

Earth's tilt gives us seasons, short days

DEC. 20 is the last official day of autumn, and winter begins on the following day.

Winter officially arrives on Wednesday, Dec. 21, at 10:28 a.m. Eastern Standard Time. On this day the sun will be rising at its farthest point south of east (at 7:58 a.m.), have its lowest altitude in the sky, and set at its farthest point south of west (at 5:03 p.m.) for the entire year. There will be only nine hours and five minutes of sunshine.

The sun appears in different parts of the sky at different times of the year. Remember where the sun was rising back in June? It was rising at its farthest north of east and setting north of west.

The days were long and warm, and we had summer. The difference in the sun's position is not due to any movement on the part of the sun. In-



skywatch
Raymond E. Bullock

stead it's due to the tilt of Earth's axis of rotation.

WE ORBIT around the sun, but our axis is tilted 23.5 degrees. It just happens to be pointing toward a star named Polaris, the North Star.

In summer, when the North Pole of the earth is pointed toward Polaris, it is tilted 23.5 degrees toward the sun as well. Six months later, the earth is on the opposite side of the sun.

The North Pole is still aimed toward Polaris, but now it tilts 23.5 degrees away from the sun. There-

fore the sun appears in a different part of the sky.

The moment when the earth reaches the point in its orbit, where the North Pole is at the greatest tilt away from the sun, is the exact moment of winter—at least for the Northern Hemisphere.

When the North Pole is tilted away from the sun, the South Pole is tilted toward it. We may be facing the start of winter, but for the people south of the equator it's the start of summer.

IF IT WERE not for the tilt of Earth, there would be no change of seasons. If the earth's axis were straight up and down, everyone would have March-type weather year-round. That may not be bad if you live in the tropics, but it would be awful in Michigan!

The month's second meteor shower reaches its maximum on the 22nd.

This is the Ursid meteor shower. This shower is nowhere near as impressive as the Geminid shower. An average of only 15 meteors per hour can be expected.

Full moon occurs at 12:29 a.m. on Dec. 23. It is located opposite the sun, as seen from the earth, and is fully lit. The moon will rise in the northeast on the evening of Dec. 22 as the sun sets in the southwest, be visible all night, and set in the northwest as the sun rises in the southeast on Dec. 23.

The December full moon will be the "highest" in the sky for the entire year. Because the sun is low in the sky in December and the full moon is always opposite the sun, the full moon will be high in the sky around midnight in the constellation Gemini.

TO THE NORTH (left) of the moon, on the evening of Dec. 23, are the "twin" stars Castor and Pollux. Each one represents a "head" of one twin. On the next night, two hours after sunset, Castor (the upper star), Pollux and the moon form a straight line.

If you are up before sunrise on Dec. 25, look in the southeast for Venus. It passes about six degrees

above and to the north (left) of Antares (an T.A.R. ees), the "heart" of Scorpius.

Saturn is in conjunction with the sun on Dec. 26. It is located behind the sun, as seen from the earth, and is not visible.

Face the east-northeast around 10:15 p.m. on Dec. 26 and look for the moon. It is making its second pass through Leo this month. The star Regulus is about five degrees below the moon.

On the next night, at about the same time, you'll find the moon five degrees below Regulus. The move-

ment of the moon, from just one night to the next, is very obvious when compared to the position of a bright star.

The moon is at last quarter phase at 11:57 p.m. on Dec. 31. It is in Virgo, approaching Spica.

An excellent aid for learning constellations and keeping up to date with the sky is the monthly, "Sky Calendar." A one-year subscription is \$6 and is available from Abrams Planetarium, Michigan State University, East Lansing, 48824.

ARC trains parents of retarded kids

The Children's Trust Fund for the Prevention of Child Abuse awarded a \$11,610 grant to the Association for Retarded Citizens of Oakland County.

ARC will use the grant to offer a newly developed program in Oakland County, according to spokeswoman Agnes Wisner.

The ARC's "Parent-to-Parent" program will recruit and train experienced parents of children with mental retardation to provide assistance, training and support to "new" parents of children with mental retardation.

The program will run for one year. Nearly 50 newly identified children with mental retardation or other developmental disabilities and their families are targeted for the program.

The Children's Trust Fund (CTF) was created in 1982 to fund local programs which prevent child abuse and neglect. ARC was one of 48 agencies awarded a grant in Michigan this year.

OLD FASHIONED FAVORITES

ALL STEIFF
A One of a Kind Animal
20% OFF

Madame Alexander Dolls
Bisque Soldiers
Rocking Horses

The Doll Hospital & Toy Soldier Shop
3947 W. 12 Mile • Berkley • 545-3115
Mon-Sat. 10-5, Sun. & Fri. 10-4

Weight loss program introduced to area women

Area women are invited to try a new program to help them lose weight through a new method using videotapes at home.

In Control — A Home Video Weight Loss Program is used by the American Heart Association in its health promotion program, Heart at Work.

People interested in using the In Control program in their own home may now call the distributor, MMI Video, toll free at 1-800-225-7580. A Program Director will call you back with information.

Call today, between 9 and 6, to start the program by December 27th.

Furs by Arpin

Holiday Fur Sale

Arpin's entire 1989 collection of fabulously designed furs greatly reduced.

- Layaway at no charge until Christmas
- Duty & Sales Tax Refunded
- Full Premium on U.S. Funds

Fur Specialist for Over 62 Years

484 Polaris St. Downtown Windsor 1-519-253-5612

Daily 9 to 5:30, Fri. to 9 p.m.

Distinctive gifts!

unusual music boxes
designer picture frames
magnificent crystal
nostalgia collection
fine dolls
cuddly bears
handsome desk sets
& bookends
unique earrings
bracelets
jeweled ties
hand-crafted items
plus so much more... at your "holiday gift store."

Fine furniture, accessories and gifts... always — **20% off**

sherwood studios
Tri-Twelve Mall • 12 Mile & Telegraph
Daily 10-9 • Sunday 12-5 • 354-0060
Complimentary gift wrapping

Gifts to Treasure... from Ethan Allen®

Let the warmth of the holiday spirit spread throughout the home... with gifts they'll cherish always. Ethan Allen opens its Gallery of Gifts to help you select the ideal offering. A happy holiday season of Ethan Allen treasures.

"Hamden" Steeple Clock, 41-4033. Reg. \$349.75. SALE \$279.75.

Solid Brass Rocking Horse, 42-2100. Reg. \$54.75. SALE \$44.75.

Hand-Cut Lead Crystal Lamp, 09-4548. Reg. \$249.75. SALE \$209.75.

Ethan Allen Gift Certificates. The gift that's always in style.

Ethan Allen®

16700 MIDDELBERT RD. (Hwy. 8 & 8 Mile Pkwy.) LYNDEN, MI 48149 (313) 361-7790

50170 VAN DYKE (Hwy. 22 & 22 Mile Pkwy.) LYNDEN, MI 48149 (313) 361-4280

OPEN MON., THURS., FRI., TU., & WED., SAT. 10-6 • SUNDAY 11-5

Twice a week is better

Ring In The New Year

On An Elegant Note

Dine in Grand Style

Celebrate

Luxury Accommodation

Champagne Brunch

Package

The Townsend Hotel

Reservations: (313) 642-7000

This year give more than seasons greetings. Give someone a warm coat. A decent meal. A good night's sleep. Give to The Salvation Army.

SHARING IS CARING