Creation

Day #4 of Creation: Sun, Moon, Stars, Seasons, Days, and Years
(Genesis 1:14-19)

LESSON WARM UP

How many of you think the Sun comes up in the morning, travels across the sky during the day and then goes down at night? Which is bigger, the Sun or the Moon? Does the Moon shine with light of its own? Why is the Moon a different size every night? Why did God create the Sun and the Moon and the stars?

Today we're going to answer these and other questions about the universe we live in. But, first let's pray...

OPENING PRAYER

Lord, You are so wonderful to make such an interesting and beautiful place for us to live. We want to tell You this morning that we think You're an awesome God! We want to praise You and give You all the honor that You deserve. Open the eyes of our understanding this morning, Lord, so that we might see just how amazing You are. In Jesus' name, I pray. Amen.

MEMORY VERSE

> *When I consider Your heavens, the work of Your fingers, The moon and the stars, which You have ordained, What is man that You are mindful of him, And the son of man that You visit him? (Psalm 8:3-4).*

LESSON

Today we're going to learn about how God created the Sun and the Moon and the stars on the fourth day of creation, but before we do, let's review what we've learned so far.

What did God create on the first day of creation? *(The heavens and the Earth, light and time)* Then, what did God create on the second day of creation? *(God separated the waters and created the atmosphere we call the* sky*.)* What did He create on the third day? *(The land, oceans, and the plants)*

After the third day of creation things began to look pretty normal on Earth. There were oceans and lakes, as well as beaches and dry land. And, there were loads of trees and bushes and plants. But something was still missing in the sky. What was that? *(The Sun, Moon and stars)* But, back in Genesis 1:3 it says that God created light. What was lighting up the world before He created the Sun? *(God Himself; He is the light of the world)*

Genesis 1:14

> *Then God said, "Let lights appear in the sky to separate the day from the night. Let them mark off the seasons, days, and years."*

Psalm 8:3 tells us how God put the Moon and the stars in place…

> *When I look at the night sky and see the work of Your fingers—the moon and the stars You set in place.*

What this is saying is that by the flick of His fingers, God set the Moon and the stars in place. Isn't God big and mighty and powerful!

In Genesis 1:14, God tells us why He put these lights in the sky. It says that He wanted them to be used to mark off the seasons, days, and years. He put them there to help us mark off time.

Did you know that we wouldn't be able to have clocks or a calendar without the Sun and the Moon? We couldn't count the days and the weeks and the years! We wouldn't be able to know when Winter was coming. How would we know when our birthdays are or how long until Christmas?

Genesis 1:15

> *"Let these lights in the sky shine down on the earth." And that is what happened.*

God put the Sun, Moon, and stars in place to light up the sky.

Genesis 1:16

> *God made two great lights—the larger one to govern the day, and the smaller one to govern the night. He also made the stars.*

Which is the larger light? *(The Sun)* Which is the smaller light? *(The Moon)* [Teacher, if you have a poster of the Solar System, point out how much bigger the Sun is than Earth.]

Let's talk about how we use the Sun and Moon and Earth to measure time...

What Makes a Day and a Year?

The Earth is turning on its axis, like a wheel. [Use a world globe or draw a diagram of the Earth rotating on its axis.] How long does it take the Earth to rotate once around? (One day.) That's how we measure how long a day is. When the place we are on Earth is facing the Sun, it's daytime for us and it's nighttime for the people that live on the other side of the Earth. [Teacher, stick Sticky Note on the globe where we are to demonstrate this concept.]

Is the Sun going around the Earth? (No!) It might look like the Sun comes up in the morning and travels across the sky and then sets in the evening, but the Sun is *not* going around the Earth. The Earth is actually going around the Sun. [Teacher, draw a diagram of the Earth going around the Sun or show a poster.] How long does it take the Earth to travel around the Sun? (One year.) That's how we measure how long a year is.

So, the Earth is rotating around on its axis once a day and at the same time it is circling the Sun once a year.

What Makes Seasons?

[If you have a world globe, ask...] Do you see how the Earth's axis is tilted? It is always tilted at the same angle. As the Earth travels around the Sun during the year, there are times when the top part of the Earth is leaning towards the Sun during the day. That's Summer, when the days are longer and hotter. Then there are times when the top part of the Earth is leaning away from the Sun during the day. That's Winter when the days are shorter and colder. When it is Summer for us, it is Winter for the people that live at the bottom of the Earth.

