

At Home with Nature

Nature doesn't just happen in a park; it can happen right at home!



A resource for **EARLY ELEMENTARY AGE CHILDREN** so they may feel right
AT HOME WITH NATURE.

Earth and Sky!

Hands-on activities, videos, songs and stories celebrating the wonders of the sky.

Let's Get Started

Enjoy this video and *discover some of the many wonders of both the day and nighttime sky.*



<https://youtu.be/PcCjkYolOns>

Hands-On Science

Learn how our view of the Moon changes. Have fun with your shadow while making a human sundial.

Directions are below.

Math Connection

Use your math skills to *compare the size of the Earth to that of the Sun.*

Directions are below.



Literacy Connection

Enjoy a Native American legend - Coyote Places the Stars written by Harriet Peck Taylor.



https://youtu.be/g9PboMXb_Ko

Music and Movement

Learn the Phases of the Moon with this catchy tune.

<https://youtu.be/zCEaezqmJU8>

Name the Planets with this fun song about our Solar System.

https://youtu.be/GS2kBP9_ATE



Creative Expression

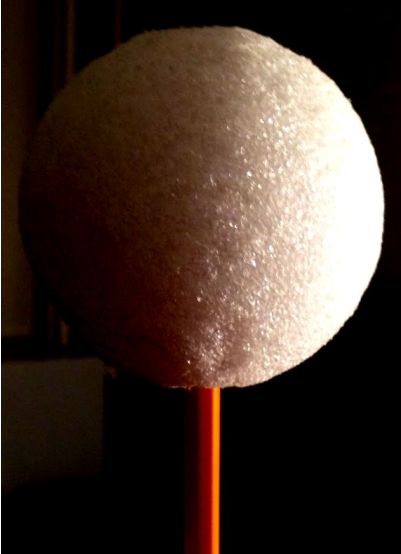
Discover the power of the Sun with a few creative activities. Make "Moon Sand!"

Directions are below.

Let's Explore Outdoors

Take the learning outdoors with memorable family activities.

Details are below.



Seeing the Light!

As we view the Moon in the sky, we see light from the Sun that is reflected off the Moon's surface.

It may seem like the Moon changes shape each night, but because the Moon orbits the Earth, it is really *our view* of the Moon's reflected light that is changing.

Materials Needed:

- Styrofoam Ball, about 4" in diameter
- Pencil
- Lamp

Directions:

- Place the pencil in the styrofoam ball, creating a sort of handle for the ball.
- Place the lamp on a small table near the doorway of a darkened room.
- Stand in the darkened room facing the lighted doorway.
- Hold the pencil (with the ball attached) in front of you, positioning the ball slightly higher than your head.
- The ball should look dark.
- Now, turn slowly (counterclockwise) keeping your arm still and the ball in front of you as you turn. Keep your eye on the ball.
- What's happening to your view of the ball?
- What happens when your back is to the door?
- Keep moving and notice changes as you turn back toward the door.

Just like the lamp is lighting up one side of the ball at a time, the Moon reflects the light of the Sun and our view of that light changes as the Moon orbits Earth.

Hands-On Science



Me and My Shadow!

On a sunny morning, use chalk to draw an arrow on a sunny patio or driveway. Stand facing in the direction of the arrow with one foot on either side. Have someone trace around your shadow with chalk. Inside the shadow, write the time.

How does your shadow look? Is it long or short? Is it in front of or behind you? Do you think your shadow will move?



In a few hours, come back to the same spot. Stand facing the direction of the arrow with one foot on either side, just as before. Have someone trace around your new shadow. Inside the shadow, write the time once again.

Do this process once more in a few more hours.

Look at the shadow tracings. What do you notice? Why are the shadows in different places? Why do you think some shadows are small and some are long? At what time was the shadow the smallest and longest? Where was the sun is at those times of day?

Math Connection



It's Enormous!

Materials Needed:

- Chalk
- Piece of Yarn or String
- Pennies, about 120
- Measuring Tape

Directions:

- On a patio or driveway, outline a circle that is 82" in diameter using chalk. An easy way to do this is to tie a piece of yarn or string to the chalk and then measure and cut the string to 41" in length. Make a mark on the driveway with chalk and have someone hold the end of the yarn on the mark. Keeping the string taut, use the chalk to make a circle.
- The circle represents the sun. If the Sun were as big as the circle that has been drawn, the Earth would be the size of a penny.
- Predict how many pennies it would take to span the distance from one end of the circle's center to the other. This is the diameter of the circle.
- Place pennies side by side across to span the center of the circle.
- Now count the pennies. Marking groups of 10 may help your counting.
- It should take about 109 pennies to span the circle. Compare this number to your original prediction.



Music and Movement



The Family of the Sun Song

From the National Air and Space Museum

Sung to the tune of "Farmer in the Dell"

**The family of the Sun,
the family of the Sun,
we live together
in the family of the Sun.**



**Mercury is hot.
And Mercury is small.
Mercury has no atmosphere;
it's just a rocky ball.**

**Venus has thick clouds
that hide what is below.
The air is foul; the ground is hot.
It rotates very slow.**

**We love the Earth or home...
its oceans and its trees.
We eat its food and breathe its air,
so no pollution, please.**

**Mars is very red.
It's also dry and cold.
Some day you might visit Mars
if you're really bold.**

**Great Jupiter is big.
We've studied it a lot.
We found that it has lots of moons,
and a big red spot.**

**Saturn has great rings.
We wondered what they were.
Now we know they're icy rocks
which we saw as a blur.**

**Uranus is very far.
It's cold and greenish blue.
We found it rotates sideways,
and it has lots of moons.**

**Neptune has a spot -
a stormy patch of blue.
The planet has a lot of clouds
and rings around it, too.**

Music and Movement



The Phases of the Moon Song

As you look into the sky
searching for the Moon
on a clear and quiet night,
if the Moon is between
the Earth and the Sun,
it's a *New Moon* tonight.



