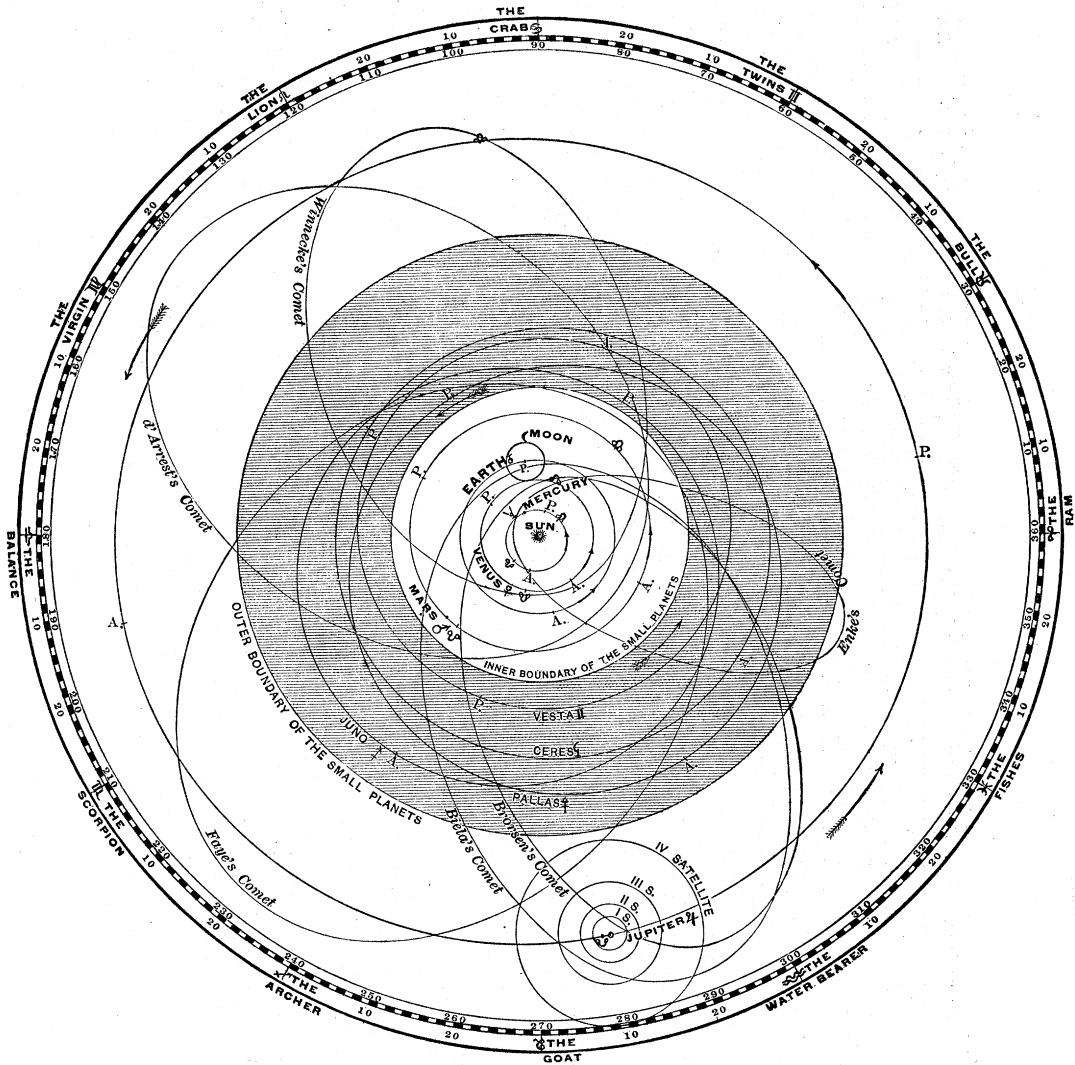




MAP OF THE SOLAR SYSTEM.

THE orbits of the five inner planets and of many of the periodic comets are given in the accompanying diagram, which is drawn approximately to scale, the orbits of the satellites being enlarged to prevent confusion. Saturn would appear at a distance of 3.62 inches from the sun, if its orbit were drawn on the same scale, Uranus at a distance of 7.29 inches, and Neptune at a distance of 12.28 inches. The shaded portion indicates the region within which the asteroids, or smaller planets, are found; and the orbit of the largest of these, and those longest known, — Vesta, Ceres, Pallas, and Juno, — are given. The earth has one moon; Mars, two; Jupiter, four; Saturn, eight; Uranus, four; and Neptune, one. Ceres, the first asteroid, was found in 1801, Pallas in 1802, Juno in 1804, and Vesta in 1807. The first asteroids discovered ranged between 300 and 600 kilometres in diameter; while the smaller ones, which have been more recently found, often are not more than from 20 to 50 kilometres in diameter (10 to 25 miles). The distance of the sun from the earth is said to be 92,500,000 miles; and the distance of the nearest fixed star, if given on the same scale as the diagram, would be 78,000 inches (about a mile and a quarter).

"When icicles hang by the wall,
And Dick the shepherd blows his nail,
And Tom bears logs into the hall,
And milk comes frozen home in pail" —

SHAKESPEARE.

JANUARY, 1885.

