

### Take some time to look

**By Vernon Whetstone**

Amateur Astronomer

Had a nice letter from a reader in McCook this past week. The writer expressed thanks for listing the time and date that Venus and Neptune would be visible together.

The writer advised that not only were they able to find Neptune and Venus with binoculars, but that they dusted off their old telescope "which they had not used for some time" and gave it a go.

I wrote back and told them thanks, for that is the exact reason I am writing these columns. It is my hope that each reader takes some time and goes outside to take a look to see what is in the amazing sky overhead.

I overheard a remark last week that got me thinking. The person was lamenting that winter seemed to go on forever, and how they were wishing it was over. Well, from previous research I knew that winter is, in fact, the shortest of the seasons.

The questioner was quite surprised when I told them that. Most people believe that the seasons are all an equal length of 90 days. But, such is just not the case.

Earth's orbit is not a circle, but an ellipse, sort of an oval shape. That puts Earth at varying distances from the Sun. From Kepler's laws of planetary motion we learn that when Earth is closer to the Sun it moves faster in its orbit.

Conversely, when it is farther away it slows down, thus giving each season a different length. On Jan. 4 of this year Earth was at the closest point for the year, which, according to Mr. Kepler, means it is moving at its fastest orbital speed, hence, a shorter season.

In case you are wondering, winter lasts 89 days, spring lasts 93 days, summer lasts 94 days, and autumn lasts 90 days.

Speaking of seasonal changes, you do know they are a function of astronomy and not of the calendar, don't you?

The autumnal (fall) and vernal (spring) equinoxes occur when the Sun is above the equator and rises due east and sets due west. The solstices (summer and winter) occur when the Sun is either as far north as it goes or as far south as it goes respectively.

From the old English, Welsh, and Scottish calendars we receive what are called quarter and cross-quarter days. Days that divide the year up into nice pieces.

The quarter days correspond closely with the modern seasons. March 25 is Lady's Day, June 24 is Midsummer, Sept. 29 is Michaelmas, and Dec. 25 is Christmas.

The cross-quarter days mark the halfway point between the quarters. Candlemas is Feb. 2 (or our Groundhog Day) and marks the halfway point of winter. May 1 is May Day and indicates the halfway point of spring. Aug. 1 is named Lughnasid, from an old Irish holiday and indicates that summer is halfway over, and Oct. 31 is named Samhain which corresponds with our Halloween, the halfway mark of autumn.

SKY WATCH: Third quarter moon was on Monday, Jan. 16, and the moon will be new on Monday, Jan. 23. There is not much happening astronomically speaking this week. A slender sliver of a moon will be in conjunction with Antares, the brightest star in Scorpius on Thursday, Jan. 19 in the morning sky about an hour before sunrise. One good thing to remember is, Scorpius is a summer constellation, so just as the winter stars are holding sway now, summer is peaking over the horizon.

NEXT WEEK: More astronomical blathering.