As you look into the sky
searching for the Moon
on a clear and quiet night,
as the Moon orbits Earth
and reflects the Sun,
it's a *Crescent Moon* tonight.

As you look into the sky
searching for the Moon
on a clear and quiet night,
as the Moon orbits Earth
and reflects the Sun,
it's a *First Quarter Moon* tonight.

As you look into the sky
searching for the Moon
on a clear and quiet night,
as the Moon orbits Earth
and reflects the Sun,
it's a *Gibbous Moon* tonight.

As you look into the sky
searching for the Moon
on a clear and quiet night,
as the Moon orbits Earth
and reflects the Sun,
it's a bright *Full Moon* tonight.



As you look in the sky
searching for the Moon
on a clear and quiet night,
as the Moon orbits Earth
and reflects the Sun,
it's a *Gibbous Moon* tonight.

As you look into the sky
searching for the Moon
on a clear and quiet night,
as the Moon orbits Earth
and reflects the Sun,
it's a *Third Quarter Moon* tonight.

As you look into the sky
searching for the Moon
on a clear and quiet night,
as the Moon orbits Earth
and reflects the Sun,
it's a *Crescent Moon* tonight.

As you look into the sky
searching for the Moon
on a clear and quiet night,
if the Moon is between
the Earth and the Sun,
it's a *New Moon* tonight.

Creative Expression



Providing light and heat from 93 million miles away, the sun heats and lights our planet, making it possible for life to exist. Channel the power of the sun with these activities.

Make Sun Prints

Materials Needed:

- Colored Construction Paper
- Natural Items
- Plastic Wrap

Directions:



- Place a piece of construction paper outdoors in the bright sun.
- Arrange natural items like leaves and grass on top of the construction paper.
- Cover the paper with plastic wrap and anchor with stones to keep the leaves and grass from blowing away.
- After a few hours, remove the objects. Their darker impressions will be left on the paper.

Make Sun Tea

Materials Needed:

- Clear Glass Jar with a Lid
- Cold Water
- Tea Bags
- Honey, Sugar, Lemon, if desired

Directions:

- Fill the clear glass jar with cold water.
- Add a few tea bags.
- Cover the jar with a lid and place it in the sun.
- In a few hours, check the jar. How does the outside of the jar feel? What has happened inside the jar? Remove the tea bags and pour the tea over ice. Add honey, sugar or lemon if you'd like.



Creative Expression



Make “Moon Sand”

Materials Needed:

- 4 Cups of Play Sand
- 2 Cups of Cornstarch
- 1/2 Cup of Water

Directions:

- Mix the cornstarch and sand in a large container.
- Slowly add the water and mix. Add additional water to allow the mixture to be moldable.

The Moon is our nearest neighbor in the universe, but the Moon isn't anything at all like the Earth. The Moon has no liquid water and no breathable air. The side of the Moon facing the Sun is sizzling hot and the other side is bitter cold.

The Moon is easy for us to see in the night sky, not because it's big, but because it's close, just 239,000 miles from Earth. That's more than 10 times closer than Venus, our nearest planet.

The moon's surface is covered in mountains and craters, some of which are filled with dried lava.



Let's Explore Outdoors



Good Morning, Sun!

Each new day is a wonder! Find a special place for your family to witness the start of a brand new day in history.

Listen closely as the world awakens. What sounds do you hear?

Do you hear song birds singing their morning tunes?

Look closely at the sky and watch as colors change and objects take form. Watch a tree limb or other object that is barely visible, become clearer and more detailed as the minutes pass.

Choose a way your family can celebrate every new day - take a short walk, feed the birds, feel the morning dew on the grass. Including this ritual in your morning routine will create lasting family memories.



Sunny Day Scavenger Hunt

On a sunny day, invite your child to complete these sunny tasks:

- ◇ Close your eyes and point to the sun.
- ◇ Find a big shadow and stand in it. Is it warmer or cooler in this place?
- ◇ Find two shadows that are touching. Now see if the actual objects are touching.
- ◇ Find something that reflects sunlight—the light bounces off of it.
- ◇ Find something warmed by the sun. What color is it?
- ◇ Search for an animal (perhaps *a snail or a worm*) hiding from the sunlight. Draw its picture.

Let's Explore Outdoors



Star Light, Star Bright!

Head outdoors on a clear night. Find a dark place away from lights. Moonless nights are best. Lie on your back and allow your eyes to adjust. It takes at least 15 minutes

for our eyes to see their best in the darkness. Look up at the stars. Count how many you see...if you can! It's a big universe out there!

Why do the stars look so small when in fact they are so big? They appear small, even though they are enormous, because they are so far away. Our Sun is almost 93 million miles from Earth.

Some stars appear much brighter than others because they are larger, hotter or closer than others. Stars may seem to twinkle. The twinkling is caused by the Earth's atmosphere - not by the star moving or twitching. Because the stars are so far from us, their light passes through Earth's turbulent atmosphere and this makes the stars seem to twinkle.

The arrangement of stars seems to create star pictures. Long ago people named these patterns, called constellations, after animals and heroes and heroines. The Big Dipper is a stand-out star group and one that can be viewed year-round.

The night sky constantly changes. The constellations gradually move east to west, just as the Sun and Moon do, because the Earth is rotating on its axis. Over the year, you will see other changes in the night sky. That's because the Earth is moving around the Sun and we see a different portion of the sky each night.

Have fun exploring!