"Announced by all the trumpets of the sky,
Arrives the snow, and, driving o'er the fields,
Seems nowhere to alight. . . . The housemates sit
Around the radiant fireplace, enclosed
In a tumultuous privacy of storm." EMERSON.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		First Month. 31 Days.	
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises.	Sun Sets.	Moon Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Morn. H. M.	Eve. H. M.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.	
1	1	Th.	♏	♏ 1st. Algenib s. 5.20 A.	7 30	4 39	5 41	7 19	4 49	5 50	7 3	5 6	6 2	7 53	8 35	1810. — Charles Ellet, American engineer.	
2	2	Fr.	♏	Venus rises 5.8 M.	7 30	4 40	6 52	7 19	4 50	6 59	7 3	5 7	7 10	8 43	9 21	1822. — R. J. E. Clausius, German physicist.	
3	3	Sa.	♏	♏ ♀ ♀ inferior.	7 30	4 41	8 2	7 19	4 51	8 8	7 3	5 7	8 16	9 32	10 14	1819. — Piazzi Smyth, Scotch astronomer.	
1. Sunday after New Year. Day's Length:					9h. 32m.			9h. 33m.			10h. 5m.						
4	4	Su.	♏	♏ ♀ ♀.	7 30	4 42	9 11	7 19	4 52	9 15	7 3	5 8	9 19	10 21	11 8	1743. — Sir Joseph Banks, English naturalist.	
5	5	M.	♏	Polaris s. 6.18 A.	7 30	4 43	10 18	7 19	4 53	10 20	7 4	5 9	10 21	11 8	12 1	1643. — Sir Isaac Newton, Eng. mathematician.	
6	6	Tu.	♏	♏ stationary; ♀ ♀ ♀.	7 30	4 44	11 22	7 19	4 54	11 22	7 4	5 10	11 20	0 2	0 0	1818. — Thomas Hill, American mathematician.	
7	7	W.	♏	♏ 7th. ♀ in ♏.	7 29	4 45	Morn.	7 19	4 55	Morn.	7 4	5 11	Morn.	0 54	0 53	1825. — J. E. Hilgard, American geodesist.	
8	8	Th.	♏	Mars sets 5.25 A.	7 29	4 46	0 23	7 19	4 56	0 21	7 4	5 11	0 17	1 53	1 49	1833. — Sir Henry Roscoe, English chemist.	
9	9	Fr.	♏	♏ gr. Hel. Lat. N.	7 29	4 47	1 23	7 19	4 57	1 20	7 4	5 12	1 13	2 54	2 51		
10	10	Sa.	♏	Achernar s. 6.11 A.	7 29	4 48	2 22	7 19	4 58	2 17	7 4	5 13	2 8	3 54	3 55	1808. — Wilhelm Schimper, German botanist.	
2. 1st Sunday after Epiphany. Day's Length:					9h. 21m.			9h. 41m.			10h. 11m.						
11	11	Su.	♏	Hamel s. 6.34 A.	7 28	4 49	3 18	7 18	4 59	3 12	7 3	5 14	3 1	4 51	4 58	1825. — William Spottiswoode, Eng. physicist.	
12	12	M.	♏	Jupiter rises 8.23 A.	7 28	4 50	4 11	7 18	5 0	4 4	7 3	5 15	3 51	5 40	5 54	1825. — Bayard Taylor, American traveller.	
13	13	Tu.	♏	♏ ♀ ♀; ♀ in apogee.	7 28	4 51	5 1	7 18	5 1	4 53	7 3	5 16	4 40	6 24	6 41	1716. — Don Antonio de Ulloa, Span. physicist.	
14	14	W.	♏	♏ ♀ ♀; ♀ stationary.	7 27	4 53	5 49	7 18	5 2	5 41	7 3	5 17	5 28	7 0	7 22	1801. — Adolphe T. Brongniart, French botanist.	
15	15	Th.	♏	♏ 15th. ♀ ♀ ♀.	7 27	4 54	6 34	7 17	5 3	6 26	7 3	5 18	6 14	7 35	7 57	1806. — M. F. Maury, American hydrographer.	
16	16	Fr.	♏	♏ 16th. ♀ ♀ ♀.	7 26	4 55	Sets.	7 17	5 4	Sets.	7 2	5 19	Sets.	8 4	8 29	1780. — Parker Cleaveland, Amer. mineralogist.	
17	17	Sa.	♏	Aldebaran s. 8.39 A.	7 26	4 56	6 33	7 16	5 5	6 39	7 2	5 19	6 49	8 31	9 0	1706. — Benjamin Franklin, Amer. philosopher.	
3. 2d Sunday after Epiphany. Day's Length:					9h. 32m.			9h. 50m.			10h. 18m.						
18	18	Su.	♏	Saturn sets 4.31 M.	7 25	4 57	7 33	7 16	5 6	7 38	7 2	5 20	7 44	8 58	9 33	1761. — J. Hall, Scotch geologist.	
