

Understanding the ECLIPSE

World of Energy offers preview of Aug. 21 event

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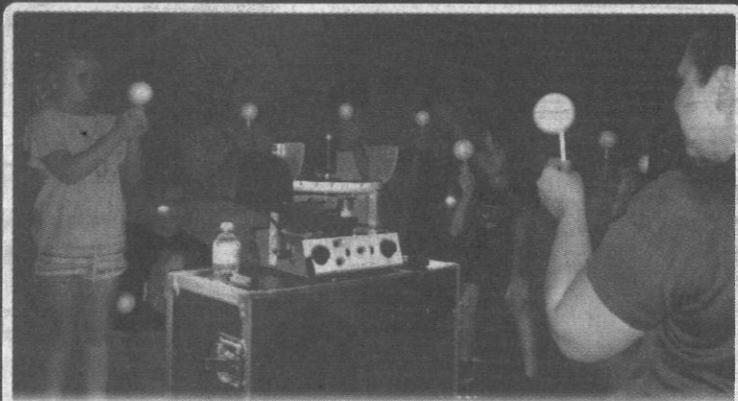
SENECA —

On Wednesday at the World of Energy, 25 adults and children crawled inside a portable planetarium. It was the second of two sessions inside Roper Mountain Science Center's mobile StarLab.

Duke Energy communications consultant Mikayla Kreuzberger still remembers visiting the StarLab as a little girl and looked forward to offering the experience to Oconee children, especially with the upcoming eclipse only a month away.

"The kids need to know how

SEE ECLIPSE, PAGE A5



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Children and adults experienced a preview of the upcoming solar eclipse in Roper Mountain Science Center's portable StarLab at the World of Energy on Wednesday.

ECLIPSE: Next eclipse in SC will be in 2084

FROM PAGE A1

rare this is," she said. "The next eclipse in South Carolina will be in 2084."

Roper Mountain Science Center outreach specialist Jennifer Romatelli first gave the group a brief overview of Wednesday's nighttime sky, then she offered a preview of what the sky will look like during the solar eclipse on Aug. 21.

Under a black dome, she showed the movement of the stars through the nighttime sky, how the white specs of light revolve around the North Star. But, she said, the stars aren't what's moving — the Earth is.

"Have you ever spun around in a room while looking up at one point on the ceiling?

The ceiling goes in a circle, but the center stays the same. That's what happens to Earth," Romatelli said. "As the Earth moves, it feels as if our surroundings are turning around us. At nighttime, we see the North Star in the middle of a spinning circle. That's because we live in the northern hemisphere. Unfortunately, people who live in the southern hemisphere can't see the North Star."

Next, she demonstrated what will take place in the sky at approximately 2:38 p.m. on Aug. 21. She said until right before totality of the eclipse, the sky will be so bright that the stars won't be visible.

At about 99 percent of eclipse, it will seem like twilight.

"We should listen to the ani-

mals and the noises that they're making during that time," Romatelli said. "They'll start to behave a little differently — some of them will prepare for night, some will become active and some will just be confused."

At total eclipse, it will feel more like a full moonlit night, with some bright stars and planets appearing in the sky. And for about two minutes, spectators will see a ring of fire in place of the sun.

"What is it that covers the sun?" Romatelli quizzed her audience, who promptly responded with the correct answer — "the moon."

She said the sun and moon follow fairly the same path across the sky, but do not quite line up most of the time. And even though the moon is 400 times

2084, according to expert

smaller than the sun, it's 400 times closer to Earth than the sun, therefore it perfectly blocks out the sun's light except for visible edges around the moon.

"During two minutes and 38 seconds of total eclipse, it's safe to look directly at the sun. Only for those two minutes — other than that, it's not safe," she said. "The only reason it's so dangerous to look is because you don't have pain sensors in your eye."

Romatelli explained that humans have built-in reflexes that prevent sun gazing — the glare triggers the eyes to close, sometimes with a sneeze.

"But the only reflex we have during the eclipse is our brain telling us 'that's dangerous,'" she said. "You have to listen to your brain and not do it. You

have to wear your eclipse glasses, except for totality. If you start seeing the ring of fire, put your glasses back on."

Before ending the presentation, Romatelli led the group through a hands-on activity to model the solar eclipse. Each person held a small moon ball posted on a stick. A light projector positioned in the center of the room acted as the sun and cast the moons' shadows around the dome.

"Seeing a total solar eclipse is probably a once-in-a-lifetime experience for most people," Romatelli said. "These kids are having this experience very young in their lives, so it's important for them to understand the significance."