

Podcast 240 Family Activity – Star Gazing

Scott

Good morning, Steve. How are you today?

Steve:

It's a beautiful spring day and all is well at the Demme household.

Scott:

All right. You've been up for hours already?

Steve:

Yep. But we are in a new transition. My granddaughters come over for several hours a day and I am teaching the polished version of Math-U-See to these precious girls. I taught my own sons initially and worked out the bugs, but it is fun to use the finished books. I started Primer with one of them yesterday while I started Alpha with the other one. As I'm teaching one girl, Sandi teaches our spelling program to the other daughter, then we switch after about 20 minutes. It is really fun.

Scott:

If you need any help, you can call me and my wife. We've done MathUSee for years.

Steve:

When I picked up the math materials from my son's house, he told me the same thing. :-)

Scott:

That's awesome.

Steve:

You guys have the same sense of humor. He told me if I need any help using the blocks to just give him a call.

Steve:

A few weeks ago, my oldest son Isaac sent me an email telling me that he had received a notification from Google that Building Faith Families is having a spike as people are looking for information on family worship and family devotions. He encouraged me to write a blog for parents on how to have family worship and other family activities.

I decided to make a series of videos of activities that would help parents during this enforced lockdown. I ended up making 20 and they are available at

BuildingFaithFamilies.org. This will be the first in a series of podcasts on family activities.

The first one is on looking at stars with your family. This is one of my favorite things to do when I go to a summer camp or a weekend retreat. On a dark night I pull out my green laser pointer and teach constellations.

Let's pray as we begin:

Father, thank you for placing the stars in the heavens and thank you for teaching me how to unlock, you might say, some of the secrets of being able to find them. And I pray that you'll help us now and help all the families that are looking for activities and ways they can draw closer together and pass on skills to the next generation in Jesus name, amen.

I remember looking at stars with my grandmother and my mom. We would lie on a blanket in a dark part of our neighborhood and look up at the stars. Usually we did this when there were going to be shooting stars or meteor showers.

I also remember seeing the Northern Lights, which I haven't seen now for a decade, and I very much want to. They are spectacular. This experience with my mom and grandmother made a big impression on me. When I had children, we would go out in our yard and lie down on a blanket so I could teach my sons constellations and look at shooting stars. Looking back, I think my boys enjoyed snuggling as much as they enjoyed looking at the stars. Lying down with pop on the blanket, looking up on a nice, chilly evening, lying in this blanket and snuggled up next to papa. That is a pretty special memory.

Do Activities Together

I would like to start all of these family activities with one of the most wonderful promises in the Bible. God tells us, "I will never leave you nor forsake you." Another place He says, "I will be with you always." We all like to be with our dad. This podcast is for all parents, but I especially want to encourage dads to find ways to spend time with your kids, because it might not be the stars as much as it is the snuggle on the blanket.

Constellations in Scripture

Twice in the Book of Job in the 9th chapter, the 9th verse, "who made the Bear and Orion, the Pleiades and the chambers of the south." Later in the Book of Job in the 38th chapter, "Can you bind the chain of the Pleiades or loose the cords of Orion?" 38:31. Also in Amos 5:8, "He who made the Pleiades and Orion and turns deep darkness into the morning and darkens the day into night, who calls for the waters of the sea and pours them out on the surface of the earth, the Lord is his name." Isn't that fascinating? To think that the Bear, or Ursa Major, which would be the Big Dipper, was viewed by the patriarchs thousands of years ago. Orion the Hunter, the Pleiades,

which is a little faint little cluster, also called the seven sisters are recorded in Scripture. Generally you can find the Big Dipper most of the year, because it's pretty close to the North Star, but Orion and the Pleiades are more easily seen finding them in the winter for those of us in the Northern Hemisphere.

My Training

I very much wanted to learn these constellations and be able to go out and lie in a blanket with my sons. I had a star chart, or a planisphere, but wasn't sure how to use it. It has two pieces of stiff paper about 12 inches square that are on the outside and one more piece of paper between them. The inside piece is circular part and it rotates. There's a little brass ring right in the middle so you can spin the circular part.

The secret to using the to navigate the heavens was unlocked for me by my friend, Joseph, who's a very smart man and an amateur astronomer. He even has his own telescope. He explained to me, and I'm going to do the best that I can to explain this auditorily. If this is not enough explanation, watch the video online. He explained that the North Star is the most important star in the sky because it doesn't move. Now, one of my sons has scientific tendencies and he tells me it doesn't appear to move, which is good enough for me. Polaris, or the North Star is right above our North Pole. If you're looking up at that North Star, which doesn't move, the other stars appear to be orbiting around it. Actually the Earth is rotating and it makes it look like all the stars are moving in a circle counterclockwise around the North Star.

The little brass hole in the middle of the planisphere is the North Star. But how do you find the North Star? That's the key. The North Star is up in the sky at whatever degree latitude you are. I am in Pennsylvania about 41 degrees latitude. The horizon, is zero degrees and you're looking straight up, that's 90 degrees. So 40 degrees would be about halfway up the night sky, between the horizon and directly above you.

If you were in Northern Canada, the North Star would be almost above you. But if you were at the equator or down in Southern Florida or even Dominican Republic, the North Star is going to be very low on the horizon. So the closer you get to the equator, the further the North star drops, but the further up you are, the further up it is in the sky.