19	19	M.	♏	Capella s. 9.10 A.	7 24	4 59	8 33	7 15	5 8	8 36	7 1	5 21	8 49	9 30	10 7	1781. — Robert Hare, American chemist.	
20	20	Tu.	♏	Rigel s. 9.7 A.	7 24	5 0	9 34	7 15	5 9	9 35	7 1	5 22	9 30	10 5	10 43	1825. — E. Frankland, English chemist.	
21	21	W.	♏	♏ in ♏.	7 23	5 1	10 37	7 14	5 10	10 37	7 1	5 23	10 34	10 42	11 28	1736. — James Watt, Scotch mechan. engineer.	
22	22	Th.	♏	Canopus s. 10.11 A.	7 22	5 2	11 42	7 14	5 11	11 40	7 0	5 24	11 35	11 24	12 1	1775. — A. M. Ampère, French physicist.	
23	23	Fr.	♏	♏ 23d. Uranus rises 9.58 A.	7 22	5 4	Morn.	7 13	5 12	Morn.	7 0	5 25	Morn.	0 21	0 16	1813. — John C. Fremont, Am. eng. and explorer.	
24	24	Sa.	♏	♏ ♀ ♀; ♀ ♀ ♀.	7 21	5 5	0 48	7 12	5 13	0 40	6 59	5 26	0 36	1 18	1 17	1798. — Charles Davies, Amer. mathematician.	
4. 3d Sunday after Epiphany. Day's Length:					9h. 45m.			10h. 2m.			10h. 28m.						
25	25	Su.	♏	Sirius s. 10.18 A.	7 21	5 6	1 55	7 12	5 14	1 49	6 59	5 27	1 40	2 26	2 30	1627. — Robert Boyle, Irish physicist.	
26	26	M.	♏	♏ gr. elong. W. 24° 53'; ♀ ♀ ♀.	7 20	5 7	3 2	7 11	5 15	2 55	6 58	5 28	2 44	3 38	3 51	1736. — J. L. Lagrange, French mathematician.	
27	27	Tu.	♏	Neptune sets 1.41 M.	7 18	5 9	4 7	7 10	5 17	3 59	6 58	5 29	3 46	4 49	5 8	1799. — S. G. Morton, American ethnologist.	
28	28	W.	♏	♏ in perigee.	7 17	5 10	5 8	7 10	5 18	5 1	6 57	5 30	4 47	5 51	6 17	1608. — G. A. Borelli, Italian mathematician.	
29	29	Th.	♏	♏ stationary.	7 16	5 11	6 2	7 9	5 19	5 56	6 57	5 31	5 44	6 47	7 17	1688. — Emanuel Swedenborg, Swedish philos.	
30	30	Fr.	♏	♏ 30th. ♀ in ♏.	7 15	5 13	Rises.	7 8	5 20	Rises.	6 56	5 32	Rises.	7 39	8 11	1700. — Daniel Bernoulli, Swiss mathematician.	
31	31	Sa.	♏	♏ ♀ ♀.	7 14	5 14	6 47	7 7	5 21	6 53	6 55	5 33	6 57	8 27	9 2		
MOON'S PHASES. (Standard Time.)				EASTERN.		CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.					
				d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	Jan. 1, 1880, fell on Thursday.		Jan. 1, 1886, will fall on Friday.			
FULL MOON.				1 0 26 M.	7 9 36 A.	7 9 36 A.	7 8 36 A.	7 7 36 A.	7 6 36 A.	7 5 36 A.	7 4 36 A.	" 1881, " " Saturday.	" 1887, " " " Saturday.	" 1882, " " " Sunday.	" 1888, " " " Sunday.	" 1883, " " " Monday.	" 1889, " " " Tuesday.
LAST QUARTER.				7 10 36 A.	16 2 36 M.	16 2 36 M.	16 1 36 M.	16 0 36 M.	15 59 36 M.	15 58 36 M.	15 57 36 M.	" 1884, " " " Tuesday.	" 1890, " " " Wednesday.	" 1885, " " " Wednesday.	" 1891, " " " Thursday.	" 1886, " " " Friday.	" 1892, " " " Friday.
NEW MOON.				16 3 36 M.	23 7 26 A.	23 7 26 A.	23 6 26 A.	23 5 26 A.	23 4 26 A.	23 3 26 A.	23 2 26 A.			" 1887, " " " Saturday.	" 1893, " " " Saturday.	" 1888, " " " Sunday.	" 1894, " " " Sunday.
FIRST QUARTER.				23 8 26 A.	30 11 19 M.	30 11 19 M.	30 10 19 M.	30 9 19 M.	30 8 19 M.	30 7 19 M.	30 6 19 M.			" 1889, " " " Tuesday.	" 1895, " " " Tuesday.	" 1889, " " " Tuesday.	" 1896, " " " Tuesday.
FULL MOON.				30 11 19 M.										" 1890, " " " Wednesday.	" 1896, " " " Wednesday.	" 1890, " " " Wednesday.	" 1897, " " " Wednesday.