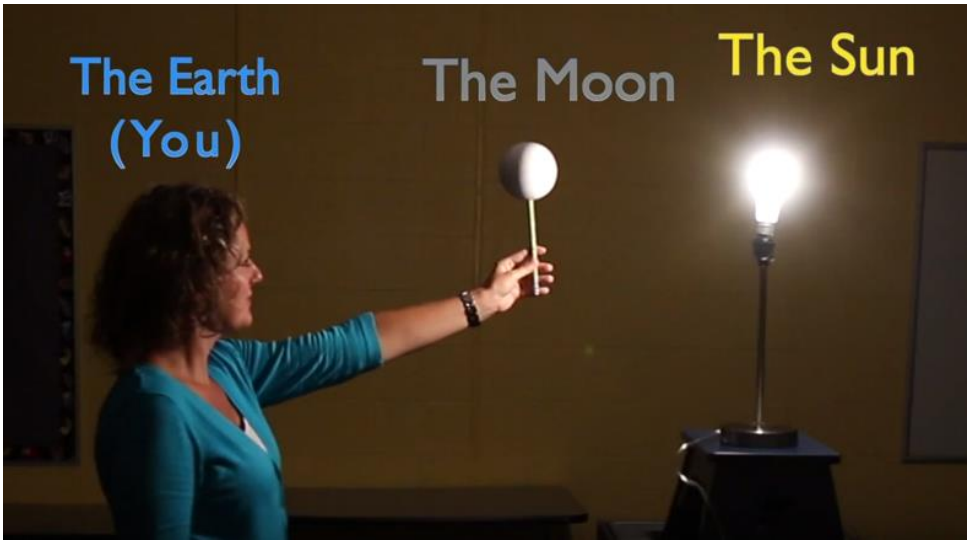
What Makes a Month?

Let's talk about the Moon. While the Moon circles the Earth it is also rotating on its own axis, just like the Earth does. The Moon rotates one complete turn on it axis during the twenty-eight days it takes to revolve around the Earth. Every time the Moon goes around the Earth marks one month. In fact, before we had calendars, farmers would count the number of new moons to work out the right time to plant their crops.

Does the Moon shine with light of its own? No, it is actually completely dark in and of itself. It is a rocky place, with no atmosphere and no water, and huge extremes of temperature. When it's night for us, the Moon reflects the Sun's light back to Earth. [Teacher, using props, demonstrate this concept.]

Do you know why the Moon seems to change its shape as it revolves around the Earth? Just like the Earth, half of the Moon is lit by the Sun while the other half is always in darkness.

[Teacher - You can do a simple demonstration of the Moon's phases using a lamp, a Styrofoam ball, and a pencil. Remove the shade from the lamp and put it at one end of a dark room. Put the ball on the pencil and hold it at arm's length in front of you between your face and the lamp. Imagine your head is the earth, the ball is the moon and the lamp is the sun.



Now stand in place and slowly turn around in a circle. Do not turn the moon on its orbit. Notice that no matter where the moon is in its orbit, half of it is always lit up by the sun. When the moon is between you and the sun, you can't see any of the lighted side of the moon from earth (your head). We call that the "new" moon. You can't see a "new" moon because the side that is reflecting sunlight is facing away from you (the earth). As you continue to turn to the left you'll start to see a tiny sliver of the moon, which we call a "crescent" moon. Keep turning and you'll see more and more of the lighted side. Soon you will see half of the lighted side. When you are half way around, you'll see the entire lighted side of the moon which we call a "full" moon. As you continue to turn, you will see less and less of the lighted side until you reach your starting point. Do this several times so you can understand how the shape or "phase" of the moon changes depending on where it is in its orbit around the earth. It takes about a month for the moon to make a full orbit around the earth.

Note: There are a number of web sites that demonstrate this, such as *www.nsta.org/nexttime-moon*.]

God is so clever to design such a wonderful clock that has kept perfect time ever since He made the Sun, Earth and Moon!

The Solar System

God also put other planets in orbit around the Sun just like the Earth. They are all traveling around the Sun at different distances from the Sun. [Draw a diagram or show a poster of the solar system.] And, did you know that three of the planets, Venus, Uranus and Pluto, all rotate in the opposite direction than the other planets? And the amazing thing is, these planets *always* follow the same path around the Sun; they don't wander around and crash into each other. God is very orderly.

