. Of course, the Earth is not this close to the Sun.



The Sun seems small when we look at it because it is very far away. The Sun is 93 million miles from Earth! If somehow you could fly an airplane to the Sun, it would take you 26 years. How old would you be when you got to the Sun? How old would you be when you got back?

What do we get from the Sun? The Sun gives us heat and light necessary for us to live. Without the Sun, the Earth would be a frozen ball of ice.



The Sun is a very big ball of hot gases. The flame of a candle is also hot gases. If you look closely at the candle, you can see brighter and darker spots in the flame. The hot gases of the Sun also show darker and lighter spots, and the gases move and flow.



The dark spots on the Sun are large storms called sunspots. They look small on the Sun but are, in fact, as large as the Earth or bigger. Can you imagine a storm as big as the Earth?

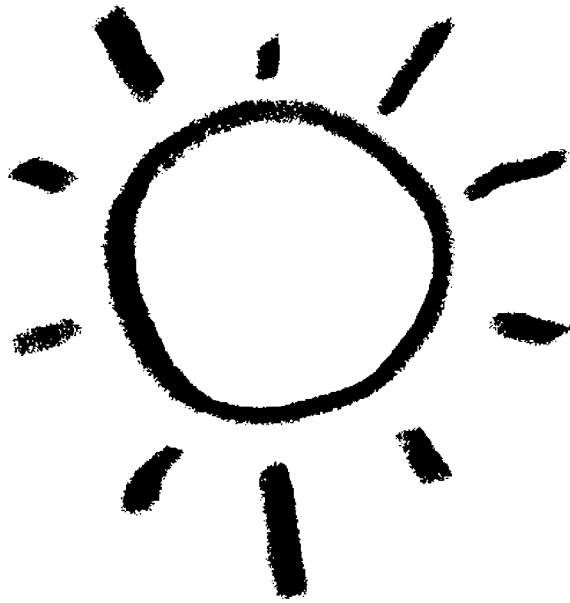
There are also huge explosions called solar flares in which the hot gases are spit away from the Sun - like spaghetti sauce that bubbles and spatters. These great storms blast material out of the Sun and into space.



Tiny particles that scientists call matter are always leaving the Sun. It is somewhat like the wind blowing. In fact, this stream of tiny particles is called solar wind. It takes one to five days for this wind to reach Earth. Sometimes the solar wind causes beautiful lights in the night sky, called auroras. These lights look like moving sheets of colors high in the sky.



Sometimes the solar winds can disrupt electricity, telephones, televisions, and radios. This can be very dangerous for police, firefighters, airplanes, and ships at sea.



The Sun is important to us because we need its warmth and light. Scientists also study the Sun to learn more about the Earth's weather and climate. NASA helps us to learn more about the Sun by sending satellites into space to study the space weather. Perhaps one day you can work for NASA, too!



The Sun - our very own star. It lights the daytime sky and gives us warmth just as the nighttime stars give the sky a special beauty.



National Aeronautics and
Space Administration

Goddard Space Flight Center
Greenbelt, Maryland 20771

Educational Product	
Educators	Grades K-4

EP-2002-1-014-GSFC

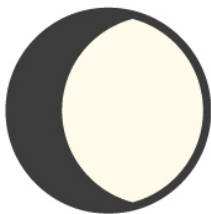
Families, enjoy the on-line interactive
version of "Our Very Own Star: the
Sun" on the Solar Terrestrial Probes
Education and Outreach homepage!
<http://stp.gsfc.nasa.gov>

Design & Illustrations by Daniel Vong

FIRST QUARTER



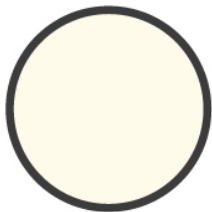
WAXING
GIBBOUS



WAXING
CRESCENT

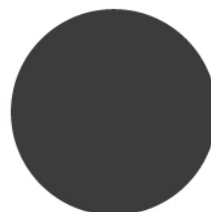


FULL
MOON

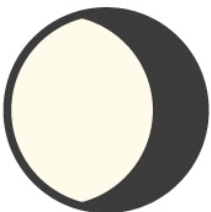


MOON PHASES

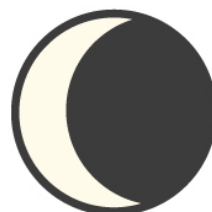
NEW
MOON



WANING
GIBBOUS



WANING
CRESCENT



LAST QUARTER



Identifying the Phases of the Moon II

Waxing Crescent - when we can see only a sliver of the moon's disk (*right-hand side*).

Full Moon - when the moon's disk is light because the Earth is between the sun and the moon

Waxing Gibbous - when we can see roughly three-quarters of the moon's disk (the *right side* of the moon is lit).

First Quarter - can see one-half of the moon's disk (at First Quarter, you see the *right half* of the moon lit [this one-quarter of the entire moon's surface]).

New Moon - when the moon's disk is dark (and invisible to us) because the moon is between the sun and the Earth

Last/3rd Quarter - can see one-half of the moon's disk (at Last/3rd Quarter, you see the *left half* of the moon lit [this one-quarter of the entire moon's surface]).

Waning Gibbous - when we can see roughly three-quarters of the moon's disk (the *left side* of the moon is lit).

Waning Crescent - when we can see only a sliver of the moon's disk (*left-hand side*).

Using the table above, write the phase of the moon shown in the picture.