"The wintry west extends his blast,
And hail and rain does blow;
Or the stormy north sends driving forth
The blinding sleet and snow."

BURNS.

FEBRUARY, 1885.

"And once I learned how marvellous winter was,
When past the fence-rails, downy-gray with rime,
I creaked adventurous o'er the spangled crust
That made familiar fields seem far and strange."

LOWELL.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Second Month. 28 Days.
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Morn. H. M.	Eve. H. M.	
5. Septuagesima Sunday.				Day's Length:	roh. 2m.			roh. 16m.			roh. 39m.					1813. — James D. Dana, American naturalist. 1825. — John C. Dalton, American physiologist. 1820. — Elisha K. Kane, Am. Arctic explorer. 1790. — John Bachman, American naturalist. 1770. — Alexandre Brongniart, French geologist. 1825. — Joseph Winlock, American astronomer.
32	1	Su.	♈	♈ in ♈.	7 13	5 15	7 57	7 6	5 22	8 0	6 55	5 34	8 2	9 12	9 49	
33	2	M.	♈	♈ in ♈.	7 12	5 17	9 4	7 5	5 24	9 5	6 54	5 35	9 5	9 56	10 37	
34	3	Tu.	♈	Venus rises 5.59 M.	7 11	5 18	10 8	7 4	5 25	10 7	6 54	5 36	10 4	10 44	11 21	
35	4	W.	♈	♈ gr. Hel. Lat. S.; ♈ in ♈.	7 10	5 19	11 10	7 3	5 26	11 7	6 53	5 36	11 2	11 28	12 0	
36	5	Th.	♈	Algol s. 5.56 A.	7 9	5 20	Morn.	7 2	5 27	Morn.	6 52	5 37	11 58	0 11	0 14	
37	6	Fr.	♈	♈ 6th. Aldebaran s. 7.20 A.	7 8	5 22	0 10	7 1	5 28	0 6	6 51	5 38	Morn.	1 5	1 6	
38	7	Sa.	♈	Capella s. 7.55 A.	7 7	5 23	1 7	7 0	5 29	1 1	6 50	5 39	0 52	2 4	2 7	
6. Sexagesima Sunday.				Day's Length:	roh. 19m.			roh. 31m.			roh. 51m.					1739. — William Bartram, American traveller. 1827. — William D. Whitney, Amer. philologist. 1796. — T. de la Beche, English geologist. 1847. — Thomas A. Edison, American electrician. 1809. — Charles Darwin, English naturalist. 1672. — Etienne Geoffroy, French physicist. 1728. — J. Hunter, English physiologist. 1823. — Johanne R. Wagner, German chemist.
39	8	Su.	♈	♈ in ♈.	7 5	5 24	2 2	6 59	5 30	1 56	6 49	5 40	1 44	3 8	3 16	
40	9	M.	♈	♈ in apogee.	7 4	5 26	2 55	6 58	5 32	2 48	6 48	5 41	2 34	4 9	4 23	
41	10	Tu.	♈	Mars sets 5.26 A.	7 3	5 27	3 44	6 57	5 33	3 36	6 48	5 42	3 23	5 3	5 22	
42	11	W.	♈	♈ in ♈.	7 1	5 28	4 29	6 56	5 34	4 22	6 47	5 43	4 9	5 49	6 9	
43	12	Th.	♈	♈ in aphelion.	7 0	5 30	5 11	6 55	5 35	5 5	6 46	5 44	4 53	6 29	6 49	
44	13	Fr.	♈	♈ 14th. ♈ in ♈.	6 58	5 31	5 50	6 53	5 36	5 45	6 45	5 45	5 35	7 4	7 26	
45	14	Sa.	♈	♈ 14th. ♈ in ♈.	6 57	5 32	Sets.	6 52	5 38	Sets.	6 44	5 45	Sets.	7 34	7 59	
7. Quinquagesima (Shrove Sunday).				Day's Length:	roh. 37m.			roh. 47m.			roh. 3m.					1801. — J. T. C. Ratzeburg, German naturalist. 1740. — H. B. de Saussure, Swiss physicist. 1564. — Galileo Galilei, Italian astronomer. 1473. — N. Copernicus, German astronomer. 1745. — Alessandro Volta, Italian physicist. 1822. — Wolcott Gibbs, American chemist.
46	15	Su.	♈	Jupiter rises 5.51 A.	6 56	5 33	6 25	6 51	5 38	6 29	6 43	5 46	6 33	8 4	8 34	
47	16	M.	♈	♈ stationary.	6 55	5 35	7 27	6 50	5 39	7 29	6 42	5 47	7 31	8 38	9 5	
48	17	Tu.	♈	♈ in ♈.	6 53	5 36	8 30	6 48	5 41	8 30	6 41	5 48	8 29	9 10	9 39	
49	18	W.	♈	♈ in ♈.	6 52	5 37	9 34	6 47	5 42	9 32	6 40	5 49	9 28	9 45	10 18	
50	19	Th.	♈	Rigel s. 7.9 A.	6 50	5 38	10 40	6 46	5 43	10 37	6 39	5 50	10 30	10 24	11 4	
51	20	Fr.	♈	♈ in ♈.	6 49	5 40	11 46	6 44	5 44	11 41	6 38	5 51	11 32	11 9	11 55	
52	21	Sa.	♈	♈ 22d. Saturn sets 2.15 M.	6 47	5 41	Morn.	6 43	5 45	Morn.	6 37	5 51	Morn.	11 0	12 2	
8. First Sunday in Lent.				Day's Length:	roh. 56m.			roh. 4m.			roh. 16m.					1784. — Major John E. LeConte, Am. zoölogist. 1796. — L. A. J. Quetelet, Belgian astronomer. 1804. — C. Bremiker, German mathematician. 1801. — James Deane, American geologist. 1728. — A. Baumé, French chemist. 1786. — D. F. J. Arago, French astronomer. 1823. — Joseph LeConte, American geologist. 1743. — R. J. Haüy, French mineralogist.
53	22	Su.	♈	♈ in ♈.	6 46	5 42	0 52	6 42	5 46	0 46	6 36	5 52	0 35	0 55	1 8	
54	23	M.	♈	Uranus rises 7.52 A.	6 44	5 43	1 56	6 40	5 47	1 49	6 34	5 53	1 36	2 7	2 29	
55	24	Tu.	♈	Canopus s. 8.1 A.	6 43	5 45	2 56	6 39	5 48	2 48	6 33	5 54	2 35	3 24	3 54	
56	25	W.	♈	♈ in perigee.	6 41	5 46	3 51	6 38	5 49	3 44	6 32	5 55	3 31	4 36	5 8	
57	26	Th.	♈	Neptune sets 11.41 A.	6 40	5 47	4 41	6 36	5 50	4 35	6 31	5 56	4 24	5 38	6 12	
58	27	Fr.	♈	♈ in ♈.	6 38	5 48	5 25	6 35	5 51	5 21	6 30	5 56	5 12	6 33	7 4	
59	28	Sa.	♈	♈ 28th. ♈ in perihelion.	6 36	5 50	Rises.	6 33	5 52	Rises.	6 29	5 57	Rises.	7 22	7 53	
MOON'S PHASES. (Standard Time.)				EASTERN.	CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.					
				d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	Feb. 1, 1880, fell on Sunday.						
LAST QUARTER				6 5 37 A.	6 4 37 A.	6 3 37 A.	6 2 37 A.	6 1 37 A.	6 0 37 A.	Feb. 1, 1886, will fall on Monday.						
NEW MOON				14 9 22 A.	14 8 22 A.	14 7 22 A.	14 6 22 A.	14 5 22 A.	14 4 22 A.	Feb. 1, 1881, " " Tuesday.						
FIRST QUARTER				22 5 31 M.	22 4 31 M.	22 3 31 M.	22 2 31 M.	22 1 31 M.	22 0 31 M.	Feb. 1, 1882, " " Wednesday.						
FULL MOON				28 11 0 A.	28 10 0 A.	28 9 0 A.	28 8 0 A.	28 7 0 A.	28 6 0 A.	Feb. 1, 1883, " " Thursday.						
										Feb. 1, 1884, " " Friday.						
										Feb. 1, 1885, " " Saturday.						
										Feb. 1, 1886, " " Sunday.						
										Feb. 1, 1887, " " Monday.						
										Feb. 1, 1888, " " Tuesday.						
										Feb. 1, 1889, " " Wednesday.						
										Feb. 1, 1890, " " Thursday.						
										Feb. 1, 1891, " " Friday.						
										Feb. 1, 1892, " " Saturday.						
										Feb. 1, 1893, " " Sunday.						
										Feb. 1, 1894, " " Monday.						
										Feb. 1, 1895, " " Tuesday.						
										Feb. 1, 1896, " " Wednesday.						
										Feb. 1, 1897, " " Thursday.						
										Feb. 1, 1898, " " Friday.						
										Feb. 1, 1899, " " Saturday.						
										Feb. 1, 1900, " " Sunday.						