Let's Review...

- How do we measure a day? (Each time the Earth rotates on its axis is counted as one day)
- What makes night? (When we're facing the Sun, it is day. When we're facing away from the Sun, it is night.)
- How do we measure a month? (Each time the Moon goes around the Earth is one month.)
- How do we measure a year? (Each time the Earth goes around the Sun is one year.)
- What makes the seasons? (The Earth's tilt causes the days to be longer and warmer during the Summer; shorter and colder during the Winter. When it's Summer for us, it's Winter for others.)
- If a day and a year are measured by the movement of the Earth, what do you think measures a week? How come we have 7 days in a week? A week is not measured by the Sun, the Moon, or the Earth. God set the pattern for a 7-day week during creation. He could have created the world in an instant, but He made the world in six days and on the seventh day He rested as an example for us to follow. He told us to

work six days and rest the seventh. God wanted us to take one day a week to think about how fantastic He is. That's why every Sunday we come to church to pray and sing and learn about God and His marvelous creation.

So, did you know that while the Moon is traveling around the Earth and the Earth (along with all the other planets) is moving around the Sun, the Sun is moving through space? This is all very amazing, isn't it? Some people think that this remarkable system came into being due to a big explosion in space long, long ago. Does that make any sense to you? No! You can't have a bomb go off in a junkyard and expect a perfectly running automobile to pop out, can you? No! That's ridiculous! Our world is too cleverly designed. It had to be planned by Someone very intelligent.

How Far Away is the Sun?

Of all the billions of stars in the universe the closest one to the Earth is the Sun. But it's really not that close. It is almost 93 million miles away!

I want you to get an idea of just how far that is.

[Teacher, stick a 48" circle cut from butcher paper up on the wall and push the end of a 6' conference table up to it.]

If that circle on the wall was the Sun and the Earth was at the end of the table, each inch of the table would be over a million miles long!

To help you get a feel for just how far a million miles is let's look at this map. [Teacher, using a map of the United States, draw a big black line from Los Angeles to New York City.]

How far do you think it is from Los Angeles to New York City? It's almost 3,000 miles. If you got in a car and drove 65 miles per hour, 24 hours a day, without stopping or slowing down for anything, it would take you almost two days to drive there!

Let's take it a step further. How many miles do you think it is all the way around the Earth? It's almost 25,000 miles which is about 9 times farther than going from Los Angeles to New York City. How long do you think it would take to drive that far if you could? [Let the kids guess!] If you got in a car and drove 65 miles per hour, 24 hours a day, without stopping or slowing down for anything, it would take you about 16 days to go around the Earth one time.

But going to the Sun from here would be like driving around the Earth almost 4,000 times! If we went in a plane going 500 miles an hour, it would take 21 years to get there.

Do you see just how far away the Sun is! It is 93 million miles away and that's our *closest* star.

