

Harvest moon shines on as autumn edges in

The moon is in the constellation of Capricornus on the night of the 18th. The bright star to the left of the moon is Saturn, the planet with the beautiful ring system. The rings are best seen through a telescope.

Autumn officially begins at 8:48 A.M. on Sept. 23.

But what is it that determines that precise moment? It's a combination of the earth's orbit and its tilt.

Earth is divided into a northern hemisphere and a southern hemi-

sphere by an imaginary line called the equator. If this equator is extended out into space it cuts the sky into a northern and southern hemisphere, but now the imaginary line is called the celestial equator.

Because our earth is tilted 23.5 degrees, the sun can appear to be 23.5 degrees above the celestial equator or 23.5 degrees below it. When the sun is at its highest point in the sky north of the celestial equator, in June when the days are long and



skywatch
Raymond E. Bullock

warm, we have summer. When the sun is at its lowest, in December when the days are short and cold, we have winter.

Obviously there are two points where the sun must cross over the celestial equator. Once when going from above the equator to below, and another going from below to above.

The precise moment of the crossover, going from north to south, is when autumn officially begins for the northern hemisphere. A person standing on Earth's equator at local noon would see the sun directly overhead on the celestial equator.

The sun will rise due east and set

due west. The length of the day and length of night are about equal, so this is called the equinox.

ALTHOUGH WE MAY be facing the start of autumn, people below the equator face the start of spring.

The full moon that occurs at 8:40 P.M. on Sept. 23 is a very special one. It's called the Harvest Moon. We have full moon every month throughout the year; what makes this one so special?

Because the moon is in orbit around the earth, it appears in different parts of the sky from night to night. Generally the moon will rise about one hour later each night. But

in autumn the full moon is located at the part of its orbit that has the least tilt with respect to Earth's horizon line. The moon seems to skim along the horizon, rising at about the same time each evening, in about the same part of the sky. In fact, for the four evenings starting with the 22nd, each moon rise occurs within 24 minutes of the previous night's.

The light scattered by the full moon was a help to farmers, allowing them to continue their harvesting after sunset, hence it was called the Harvest Moon. The full moon that follows the Harvest Moon was said to be a help to hunters, and you can probably figure out what that full moon is called.

PEOPLE OCCASIONALLY wonder if the phase of the moon has any effect on humans. It really shouldn't be expected to have any effect at all. We see different phases of the moon depending on what part is being illuminated by the sun. The moon is al-

ways somewhere near the earth, so any effect is should have should be a constant one, not dependent on how much of the moon is being illuminated.

Notice Venus, Regulus and Jupiter in the morning sky on the 28th. (Mercury is long gone.) Venus is at its brightest this morning. The only other night object brighter than Venus is the moon. You can actually see Venus in daylight, if you know where to look. The easiest way to do that is to locate Venus before sunrise, and then keep track of it as the sun rises.

Venus goes through phases like the moon. The phases are clearly seen through binoculars and are best observed when the sky is not completely dark. (The contrast between a dark sky and brilliant Venus is too great.)

Raymond Bullock is the former coordinator of the planetarium and observatory at the Cranbrook Institute of Science.

Stop smoking classes set

Smokers who want to stop can enroll in a program offered by Oakland University's Meadow Brook Health Enhancement Institute.

It begins with a free information night at 8 p.m. Thursday, Sept. 19. Eight one-hour classes will be held, beginning at 6 p.m. Sept. 23-26 and Sept. 30 to Oct. 3 on the Rochester campus.

Classes are based on the Cesse Using Tobacco program which relies on

group support, positive behavior modification, stress management and relapse prevention to help smokers quit.

Registration fee is \$50 for institute members and \$60 for non-members.

For registration information call 370-4524. Registration also will be accepted at the information night program.

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