The Big Dipper has four stars that make the Dipper. It's like a trapezoid, not quite a rectangle, but it's close. Then you have three stars which make up the handle arranged in a slope like an arc. So you have your curvy handle and you've got the base of the big dipper. Now, look at the two stars that are farthest away from the handle. These stars are called the pointer stars. When you make a line using those two stars and you start at the bottom of the Dipper and go through the top star and keep going, you run into the North Star. Those two bottom stars on the Big Dipper, they point to the North Star.

Once you can find the Big Dipper, which is usually very visible and you take those two bottom stars and you make an arrow from the bottom all the way up to the top upper corner, and then right up, that's the North Star. Now the North star is not

the brightest star in the sky, but it's the one that doesn't move, which is why it is significant.

Polaris and Navigation

The North Star was important to seafarers like Columbus. The he was in the middle of the Atlantic Ocean heading for America, he's wants to be going due West from Portugal. If he keeps this star on his right shoulder, he'll maintain his course.

However if he goes through a storm or cloudy day or two, and all of a sudden he looks up and the North Star is on his left, he knows he's pointing back to Portugal and heading east. You can see why the North Star was really important to navigators back before they had all of our modern gadgetry. If you could keep that North Star on your right shoulder, you knew you were going to head West.

Ursa Minor

The North Star is also the very tip of the handle of the Little Dipper. The Little Dipper, or Ursa Minor, has a smaller dipper made up of four stars and three stars in its arc shaped handle. Where I am, there's a lot of light diffusion, because I'm only a couple miles from the city of Lancaster. When I go up in the country, I can see all the stars in the Little Dipper, but where I am now, I pretty much just see the North Star and I see the last two stars of the Little Dipper. If I keep looking, I can almost make out the rest of the stars in the Little Dipper.

One interesting thing I learned when I went to a star demonstration at our local Lancaster County parks one night. It was a dark night with a new moon, which I remember as a "No moon." You don't want to star gaze when there's a full moon, because the whole sky is lit up. But when there's a new moon, it's a really dark sky.

The Park Ranger taught us that the middle star on the handle of the Big Dipper is really a double star, which if you take some binoculars and look at it, you can see there are two stars close together. He related that it used to be the eye test for Roman soldiers. If they could look at the handle and see two stars, or a double star, with a naked eye, they were able to be accepted into the Roman military. That was their eye exam.

More Constellations

When you start learning about constellations, you'll find out that there's a lot more stars involved in a constellation than just the easily visible seven or eight brightest stars. Consider Orion the Hunter. We easily see two for his shoulders and two for his knees and his three starred belt. He's probably one of the easiest constellations to find because of his unique bright belt. Orion is one of my friends. When I go out at night for my walk, and it's dark, and just me and God and the stars, I look up and I feel like that's my friend, here's my buddy, Orion. It's just nice to see him.

When you see Orion, follow the line of his belt, which is at an angle. The three stars point you to a really bright star. For those of us in the Northern Hemisphere, that's called Sirius. Sirius is the brightest star in the Northern Hemisphere, followed by Arcturus, Vega as the three brightest stars in the Northern Hemisphere.

Near Orion is a little cluster of seven stars, the Pleiades, or seven sisters. They were mentioned in the verses from Job and Amos. I like seeing familiar constellations when I am out at night.

Flashlight

For many years, I had a flashlight that had a narrow beam and was bright. I used this to try and point out constellations. Once Christmas my family pooled their resources and invested in a fancy green laser pointer. In red laser pointers, you can see the red dot on a wall, but the green pointer reveals the beam. It is really spectacular to go out on a dark evening and see a thin bright green beam pointing at the stars. It is an extraordinary tool for teaching folks how to navigate the heavens. Be careful not to shine it in anyone's eyes, including pilots of planes.

Once you become proficient at finding the North Star and the Big Dipper and the Little Dipper, and in the winter Orion and the Pleiades, then pretty soon you'll find Cassiopeia, which is a big W in the sky. This constellation represents a queen on her throne. Pretty soon you'll find the Corona and then you'll see the Great Square. I think star gazing is a great family activity.

Yesterday, when I was out on my walk in the evening I sang, "He's Everything To Me." This song was written about the time that I heard the gospel for the first time in Colorado. Here are the lyrics: "In the stars His handiwork I see, on the wind He speaks with majesty, though He ruleth over land and sea, what is that to me? I will celebrate nativity for it has a place in history, sure He came to set His people free. What is that to me? Till by faith I met Him face to face, and I felt the wonder of His grace. Then I knew that He was more than just a God who didn't care, who lives away up there, and, now He walks beside me day by day, ever watching o'er me lest I stray, helping me to find that narrow way, He's everything to me."

I identify this song with my experience of hearing the gospel, then receiving Jesus as my savior. I identified with these words for I knew there was a God way up there, but now that I know him and He walks beside me, my life is totally different.

Let's pray.

Father, thank you for this idea of something we can do as families and thank you for making the stars and putting them in the sky and thank you for opportunities for our families to get closer together and to celebrate each other and to snuggle on blankets and to learn things together and to build their family chemistry, in Jesus' name, amen.