HOR.—It is a nipping and an eager air."

SHAKSPEARE.

*"And it is pleasant, when the noisy streams
Are just set free, and milder suns melt off
The plashy snow, save only the firm drift
In the deep glen or the close shade of pines."* BRYANT.

MARCH, 1885.

Mean time is used unless otherwise specified.					PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Third Month. 31 Days.
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.	Sun Rises. H. M.		Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Morn. H. M.	Eve. H. M.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.	
						11h. 16m.			11h. 21m.			11h. 30m.					
9. 2d Sunday in Lent.					Day's Length:												1811.—Hugh E. Strickland, Eng. naturalist. 1847.—Alexander Graham Bell, Am. electrician 1792.—Isaac Lea, American naturalist. 1792.—G. Mercator, French geographer. 1572.—J. Fraunhofer, German physicist. 1740.—André Michaux, American botanist. 1792.—Sir William Herschel, Eng. astronomer. 1837.—Henry Draper, American astronomer.
60	1	Su.	♈	Canopus s. 7.41 A.	6 35	5 51	6 42	6 30	5 53	6 44	6 28	5 58	6 45	8 7	8 58		
61	2	M.	♈	♈ ♈ ♈.	6 33	5 51	7 48	6 30	5 54	7 48	6 26	5 59	7 46	8 53	9 19		
62	3	Tu.	♈	♈ in ♈.	6 32	5 53	7 48	6 29	5 54	8 50	6 25	5 59	8 46	9 34	10 0		
63	4	W.	♈	♈ gr. Hel. Lat. S.	6 30	5 53	8 52	6 28	5 56	9 52	6 24	6 0	9 45	10 14	10 43		
64	5	Th.	♈	Venus rises 5.56 M.	6 28	5 50	10 55	6 26	5 58	10 59	6 23	6 1	10 41	10 55	11 27		
65	6	Fr.	♈	♀ in aphelion.	6 27	5 57	11 52	6 25	5 59	11 46	6 21	6 2	11 35	11 38	11 51		
66	7	Sa.	♈	♈ ♈ ♈; ♈ ♈ ♈.	6 25	5 58	Morn.	6 23	6 0	Morn.	6 20	6 3	Morn.	0 14	0 27		
10. 3d Sunday in Lent.					Day's Length:												1451.—Amerigo Vespucci, Italian explorer. 1628.—M. Malpighi, Italian naturalist. 1811.—U. J. J. LeVerrier, French astronomer. 1835.—Simon Newcomb, Amer. mathematician. 1733.—J. Priestley, English chemist. 1819.—E. Edlund, Swedish physicist.
67	8	Su.	♈	♈ 8th. Sirius s. 7.33 A.	6 23	5 59	0 46	6 22	6 1	0 39	6 19	6 4	0 26	1 9	1 24		
68	9	M.	♈	♈ in apogee.	6 21	6 0	1 37	6 20	6 2	1 29	6 18	6 4	1 16	2 8	2 31		
69	10	Tu.	♈	Mars rises 6.13 M.	6 20	6 1	2 24	6 19	6 3	2 16	6 16	6 5	2 3	3 11	3 43		
70	11	W.	♈	Castor s. 8.8 A.	6 18	6 3	3 7	6 17	6 4	3 0	6 15	6 6	2 47	4 9	4 44		
71	12	Th.	♈	Procyon s. 8.10 A.	6 16	6 4	3 46	6 15	6 5	3 40	6 14	6 6	3 29	4 59	5 20		
72	13	Fr.	♈	♈ ♈ ♈ superior.	6 15	6 5	4 22	6 14	6 6	4 17	6 12	6 7	4 9	5 44	6 12		
73	14	Sa.	♈	Jupiter sets 5.18 M.	6 13	6 6	4 56	6 12	6 7	4 53	6 11	6 8	4 46	6 22	6 51		
11. 4th Sunday in Lent.					Day's Length:												1776.—Gerald Troost, American geologist. 1801.—George P. Marsh, American philologist. 1750.—Caroline L. Herschel, Eng. astronomer. 1807.—F. S. Ohm, German physicist. 1860.—G. Lieber, Am. publicist and geologist. 1782.—W. Biela, Austrian astronomer. 1834.—C. W. Eliot, Am. chemist and educator. 1768.—J. B. J. Fourier, French physicist.
74	15	Su.	♈	♈ ♈ ♈; ♈ ♈ ♈.	6 11	6 7	5 29	6 11	6 8	5 27	6 10	6 9	5 23	7 2	7 28		
75	16	M.	♈	♈ 16th. ♈ ♈ ♈.	6 9	6 8	6 25	6 9	6 9	6 25	6 8	6 9	6 25	7 38	8 0		
76	17	Tu.	♈	♈ in ♈.	6 8	6 10	7 24	6 8	6 10	7 23	6 7	6 10	7 20	8 14	8 36		
77	18	W.	♈	Saturn sets 0.41 M.	6 6	6 11	8 30	6 6	6 11	8 27	6 6	6 11	8 22	8 51	9 16		
78	19	Th.	♈	Denebola s. 11.52 A.	6 4	6 12	9 38	6 5	6 12	9 34	6 5	6 11	9 25	9 30	9 59		
79	20	Fr.	♈	♈ enters ♍, spring begins; ♈ ♍ ♈.	6 3	6 13	10 45	6 3	6 13	10 39	6 3	6 12	10 28	10 14	10 46		
80	21	Sa.	♈	♈ ♈ ♈.	6 1	6 14	11 50	6 2	6 14	11 43	6 2	6 13	11 30	11 5	11 39		
12. 5th Sunday in Lent.					Day's Length:												1799.—F. W. Argelander, German astronomer. 1769.—William Smith, English geologist. 1834.—J. W. Powell, Am. geol. and ethnologist. 1516.—C. Gesner, German naturalist. 1753.—Count Rumford, American physicist. 1773.—Nathaniel Bowditch, Am. mathematician. 1749.—P. S. LaPlace, French mathematician. 1793.—Henry R. Schoolcraft, Am. ethnologist.
81	22	Su.	♈	♈ ♈ ♈.	5 59	6 15	Morn.	5 50	6 15	Morn.	5 41	6 13	Morn.	6 15	6 47		
82	23	M.	♈	♈ 23d. ♈ in ♍; ♈ in perigee. ♈.	5 57	6 16	0 51	5 58	6 15	0 43	5 59	6 14	0 30	0 43	1 18		
83	24	Tu.	♈	Uranus sets 5.56 M.	5 56	6 17	1 47	5 56	6 15	1 40	5 58	6 15	1 27	1 54	2 43		
84	25	W.	♈	Pollux s. 7.24 A.	5 54	6 18	2 37	5 57	6 16	2 31	5 57	6 16	2 20	3 11	4 2		
85	26	Th.	♈	Regulus s. 9.43 A.	5 52	6 20	3 21	5 53	6 18	3 16	5 55	6 16	3 7	4 22	5 7		
86	27	Fr.	♈	♈ ♈ ♈; ♈ ♈ ♈.	5 50	6 21	4 1	5 52	6 19	3 58	5 54	6 17	3 51	5 23	6 1		
87	28	Sa.	♈	♈ in perihelion; ♈ gr. Hel. Lat. S.	5 49	6 22	4 37	5 50	6 20	4 35	5 53	6 18	4 31	6 15	6 47		
13. Palm Sunday.					Day's Length:												1596.—Réné D. Descartes, French philosopher.
88	29	Su.	♈	♈ ♈ ♈.	5 47	6 23	5 12	5 49	6 21	5 12	5 51	6 18	5 11	7 6	7 30		
89	30	M.	♈	♈ 30th. ♈ in ♍.	5 45	6 24	Rises.	5 47	6 22	Rises.	5 50	6 19	Rises.	7 48	8 12		
90	31	Tu.	♈	Neptune sets 9.36 A.	5 43	6 25	7 39	5 46	6 23	7 36	5 49	6 20	7 31	8 29	8 51		
MOON'S PHASES. (Standard Time.)					EASTERN.		CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.				
					d h. m.		d h. m.		d h. m.		d h. m.		Mar. 1, 1880, fell on Monday.				
LAST QUARTER					8 1 54 A.		8 0 54 A.		8 11 54 M.		8 10 54 M.		" 1881, " " Tuesday.				
NEW MOON					16 0 37 A.		16 11 37 M.		16 10 37 M.		16 9 37 M.		" 1882, " " Wednesday.				
FIRST QUARTER					23 0 37 A.		23 11 23 M.		23 10 23 M.		23 9 23 M.		" 1883, " " Thursday.				
FULL MOON					30 11 40 M.		30 10 40 M.		30 9 40 M.		30 8 40 M.		" 1884, " " Friday.				
													" 1885, " " Saturday.				

