

☼ * ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

Actually, however, we do not use sun time, and it would be inconvenient to make clocks that had to run slower in December than September, so they are based on the mean and 24 hours of clock time is equal to the average time the sun takes to go around. The result of this is that at some times of year the sun reaches the meridian a number of minutes before noon, and at other dates it is late getting there. We call the difference between the two the "equation of time," and sundials are often provided with means for determining this, so that your watch can be adjusted from observations of the sun.

Celestial Time Table for December

Dec.	EWT	
2	3:57 a.m.	Moon passes close to Saturn
4	10:00 p.m.	Mercury farthest east of sun
7	10:57 a.m.	Moon in last quarter
8	3:31 a.m.	Moon passes Jupiter
	6:00 p.m.	Moon farthest, 251,400 miles
12	2:45 a.m.	Algol at minimum
		Meteors of Geminid shower
14	3:56 p.m.	Moon passes Mars
	11:34 p.m.	Algol at minimum
15	10:34 a.m.	New moon
17	8:23 p.m.	Algol at minimum
18	8:00 p.m.	Moon passes Venus
20	5:13 p.m.	Algol at minimum
21	7:15 p.m.	Winter commences
22	11:54 a.m.	Moon in first quarter
23	8:00 a.m.	Moon nearest, 230,000 miles
28	11:00 p.m.	Saturn nearest, 747,500,000 miles
29	9:44 a.m.	Moon passes close to Saturn
	10:38 a.m.	Full moon

Subtract one hour for CWT, two hours for MWT, and three for PWT.

Science News Letter, November 25, 1944

MEDICINE

Routine Transfusion

► THE AMOUNT of blood a patient loses during an operation is almost always more than the surgeon expects or than he estimates during the operation, Dr. Frederick A. Collier, Dr. Clarence E. Crook and Dr. Vivian Job, of the University of Michigan Medical School, report (*Journal, American Medical Association*).

Average blood loss during removal of an appendix is 13 cubic centimeters, or slightly over one-third of an ounce. It is about six times that for a hernia operation. Largest average blood loss they give is the 1,084 cubic centimeters, approximately a quart, for brain operations.

Even the least blood loss retards convalescence, they believe, and all loss over 10 ounces in healthy adults should be replaced.

It is not practical for the surgeon to measure the exact blood loss during an operation at the time. The amount on sponges, dressings, gloves and instru-

ments must all be taken into account for accurate measurements. So the Michigan doctors suggest relying on a knowledge of average blood losses as given in medical reports.

With this as a guide, the surgeon can arrange in advance for a blood transfusion instead of having to make the arrangements and give the transfusion after the patient has gone into shock from the loss of blood.

"The patient is benefited most," they conclude, "when the blood loss is replaced by blood, given as the loss occurs."

The report of the Michigan scientists is based on studies by other scientists as well as their own.

Science News Letter, November 25, 1944

A variation of 50 degrees in the temperature within 24 hours is considered drastic on the earth, but the change on the moon may be eight times as great.

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