Nature Study

Nature Study

Each Friday morning, you will go through two of our nature cards. They are labeled in the upper right corner with the corresponding week. These are short, factual cards with images to help your child become familiar with objects in the natural world.

As you progress through our sessions, you may find it handy to keep your past nature cards in a binder for easy reference when your children come across a familiar object. These seeds you are planting will grow into a wonderful garden of knowledge for your children in years to come.

As you explore nature outside your home, watch and listen for newly discovered delights. Most of all, remember...

"Point to some lovely flower or gracious tree, not only as a beautiful work, but as a beautiful thought of God."

~ Charlotte Mason

A Quick Note

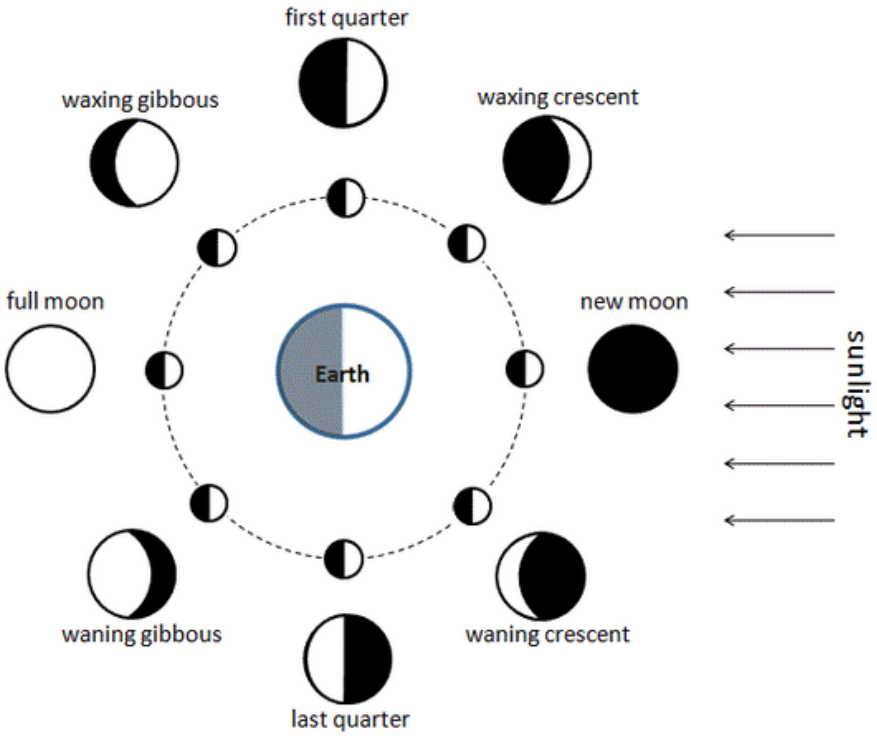
While we have provided nature cards identifying the planets in our solar system, they are not always visible in the night sky, due to their revolutions around the sun. As such, for monthly study, we would also recommend learning the different phases of the moon, as well as identifying the constellations as they appear throughout the seasons.

We have provided a brief summary of the lunar phases as well as a list of seasonal constellations. (A great tool we highly recommend is a free app called "SkyView Lite." By pointing your camera, this app shows you where all the stars, planets, and constellations are located.)

Lunar Phases

Over the course of a month (or roughly 29.5 days) the moon changes in appearance due to its position next to the earth. It can be divided into four major phases: new moon (when the moon is aligned between the sun and the earth), first quarter, full moon (when the earth is aligned between the sun and the moon), and last quarter. In between the major phases are the minor phases, waxing crescent and waxing gibbous (as the moon becomes bigger), and waning gibbous and waning crescent (as the moon becomes smaller). (*Image provided by Wikipedia*)

For a month, go outside once or twice a week and identify the phases of the moon, keeping track of its shapes in your art journal or star map.



Constellations

Visible year round
- Cassiopeia
- Ursa Major (Big Dipper)
- Ursa Minor (Little Dipper)
- Cepheus
- Draco

Winter (**summer in the southern hemisphere**)
- Orion
- Gemini
- Canis Major
- Canis Minor
- Taurus
- Carina

Spring (**autumn in the southern hemisphere**)
- Leo
- Virgo
- Cancer

Summer (**winter in the southern hemisphere**)
- Scorpius
- Sagittarius
- Hercules
- Capricornus
- Draco
- Libra

Autumn (**spring in the southern hemisphere**)
- Pisces
- Aquarius
- Pegasus
- Phoenix

1

Mercury

- Although Mercury is the closest planet to the sun, it is not the hottest planet in our solar system.
- It takes 175.97 Earth days for a single day or night to happen on Mercury, but it only takes 88 Earth days for Mercury to completely orbit the sun.
- Mercury is only a little larger than Earth's moon which makes it the smallest planet in our solar system.
- Mercury's temperatures can fluctuate more that 1,100 degrees Fahrenheit between day and night.