"And every plaine was clothed faire
With newe greene, and maketh sinale floures
To springen here and there in fiele and mede:
So deep good and wholesome be the shoures."

CHAUCER.

APRIL, 1885.

"Lodged in sunny cleft,
Where the cold breezes come not, blooms alone
The little wind-flower, whose just opened eye
Is blue as the spring heaven it gazes at,
Startling the loiterer in the naked groves
With unexpected beauty."

BRVANT.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Fourth Month. 30 Days.	
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises.	Sun Sets.	Moon Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Morn.	Eve.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.	
91	1	W.	♈	Regulus s. 9.20 A.	5 42	6 26	8 40	5 44	6 24	8 36	5 47	6 20	8 28	9 8	9 29	1744. — J. B. Lamarck, French zoölogist. 1764. — E. F. Schlotheim, Ger. paleontologist. 1793. — Dionysius Lardner, Irish physicist. 1809. — Benjamin Peirce, Amer. mathematician. 1823. — Sir William Siemens, Eng. physicist.	
92	2	Th.	♈	Venus rises 5.33 M.	5 40	6 28	9 39	5 43	6 25	9 33	5 46	6 21	9 23	9 47	10 7		
93	3	Fr.	♈	Pollux s. 6.48 A.	5 38	6 29	10 35	5 41	6 26	10 28	5 45	6 22	10 16	10 26	10 45		
94	4	Sa.	♈	Denebola s. 10.49 A.	5 36	6 30	11 28	5 39	6 27	11 20	5 44	6 23	11 7	11 7	11 26		
14. Easter Sunday.				Day's Length:	12h. 56m.			12h. 50m.			12h. 41m.					1768. — Diedrich Karsten, Ger. mineralogist. 1727. — M. Adanson, French naturalist. 1732. — David Rittenhouse, Amer. astronomer. 1814. — C. J. Malmsten, Swedish mathematician. 1804. — O. L. Erdmann, German chemist.	
95	5	Su.	♈	Spica s. 0.24 M.	5 35	6 31	Morn.	5 38	6 28	Morn.	5 42	6 23	11 56	11 53	...		
96	6	M.	♈	♄ in apogee.	5 33	6 32	0 17	5 36	6 29	0 9	5 41	6 24	Morn.	0 12	0 47		
97	7	Tu.	♈	♄ 7th. ♄ gr. He' Lat. N.	5 31	6 33	1 1	5 35	6 30	0 54	5 40	6 25	0 41	1 3	1 49		
98	8	W.	♈	♄ gr. elong. E. 19' 26'.	5 30	6 34	1 41	5 33	6 31	1 35	5 38	6 25	1 23	1 58	2 53		
99	9	Th.	♈	Mars rises 5.10 M.	5 28	6 35	2 19	5 32	6 32	2 14	5 37	6 26	2 4	2 59	3 53		
100	10	Fr.	♈	Arcturus s. 0.56 M.	5 26	6 36	2 54	5 30	6 33	2 50	5 36	6 27	2 43	3 55	4 40		
101	11	Sa.	♈	Alphacca s. 2.11 M.	5 25	6 38	3 27	5 29	6 34	3 25	5 35	6 28	3 20	4 53	5 24		
15. Low Sunday.				Day's Length:	13h. 16m.			13h. 8m.			12h. 55m.						
102	12	Su.	♈	Jupiter sets 3.19 M.	5 23	6 39	3 59	5 27	6 35	3 58	5 33	6 28	3 56	5 48	6 7	1773. — Thomas Thomson, English chemist. 1743. — Thos. Jefferson, Am. statesman and nat. 1629. — C. Huyghens, Dutch physicist. 1772. — E. G. Saint-Hilaire, French zoölogist. 1800. — James C. Ross, Brit. Arctic navigator. 1794. — K. F. P. Martius, German botanist. 1822. — A. Petermann, German geographer. 1795. — C. G. Ehrenberg, German naturalist. 1824. — Jules Marcou, Swiss and Am. geologist. 1807. — L. Palmieri, Italian physicist. 1724. — Immanuel Kant, German philosopher. 1798. — Sir W. E. Logan, Canadian geologist.	
103	13	M.	♈	♄ ♄; ♄ in ♄.	5 21	6 40	4 31	5 26	6 36	4 32	5 32	6 29	4 32	6 22	6 49		
104	14	Tu.	♈	♄ 14th. ♄ ♄.	5 20	6 41	5 5	5 24	6 37	5 8	5 31	6 30	5 11	7 5	7 31		
105	15	W.	♈	♄ 15th. ♄ ♄.	5 18	6 42	Sets.	5 23	6 38	Sets.	5 30	6 30	Sets.	7 48	8 14		
106	16	Th.	♈	♄ ♄.	5 17	6 43	8 31	5 21	6 38	8 26	5 29	6 31	8 16	8 33	8 58		
107	17	Fr.	♈	♄ stationary.	5 15	6 44	9 40	5 20	6 39	9 33	5 27	6 32	9 21	9 20	9 44		
108	18	Sa.	♈	♄ ♄; ♄ in per' gee.	5 14	6 45	10 45	5 19	6 40	10 37	5 26	6 32	10 24	10 12	10 34		
16. 2d Sunday after Easter.				Day's Length:	13h. 34m.			13h. 24m.			13h. 8m.						
109	19	Su.	♈	Saturn sets 10.43 A.	5 12	6 46	11 43	5 17	6 41	11 35	5 25	6 33	11 22	11 9	11 30	1825. — C. G. Ehrenberg, German naturalist. 1794. — Jules Marcou, Swiss and Am. geologist. 1807. — L. Palmieri, Italian physicist. 1724. — Immanuel Kant, German philosopher. 1798. — Sir W. E. Logan, Canadian geologist. 1819. — Otto W. Struve, Russian astronomer.	
110	20	M.	♈	Antares s. 2.28 M.	5 10	6 48	Morn.	5 16	6 42	Morn.	5 24	6 34	Morn.	...	0 15		
111	21	Tu.	♈	♄ 21st. ♄ station ary.	5 9	6 49	0 35	5 14	6 43	0 28	5 23	6 35	0 16	0 32	1 29		
112	22	W.	♈	Vega s. 4.31 M.	5 7	6 50	1 22	5 13	6 44	1 17	5 22	6 35	1 6	1 41	2 46		
113	23	Th.	♈	♄ ♄.	5 6	6 51	2 2	5 12	6 45	1 58	5 21	6 36	1 50	2 52	3 55		
114	24	Fr.	♈	Uranus sets 3.52 M.	5 4	6 52	2 38	5 10	6 46	2 36	5 20	6 37	2 31	3 59	4 52		
115	25	Sa.	♈	♄ ♄.	5 3	6 53	3 12	5 9	6 47	3 12	5 19	6 37	3 9	5 4	5 43		
17. 3d Sunday after Easter.				Day's Length:	13h. 53m.			13h. 40m.			13h. 21m.						
116	26	Su.	♈	♄ in ♄.	5 1	6 54	3 45	5 8	6 48	3 46	5 17	6 38	3 47	5 56	6 29	1774. — C. L. von Buch, German geologist. 1791. — S. F. B. Morse, American electrician. 1782. — William Darlington, American botanist. 1811. — J. W. Bailey, American microscopist. 1834. — Sir J. Lubbock, English naturalist.	
117	27	M.	♈	♄ ♄ inferior.	5 0	6 55	4 17	5 7	6 49	4 20	5 16	6 39	4 23	6 44	7 10		
118	28	Tu.	♈	♄ 28th. ♄ ♄.	4 59	6 56	4 48	5 5	6 50	4 53	5 15	6 40	4 59	7 26	7 48		
119	29	W.	♈	♄ 29th. Neptune: ets 7.46 A.	4 57	6 58	Rises.	5 4	6 51	Rises.	5 14	6 41	Rises.	8 2	8 28		
120	30	Th.	♈	♄ in ♄.	4 56	6 59	8 24	5 3	6 52	8 18	5 13	6 41	8 6	8 47	9 3		
MOON'S PHASES. (Standard Time.)				EASTERN.		CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.					
				d.	h. m.	d.	h. m.	d.	h. m.	d.	h. m.	April 1, 1880, fell on Thursday.		April 1, 1886, will fall on Thursday.			
LAST QUARTER				7	9 42 M.	7	42 M.	7	7 42 M.	7	6 42 M.	" 1881, " " Friday.		" 1887, " " " Friday.			
NEW MOON				15	0 52 M.	14	11 52 A.	14	10 52 A.	14	9 52 A.	" 1882, " " Saturday.		" 1888, " " " Sunday.			
FIRST QUARTER				21	6 20 A.	21	5 20 A.	21	4 20 A.	21	3 20 A.	" 1883, " " Sunday.		" 1889, " " " Monday.			
FULL MOON				29	1 14 M.	29	0 14 M.	28	11 14 A.	28	10 14 A.	" 1884, " " Tuesday.		" 1890, " " " Tuesday.			

"A violet by a mossy stone
Half hidden from the eye!
Fair as a star, when only one
Is shining in the sky."

WORDSWORTH.

MAY, 1885.