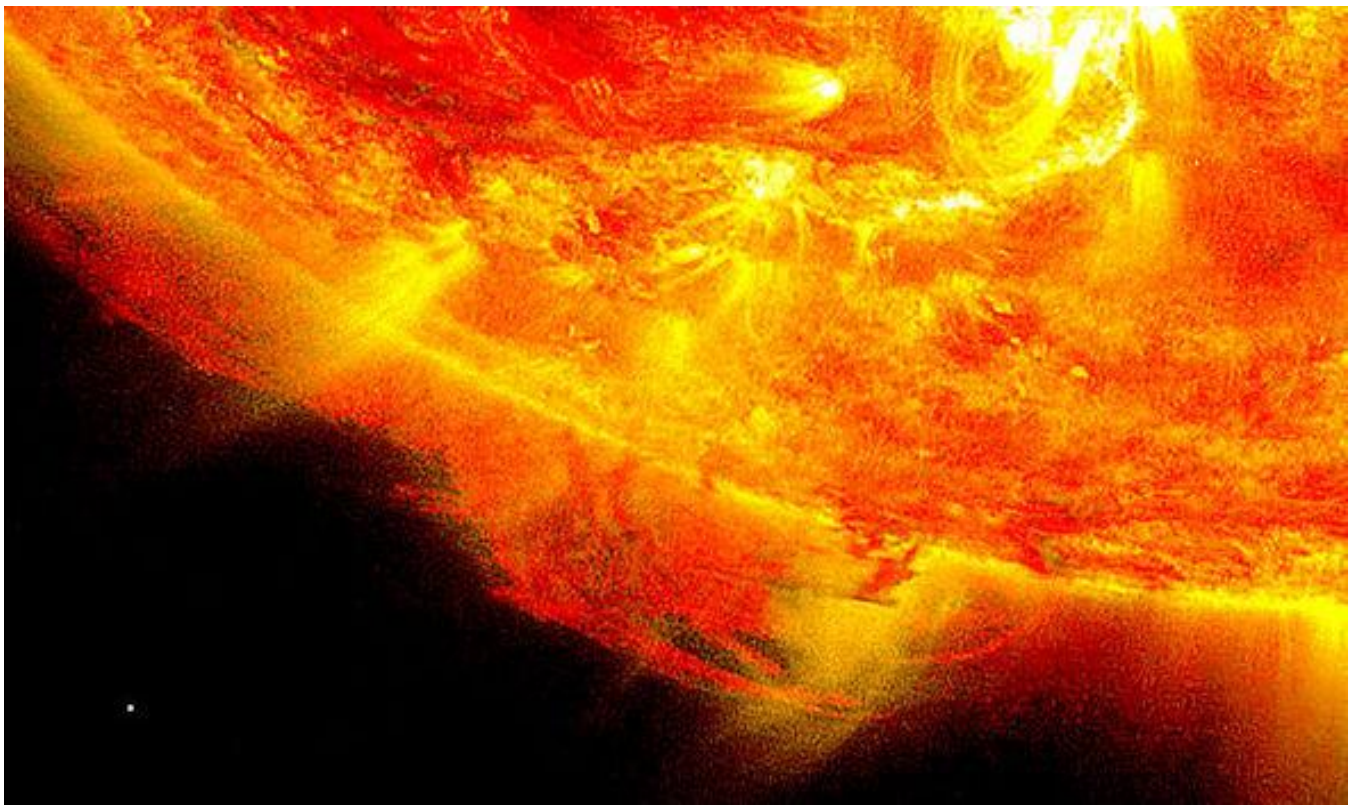
Think about it! Our awesome God put the Sun and the Moon and the stars in place with just a flick of His fingers! Don't we have an awesome God? He is so great, we can't even imagine how big and powerful He is!

How Big is the Sun?

We've talked about how far away the Sun is, now let's talk about how *big* the Sun is. As we watch it go overhead each day, it looks to us to be about the size of a quarter, right? If this poster is the size of the Sun, then how big do you think the Earth is in comparison to it? [Teacher, let the children draw circles on the "Sun" to indicate how big they think the Earth would be.] If that was the Sun, Earth would be about this big. [Teacher, draw a ½ inch circle or using a hot glue gun, glue a ½" marble to the 48" circle.]

Look at how big the Sun is in comparison to the Earth and realize the Sun is only a medium-sized star. God filled the universe with billions of other stars that are much bigger than our sun. Look at this picture. It shows our sun (the tiny white dot in the corner) next to the giant star VY Canis Majoris. [It's in the Canis Major constellation 5000 light years from the earth.]

We're talking huge!



And, our God put each star into place with the flick of His fingers!!!

Summary

Psalm 8:3 says that the Lord made these amazing heavens (the Moon, the Sun and the stars) with the work of His fingers. Then, with just a word He put them all into motion.

Psalm 8:4 asks, what is man in comparison to this marvelous world He made? We are merely a speck of dust in the scope of the whole universe! And yet, you can scoop up a hand full of dirt and examine it under a microscope and find millions of tiny micro-organisms teaming with life.

Genesis 1:17-18

> *God set them in the firmament of the heavens to give light on the earth, and to rule over the day and over the night, and to divide the light from the darkness. And God saw that it was good.*

He was pleased when He looked at what He had done. God does everything with excellence.

Genesis 1:19

> *So the evening and the morning were the fourth day.*

God created the Sun and the Moon and the stars in one literal day.

When we see the magnificent universe God has created, we are reminded of the great God we serve. We think, "Why should He take time to think about us, to love and care for us as small and weak as we are?" The Bible tells us of how much God loves us. He knows every one of us by name. He cares about everything that happens to *you* every day. Isn't that wonderful? God loves us. He is great and good and full of glory!

Let's praise and thank God for being so wonderful.