1

Venus

- Venus is the hottest planet in our solar system. The atmosphere creates a greenhouse effect and causes temperatures to rise hot enough to melt lead!
- Venus spins in the opposite direction of all other planets in our solar system.
- Venus can be viewed with the naked eye and is the brightest object in Earth's sky after the sun and the moon.
- Venus' name is derived from the Roman goddess of love by the same name.
- Venus has no magnetic field.
- Magellan, one of the over 40 spacecraft that have explored Venus, showed that the surface of Venus is covered in lava flows and has a few active volcanoes.

2

Earth

- The earth is the only planet to contain life. It is a also the only planet where water is present in all three stage: gas, liquid, and solid.
- Earth's body surface is 70% water. But even though there is more water than land, water takes up only 1% of earth's mass!
- The earth has a very big circumference, measuring 24,901 miles across the middle, also called the equator. If you weighed yourself at the equator, you would weigh slightly less than you would at other areas of our world.
- While the earth orbits the sun, it is also rotating on its axis. So it is spinning while it spins! The earth rotates on its axis quickly, reaching speeds of 1,000 mph!

2

Mars

- Mars is the fourth planet from the sun, the distance between them being 22,940,000 km.
- Mars has a warm summer equator, bearing the temperature of 80 degrees, but at night temperatures can plummet to -100 degrees. At its poles in winter, the temperature can drop dramatically, falling to -199 degrees. This fluctuation is due to a thin atmosphere. It's about 100 times thinner than Earth's.
- Mars is called the 'red planet' for its red appearance. The reason this planet is this color is due to the amount of iron in Mar's landscape.

3

Jupiter

- This planet is the fastest planet on our solar system. It can make one full axis rotation in 10 hours! It is also the largest planet in the solar system.
- Jupiter is the fourth brightest object in our sky. It has 67 moons!
- Jupiter has a Giant Red Spot that has been visible for more than 300 years. This giant oval storm is currently declining. It's largest measurements in the 19th century were 48,000km in length and currently it is just under 16,000 km and more rounded.

3

Saturn

- Saturn has many moons, 62 to be exact. Ancient astronomers used to think Saturn's rings were its moons, but, of course, now we know this is not the case.
- Saturn's rings are made of gas. Saturn actually could float in water because it is mainly a gas planet.
- Saturn has been visited by spacecrafts on four occasions, but nothing can land on the surface due to the fact that is comprised of mostly gases. Anything that tried would fall through the atmosphere and get crushed by pressure.

4

Uranus

- It is the coldest place in our solar system. It actually has ice suspended in its atmosphere, along with carbon monoxide, carbon dioxide, ammonia, other others.
- It gets its blue color primarily from methane (CH) in the planet's atmosphere.
- On January 24th, 1986, the Voyager 2 from NASA approached Uranus, and took pictures of this icy planet. You can actually see Uranus without a telescope.
- This planet produces storms like Jupiter.

4

Neptune

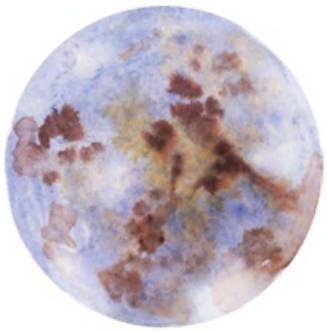
- Its atmosphere is made up of gases. Like Uranus, Neptune is an icy planet.
- Neptune has six rings that we know about. It is the smallest ice giant. Liquid cannot be found on Neptune.
- It makes a full axis rotation in 18 hours. It's also the eighth planet from our sun. It takes a very long time for this icy planet to complete its orbit around the sun: 164.8 of earth's years.
- It has a small dark spot like Jupiter from the storm that occurs in that area.
- Voyager 2 has also visited Neptune and has taken pictures.

5

Pluto

- Pluto has five known moons. This planet is comprised of 1/3 water.
- It is the largest dwarf planet. There has always been debates about where Pluto needs to be classified. As of 2006, it has been reinstated to dwarf planet.
- Pluto is only the size of half the United States. It takes 248 earth years to complete one orbit, so you would have to wait that long to celebrate your first birthday.
- Weight works different on this dwarf planet as well. If your weight was 7 pounds on Pluto, you'd weigh 100 pounds on earth!

5



Ceres

- Time on this dwarf planet is faster. A whole day is about 9 hours. It is the smallest dwarf planet, being about the size of Texas.
- Water has been found on Ceres, too. Water vapor rises from Ceres' surface. Scientists think that this is from its icy volcanoes.
- One day Ceres may be able to provide mining towns for asteroid mining. It also may have 200,000,000 cubic km of fresh water!

Handicraft

For our handicraft lesson, we will be creating a galaxy globe. This is a simple activity that all ages can enjoy. (Though younger children will need a bit of help with the liquids and glitter measurements.)

Using food coloring, cotton balls, and a fair amount of glitter, you will create a globe to simulate a celestial sphere with a cloudy nebula contained inside.

"I've filled him with the Spirit of God, giving him skill and know-how and expertise in every kind of craft to create designs ... he's an all-around craftsman."

~ Exodus 31:3-5

Handicraft Lesson