

Visible in the December evening sky are two bright planets which outshine the stars. High in the east, in the constellation Gemini, stands Jupiter. On Dec. 22 it will be in opposition, or directly opposite the sun, rising in the east at sunset and setting in the west at sunrise. But even on Dec. 1 it will rise about 6:00 p.m.

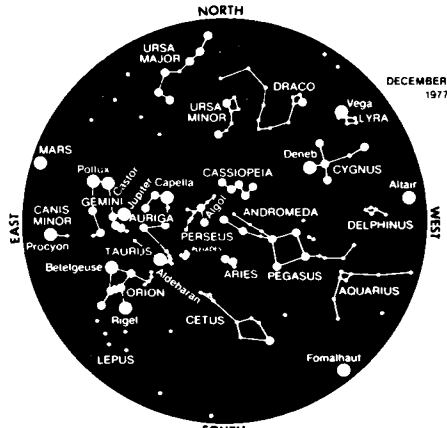
Mars, the other bright planet, is lower in Cancer and rises about 9:00 p.m. on Dec. 1. Actually about a sixth as bright as Jupiter, it is somewhat dimmed by its low altitude. Still, it's brighter than any star except Sirius, in Canis Major, which is near the southeastern horizon. By December's end, when Mars rises soon after 6:00 p.m., it will be prominent for the rest of the night.

All through December, Jupiter will maintain the same brightness, but that of Mars will increase as it approaches earth. On Dec. 1 its magnitude will be -0.1 and on the 31st it will be -0.8. During the month its distance will decrease from 81 to 64 million miles.

Later in the evening look for Saturn low in the east in Leo. It rises about 10:30 p.m. on the first, and two hours earlier at the month's end. Although equal to a star of the first magnitude, it's only about a sixteenth as bright as Jupiter. Mercury, farthest east of the sun on Dec. 3, then sets about an hour after sunset. Thus, it will be very difficult to see in the glow of twilight. On Dec. 21 it

DECEMBER STARS

BY JAMES STOKLEY



To use star map hold over head with directions oriented as indicated.

Dec. 1	8:00 am	Moon south of Mars
	2 10:00 pm	Moon south of Saturn
	4 4:16 pm	Moon in last quarter
10	12:33 pm	New Moon
	6:00 pm	Moon nearest
17	5:37 am	Moon in first quarter
21	6:24 pm	Winter begins
22	8:00 pm	Jupiter opposite sun
24	4:00 pm	Moon farthest
25	7:49 am	Full Moon
28	1:00 pm	Moon south of Mars

will pass between sun and earth.

Venus is now a morning star, low in the east before sunrise. Although 2.75 times as bright as Jupiter it, too, will be difficult to locate. It is moving rapidly toward the sun and rises before it.

As mentioned above, Sirius is the most brilliant star, standing between Jupiter and Mars in magnitude. Directly above it is Orion with Rigel (right) and Betelgeuse (left) its brightest stars. Between them, a vertical row of three fainter stars, known as Orion's belt, helps one to recognize this famous constellation. Still higher is Taurus, with reddish Aldebaran. Lower and a little to the left look for Gemini, where Jupiter stands. Its two most prominent stars are Castor and Pollux. Pollux is first-magnitude and Castor is second. Above Gemini is Auriga, with Capella, and Procyon, in Canis Minor, is below Gemini.

Vega is in Lyra, near the northwestern horizon. To its left and higher is Deneb.

Dec. 21 is the solstice, marking the beginning of winter in the northern hemisphere and of summer in the southern. On this day, 2:24 p.m., EST, the sun is farthest south and stands directly over the Tropic of Capricorn in the south Pacific Ocean at a point about 700 miles south of Samoa. For us, it is also the shortest day, measured from sunrise to sunset. In Australia and South Africa it will be the longest day of the year. □

FREE INFORMATION!
 WRITE TODAY to find out how you can receive a different, interesting and valuable Mineral Specimen each month, with detailed "come-alive" fact sheet. Get started today in this fascinating and educational hobby. **FREE** Natural Ruby Crystal when you join. Write today.
MINERAL OF THE MONTH CLUB
 YUCAIPA, CALIF. 92399
 BOX 487-A30

Circle No. 128 on Reader Service Card

MARTIAN SUNSET

Genuine NASA Viking 1 high-quality FULL-COLOR ART PRINT. 22"x34". Ideal for permanent framing & display. Beautiful. \$9.95 plus \$1.05 ins. pstg.