Closing Prayer

Lord, what would life be like without bright Sun-shining days? It would be dark and very depressing. Thank You for creating the Sun and the Moon and the stars. You are the Almighty LORD who created the universe with just a flick of Your fingers. Yet, You take a personal interest in everything about our lives. You know how many hairs are on top of our heads and You've got every tear we've ever cried counted in a bottle. Thank You God for Your awesome-ness and Your love and Your care. In Jesus' name, I pray. Amen.

LEARNING CENTERS

Imagination Station

(Craft Center)

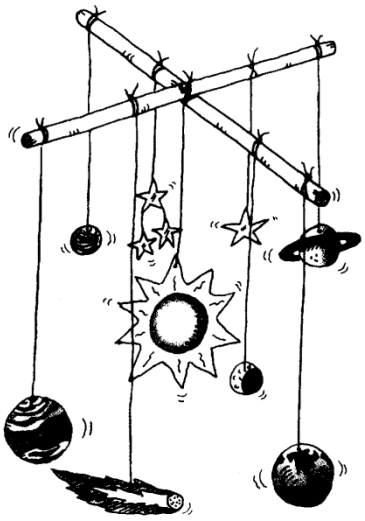
Choose from one of the following craft ideas:

1. Create a Picture of the Solar System

Using planet stickers found in a school supply store, have the children indicate the planet's paths around the Sun. Talk about the rotation of the Earth and the Moon and how we calculate a day and a month and a year.

2. Create a Space Mobile

Imagine what it would be like to float among the planets, stars, and comets! If you hang a space mobile in your room, you can look up and imagine you're up there.



Materials:

- Scissors
- Cardboard or heavy paper
- Markers
- Decorations (paint, aluminum foil, or glitter)
- Pin
- Thread or nylon line
- 2 dowel rods or sticks

Procedure:

Cut out and color shapes to make planets, stars, spaceships, and other objects found in outer space. Decorate with interesting materials such as glow-in-the-dark paint, aluminum foil, and glitter.

Next, use a pin to make a small hole in each shape you made. Tie a piece of thread or nylon line through each hole. Then, cross one dowel rod over the other at a right angle. Tie the dowels together, then tie your shapes to the dowels. Tie different shapes at different heights. Finally, tie a strong thread or piece of nylon line around the dowels to hang your mobile.

Fun House

(Game Center)

Moon Rock Relay

Step quickly on these Moon rocks to race to the Moon and back.

Materials:

- Cardboard
- Scissors
- Black Marker

Play this game to see which team of astronauts can blast off to the Moon and back first. Cut 6 large rock shapes out of cardboard and use a black marker to color them so they look like Moon rocks. Divide players into two teams. Mark the start of the racecourse with a cardboard sign that says, “Earth.” Place a sign that says, “Moon” about 20 feet away.

To play, the first player on each team has to toss out three Moon rocks and step on them, each time picking up the back rock and moving it forward toward the Moon. The players can only move forward by stepping on the Moon rocks. When the player reaches the Moon, he or she picks up the Moon rocks, tosses them out again, and repeats the process to get back to Earth as quickly as possible. When the first player gets safely back to Earth, it’s time for the next player on the team to go to the Moon and back. The first team to send all its astronauts to the Moon and back is the winner.

God’s Weird and Wonderful World

(Science Center)

Demonstrate How the Moon Rotates on its Axis

Every twenty-eight days, the Moon goes through a complete cycle. The Moon begins the cycle being invisible to people on Earth. This happens when the Earth comes between the Sun and the Moon. As the Moon moves around the Earth, we see more of the Sunlit part. Halfway through the cycle we see a full Moon. At that time, the whole face of the Moon is illuminated by the Sun. Then we see less and less of the Moon until, finally, it is invisible again.

The Moon rotates about its axis in about the same time it takes it to orbit the Earth. This is why the same face of the Moon is always facing towards the Earth.

To demonstrates that the Moon rotates on its axis once every time it circles the Earth and explain why we never see the “back side” of the Moon

1. Place a world globe in the center of the room.
2. Place a poster of the Sun on the wall.
3. First, walk around the EARTH, but continue to face the SUN. Notice that your body is *not* rotating.
4. Now, walk around the EARTH, but continue to face the EARTH. Notice that your body *is* rotating.

The same side of the moon is always facing earth, yet the moon is turning on its axis. It takes about 28 days for the Moon to revolve around the Earth; during that same time period it makes one complete rotation it axis.