"For half our May's so awfully like mayn't,
'Twould rile a Shaker or an evrige saint;
Though I own up I like our back'ard springs
Thet kind o' haggle with their greens an' things,
An' when you most give up 'thout more words
Toss the fields full o' blossoms, leaves, an' birds." LOWELL.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.				LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Fifth Month. 31 Days.		
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.					Sun Rises.	Sun Sets.	Moon Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Morn.	Eve.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.		
H. M.	H. M.	H. M.	H. M.					H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.			
121	1	Fr.		Regulus s. 7.22 A.				4 54	7 0	9 19	5 2	6 53	9 12	5 12	6 42	8 59	9 23	9 37			
122	2	Sa.		Venus rises 5.6 M.				4 53	7 1	10 10	5 0	6 54	10 2	5 11	6 43	9 49	10 1	10 10			
18. 4th Sunday after Easter.				Day's Length:				14h. 10m.			13h. 56m.			13h. 33m.							
123	3	Su.	†	Denebola s. 8.55 A.				4 52	7 2	10 57	4 59	6 55	10 49	5 10	6 43	10 36	10 39	10 44	{ 1797. — H. K. W. Berghaus, Ger. geographer.		
124	4	M.	†	♂ ♀ ☉ superior; ☾ in apogee.				4 50	7 3	11 40	4 58	6 56	11 33	5 9	6 44	11 21	11 22	11 23	{ 1809. — L. G. de Koninck, Belg. paleontologist.		
125	5	Tu.	†	Spica s. 10.23 A.				4 49	7 4	Morn.	4 57	6 57	Morn.	5 9	6 45	Morn.	.	.	0 8	{ 1825. — Thomas H. Huxley, English naturalist.	
126	6	W.	†	Mars rises 4.15 M.				4 48	7 5	0 18	4 56	6 57	0 12	5 8	6 45	0 2	0 5	1 3	{ 1811. — J. W. Draper, American physicist.		
127	7	Th.	†	♂ 7th. Arcturus s. 11.6 A				4 47	7 6	0 53	4 55	6 58	0 49	5 7	6 46	0 40	0 50	1 57	{ 1832. — Isaac I. Hayes, American explorer.		
128	8	Fr.	†	Alphacca s. 0.25 M.				4 46	7 8	1 26	4 54	6 59	1 23	5 6	6 47	1 17	1 55	2 51	{ 1833. — F. P. W. Richthofen, German geologist.		
129	9	Sa.	†	Jupiter sets 1.33 M.				4 44	7 9	1 57	4 53	7 0	1 56	5 5	6 47	1 52	2 54	3 47	1785. — James P. Espy, Amer. meteorologist.		
19. Rogation Sunday.				Day's Length:				14h. 27m.			14h. 9m.			13h. 44m.					{ 1773. — William Phillips, English geologist.		
130	10	Su.	†	♂ in aphelion; ☾ in ☿.				4 43	7 10	2 28	4 52	7 1	2 28	5 4	6 48	2 27	3 51	4 40	{ 1722. — A. J. Fresnel, French physicist.		
131	11	M.	†	stationary; ☿ ♀ ♄.				4 42	7 11	3 1	4 51	7 2	3 3	5 3	6 49	3 5	4 47	5 26	{ 1788. — Peter Camper, Dutch physiologist.		
132	12	Tu.	†	♂ ☿ ☿; ☿ ☿ ☿.				4 41	7 12	3 35	4 50	7 3	3 39	5 3	6 50	3 43	5 41	6 19	{ 1803. — J. J. Liebig, German chemist.		
133	13	W.	†	♂ ☿ ☿; ☿ ☿ ☿.				4 40	7 13	4 12	4 49	7 4	4 18	5 2	6 51	4 26	6 35	7 8	{ 1825. — Joseph Leidy, American biologist.		
134	14	Th.	†	♂ 14th. ☿ ☿ ☿; ☿ ♀ ☿.				4 39	7 14	Sets.	4 48	7 5	Sets.	5 1	6 51	Sets.	7 28	7 56	{ 1866. — G. D. Fahrenheit, German physicist.		
135	15	Fr.	†	Saturn sets 9.13 A.				4 38	7 15	8 30	4 47	7 6	8 23	5 1	6 52	8 10	8 19	8 44	{ 1880. — J. J. Audubon, American ornithologist.		
136	16	Sa.	†	♂ ♄ ☿; ☿ in perigee.				4 37	7 16	9 33	4 46	7 7	9 25	5 0	6 53	9 12	9 14	9 34	{ 1799. — Ebenezer Emmons, American geologist.		
20. Sunday after Ascension.				Day's Length:				14h. 41m.			14h. 23m.			13h. 54m.					{ 1747. — Faujas de Saint-Fond, French geologist.		
137	17	Su.	†	☿ ☿ ☿.				4 36	7 17	10 30	4 45	7 8	10 23	4 59	6 53	10 10	10 10	10 24	{ 1778. — Andrew Ure, Scotch chemist.		
138	18	M.	†	Antares s. 0.38 M.				4 35	7 18	11 20	4 44	7 8	11 14	4 59	6 54	11 3	11 10	11 19	{ 1815. — Gen. J. G. Barnard, American engineer.		
139	19	Tu.	†	Vega s. 2.44 M.				4 34	7 19	Morn.	4 44	7 9	11 59	4 58	6 55	11 50	.	.	0 15	1819. — Sir Lyon Playfair, English chemist.	
140	20	W.	†	♂ 20th. ☿ ☿ ☿.				4 33	7 20	0 3	4 43	7 10	Morn.	4 57	6 56	Morn.	0 17	1 24	1790. — J. Dumont d'Urville, French navigator.		
141	21	Th.	†	♂ 21st. Uranus sets 2.5 M.				4 32	7 21	0 41	4 42	7 11	0 38	4 57	6 56	0 32	1 19	2 30	{ 1707. — Carl von Linné, Swedish naturalist.		
142	22	Fr.	†	♂ ☿ ☿.				4 32	7 22	1 16	4 41	7 12	1 15	4 56	6 57	1 12	2 29	3 33	{ 1793. — Edward Hitchcock, Amer. geologist.		
143	23	Sa.	†	♂ in ☿.				4 31	7 23	1 49	4 41	7 13	1 50	4 56	6 58	1 49	3 36	4 30	{ 1794. — William Whewell, English physicist.		
21. Pentecost (Whit Sunday).				Day's Length:				14h. 54m.			14h. 33m.			14h. 3m.					{ 1803. — Prince C. L. Bonaparte, Fr. ornithol.		
144	24	Su.	†	☿ in ☿.				4 30	7 24	2 20	4 40	7 13	2 23	4 55	6 58	2 25	4 37	5 24	{ 1820. — W. Chauvenet, Amer. mathematician.		
145	25	M.	†	♂ gr. elong. W. 24° 59'.				4 29	7 25	2 51	4 39	7 14	2 55	4 55	6 59	3 0	5 31	6 11	{ 1807. — Louis Agassiz, Swiss and Am. naturalist.		
146	26	Tu.	†	Altair s. 3.29 M.				4 28	7 26	3 23	4 39	7 15	3 29	4 55	6 59	3 37	6 22	6 54	{ 1716. — L. Daubenton, French mineralogist.		
147	27	W.	†	Spica s. 8.56 A.				4 28	7 26	3 59	4 38	7 16	4 6	4 54	7 0	4 17	7 8	7 34	{ 1797. — K. F. Naumann, Ger. mineralogist.		
148	28	Th.	†	♂ 28th. Neptune rises 4.5 M.				4 27	7 27	Rises.	4 38	7 17	Rises.	4 54	7 1	Rises.	7 51	8 9	{ 1817. — H. A. Hagen, Ger. and Am. entomol.		
149	29	Fr.	†	♂ ☿ ☿.				4 27	7 28	8 5	4 37	7 17	7 58	4 53	7 1	7 44	8 30	8 43			
150	30	Sa.	†	♂ ☿ ☿.				4 26	7 29	8 53	4 37	7 18	8 45	4 53	7 2	8 32	9 7	9 12			
22. Trinity Sunday.				Day's Length:				15h. 4m.			14h. 43m.			14h. 9m.							
151	31	Su.	†	♂ gr. Hel. Lat. S.; ☿ in apogee.				4 26	7 30	9 38	4 36	7 19	9 31	4 53	7 2	9 18	9 42	9 40			
MOON'S PHASES. (Standard Time.)				EASTERN.		CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.									
				d. h. m.		d. h. m.		d. h. m.		d. h. m.											
LAST QUARTER				7 3 43 M.		7 2 43 M.		7 1 43 M.		7 0 43 M.		May 1, 1880, fell on Saturday.						May 1, 1886, will fall on Saturday.			
NEW MOON				14 10 17 M.		14 9 17 M.		14 8 17 M.		14 7 17 M.		" 1881, " " Sunday.						" 1887, " " " Sunday.			
FIRST QUARTER				21 0 45 M.		20 11 45 A.		20 10 45 A.		20 9 45 A.		" 1882, " " Monday.						" 1888, " " " Tuesday.			
FULL MOON				28 3 31 A.		28 2 31 A.		28 1 31 A.		28 0 31 A.		" 1883, " " Tuesday.						" 1889, " " " Wednesday.			
												" 1884, " " Thursday.						" 1890, " " " Thursday.			

