What's up in Astronomy By Eric Erickson

Offered Title: What's so Special About Mercury?

It's a puny little planet, barely bigger than our Moon. It isn't a candidate for finding living things. So, why are we studying it at all?

That's the weird thing about science. We just want to know more about stuff. In the case of Mercury, knowing about it and its history will likely help the larger quest for understanding how our solar system formed. The need to know has driven many generations of explorers and scientists. As our knowledgebase of things grows so does our ability to grow as a civilization and to steer our future.

Why is Mercury named Mercury? Ancient Roman astronomers noted its rapid movement in the sky, like a fast messenger, and named it after the mythical messenger god Mercury.

It is small, at 3032 miles in diameter, the smallest planet in our solar system. Mercury is also the closest planet to our Sun and its orbit (its year) takes only 88 Earth days. Mercury rotates on its axis once per 59 Earth days, but since its orbit is an elongated elliptical, Mercury's day can be strange depending on where it is in its orbit. When it is closer to the Sun and moving fastest, it can have double sunrises, the Sun comes up briefly, sets, then comes up again. This weirdness causes the full day-night cycle to last a long time, 176 Earth days, two of its years! Makes figuring out birthdays a challenge.

While small, it is the second densest planet after Earth and has a large, partly molten metal core, giving it a magnetic field. Alas, almost no atmosphere so no aurora, but Mercury's magnetic field interacts with the solar wind (protons and electrons). Ever see a magnetic plasma tornado? I hope not, they're invisible, and probably quite dangerous. These tornadoes are thought to be responsible for maintaining Mercury's extremely thin atmosphere.

Mercury's surface is like our Moon's with lots of craters of all sizes. Unfortunately, its geology is still mostly hidden, just too tricky having a lander on the surface survive long enough to do geology. Maybe we will find tons of gold some day! One thing we have found is water ice. What?! Oh, I forgot the surface temperature can hit 800 degrees F, so how can there be water? Well, Mercury's axis of spin is tilted only about 2 degrees, so the polar regions get little to no sunlight and this is where ice was found. Drag a chunk into the sunlight and watch it sizzle.

What's so special about Mercury? It's out there. It's one of our sibling planets and we need to know it better.

What's in the Sky?

Check out the Pleiades before they are gone from our evening sky. They can be seen without aid but binoculars or low power with a telescope brings out the magic.

After sunset look for this cluster of stars in the west well above the horizon.