WOODSTOCK PRODUCTS

P.O. BOX 4087, Dept. SN 12, Beverly Hills, CA 90213

Circle No. 127 on Reader Service Card

FREE TROPICAL FISH CATALOG

RIGHT NOW our \$1 catalog of aquarium fish & over 500 low-cost pumps, filters, lights, etc., is **FREE** if you phone 313-627-2877 & ask for it. Mailed at once. Operators are standing by. If you **MAIL** us your request, please enclose 50¢ to pay for paperwork/handling. **But act NOW** for free catalog because full \$1 charge may have to be made after month shown on this publication's cover.
Aqua Discount, Box 1-E, Ortonville, Mich. 48462

Circle No. 121 on Reader Service Card

FREE CATALOG
HARD-TO-FIND PRECISION TOOLS
 Lists more than 3000 items: pliers, tweezers, wire strippers, vacuum systems, relay tools, optical equipment, tool kits and cases. Also includes ten pages of useful "Tool Tips" to aid in tool selection.
JENSEN TOOLS & Alloys
 1230 SOUTH DRIEST DRIVE - TEMPE, AZ 85281

Circle No. 126 on Reader Service Card

NOVEMBER 26, 1977

WHAT'S YOUR I.Q.?

Test yourself, family, friends. Valid, unique, fun! 10 years to adult. Reusable over and over. Everything included: Test, Instructions, Scoring. Send \$5 to: Four Corners Press, Dept. SNA Hanover, Mass. 02339.

Book Publishing

Manuscripts invited for prompt review and terms of publication. All subjects. Professional editing, design, production and marketing since 1920. Send inquiry or manuscript, or call (215) 642-8303. Ask for free *Authors' Guide* BE.

DORRANCE & COMPANY

35 Cricket Terrace, Ardmore, Pa. 19003

AUTHORS WANTED BY NEW YORK PUBLISHER

Leading book publisher seeks manuscripts of all types: fiction, non-fiction, poetry, scholarly and juvenile works, etc. New authors welcomed. For complete information, send for free booklet T-8. Vantage Press, 516 W. 34 St., New York 10001

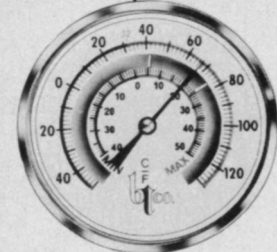
Microprobe THERMOMETERS

We make 14 thermometers, with digital or meter readout. All read in 2 secs, are extremely easy to use. Simply apply probe — read temperature.
 Unbreakable probes are steel sheathed including World's Smallest Microprobe, 0.01" dia.
 Models:
 BAT-4 BIOLOGICAL
 BAT-5 CRYOGENIC
 BAT-7 INDUSTRIAL
 BAT-8 DIGITAL °C or °F
 TH-2 CLINICAL
The Modern Way to Measure
BAILEY INSTRUMENTS INC.
 Saddle Brook, N.J. 07662 • (201) 845-7252

Circle No. 122 on Reader Service Card

A HOT GIFT IDEA!

MAX-MIN THERMOMETERS
 Record Temperatures in °F and °C



This Max-Mini thermometer with two scales simplifies the coming change-over to the Metric system. The present temperature is easy to read accurately at the jet black pointer. It moves the red Max and Min indicators along as the temperature rises and falls. They always show the hottest and coldest experienced. To reset them just rotate the stem below. Beautiful red, white, and blue case 2 3/4" diameter. With mounting bracket. Thermometer #7413 sent postpaid \$7.50 each, 3 for \$18.50. New York residents add sales tax. For °F only scale specify #7410.

GIANT MAX-MIN THERMOMETER

Easily readable 12" diameter with dual °C and -40 to 120° F scales. White face with red temperature indicator and resettable max and min indicators. #7470 sent postpaid \$16.95. #7470

HUMIDITY INDICATOR

Wet & dry bulb thermometers give room temperature and humidity computation on hinged front face. Case 4" x 10" includes water reservoir. #7438 sent postpaid \$9.40. #7438

MONEY BACK GUARANTEE

Brooklyn Thermometer Co.

Dept. S-73, Farmingdale, N.Y. 11735

Circle No. 124 on Reader Service Card