"'Tis heaven alone is given away,
'Tis only God may be had for the asking,
No price is set on the lavish summer,
June may be had by the poorest comer."

LOWELL.

JUNE, 1885.

"The oriole should build and tell
His love-tale close beside my cell;
The idle butterfly
Should rest him there, and there be heard
The housewife bee and humming-bird." BRYANT.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Sixth Month. 30 Days.
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Morn. H. M.	Eve. H. M.	
152	1	M.	♏	Spica s. 8.36 A.	4 25	7 30	10 18	4 36	7 19	10 12	4 52	7 3	10 1	10 16	10 9	1726. — J. Hutton, Scotch geologist. 1787. — L. C. Prévost, French geologist. 1810. — J. C. Adams, English astronomer. 1436. — Regiomontanus, German astronomer.
153	2	Tu.	♏	Venus sets 7.54 A.	4 25	7 31	10 53	4 36	7 20	10 48	4 52	7 3	10 39	10 52	10 43	
154	3	W.	♏	Arcturus s. 9.20 A.	4 24	7 32	11 26	4 35	7 21	11 22	4 52	7 4	11 15	11 33	11 24	
155	4	Th	♏	Alphacca s. 10.35 A.	4 24	7 32	11 58	4 35	7 21	11 56	4 52	7 5	11 51	11 33	11 24	
156	5	Fr.	♏	♂ 5th. ♂ stationary; ♀ ♄ ♏.	4 24	7 33	Morn.	4 35	7 22	Morn.	4 52	7 5	Morn.	0 8	1 4	
157	6	Sa.	♏	♄ in ♏.	4 23	7 34	0 29	4 34	7 23	0 28	4 51	7 5	0 26	0 58	2 2	
23. 1st Sunday after Trinity. Day's Length:					15h. 11m.			14h. 49m.			14h. 15m.					1726. — J. Hutton, Scotch geologist. 1787. — L. C. Prévost, French geologist. 1810. — J. C. Adams, English astronomer. 1436. — Regiomontanus, German astronomer.
158	7	Su.	♏	♄ ♏ ♏.	4 23	7 34	1 0	4 34	7 23	1 1	4 51	7 6	1 1	1 55	3 1	
159	8	M.	♏	Mars rises 3.11 M.	4 23	7 35	1 31	4 34	7 24	1 34	4 51	7 6	1 37	2 57	4 0	
160	9	Tu.	♏	Antares s. 11.8 A.	4 23	7 36	2 5	4 34	7 24	2 10	4 51	7 7	2 16	4 2	5 9	
161	10	W.	♏	♄ ♄ ♄; ♄ ♄ ♄; ♄ ♄ ♄.	4 22	7 36	2 44	4 34	7 25	2 50	4 51	7 7	3 0	5 7	5 54	
162	11	Th.	♏	♄ ♄ ♄.	4 22	7 37	3 29	4 34	7 25	3 37	4 51	7 8	3 49	6 10	6 48	
163	12	Fr.	♏	♄ 12th. ♄ ♄ ♄.	4 22	7 37	Sets.	4 34	7 26	Sets.	4 51	7 8	Sets.	7 10	7 40	
164	13	Sa.	♏	♄ ♄ ♄; ♄ in perigee. ♄.	4 22	7 38	8 17	4 34	7 26	8 10	4 51	7 8	7 56	8 9	8 32	
24. 2d Sunday after Trinity. Day's Length:					15h. 16m.			14h. 53m.			14h. 18m.					1821. — Sir Samuel W. Baker, Eng. traveller. 1706. — J. Dollond, English optician. 1790. — J. E. Teschemacher, Am. mineralogist. 1773. — Thomas Young, English physicist.
165	14	Su.	♏	Jupiter sets 11.17 A.	4 22	7 38	9 11	4 34	7 27	9 5	4 51	7 9	8 53	9 7	9 22	
166	15	M.	♏	Vega s. 0.58 M.	4 22	7 38	10 0	4 34	7 27	9 55	4 51	7 9	9 45	10 3	10 12	
167	16	Tu.	♏	Altair s. 2.6 M.	4 22	7 39	10 42	4 34	7 27	10 38	4 51	7 10	10 31	11 0	11 4	
168	17	W.	♏	♄ ♄ ♄.	4 22	7 39	11 19	4 34	7 27	11 17	4 51	7 10	11 13	11 59	11 57	
169	18	Th.	♏	♄ ♄ ♄.	4 23	7 39	11 52	4 34	7 28	11 52	4 52	7 10	11 51	1 0	1 0	
170	19	Fr.	♏	♄ 19th. ♂ ♂ ♄; ♄ in ♏; ♄ ♄ ♄.	4 23	7 40	Morn.	4 34	7 28	Morn.	4 52	7 11	Morn.	0 56	1 59	
171	20	Sa.	♏	♄ in ♏.	4 23	7 40	0 23	4 34	7 28	0 25	4 52	7 11	0 26	1 58	3 2	
25. 3d Sunday after Trinity. Day's Length:					15h. 17m.			14h. 55m.			14h. 19m.					1800. — Lord Rosse, Irish astronomer. 1821. — S. D. Poisson, American archeologist. 1791. — Denison Olmstead, American physicist. 1781. — George Stephenson, English engineer. 1811. — Carlo Matteucci, Italian physicist.
172	21	Su.	♏	♄ enters ♏; summer begins.	4 23	7 40	0 54	4 34	7 29	0 58	4 52	7 11	1 2	3 1	4 3	
173	22	M.	♏	Saturn rises 4.31 M.	4 23	7 40	1 26	4 35	7 29	1 31	4 52	7 11	1 39	4 4	5 0	
174	23	Tu.	♏	♄ ♄ ♄.	4 24	7 40	2 1	4 35	7 29	2 8	4 53	7 11	2 17	5 6	5 51	
175	24	W.	♏	♄ in perihelion.	4 24	7 40	2 38	4 35	7 29	2 46	4 53	7 11	2 58	6 2	6 35	
176	25	Th.	♏	Uranus sets 11.43 A.	4 24	7 40	3 18	4 36	7 29	3 27	4 53	7 11	3 40	6 52	7 17	
177	26	Fr.	♏	♄ in perihelion.	4 25	7 40	4 1	4 36	7 29	4 10	4 54	7 12	4 24	7 36	7 53	
178	27	Sa.	♏	♄ 27th. ♂ ♄ ♄ superior.	4 25	7 40	Rises.	4 37	7 29	Rises.	4 54	7 12	Rises.	8 14	8 23	
26. 4th Sunday after Trinity. Day's Length:					15h. 15m.			14h. 52m.			14h. 18m.					1806. — A. de Morgan, English mathematician. 1812. — C. G. Page, American electrician. 1804. — C. U. Shepard, American mineralogist. 1818. — Angelo Secchi, Italian astronomer.
179	28	Su.	♏	♄ in apogee.	4 25	7 40	8 18	4 37	7 29	8 11	4 54	7 12	8 0	8 48	8 50	
180	29	M.	♏	Fomalhaut s. 4.21 M.	4 26	7 40	8 55	4 37	7 29	8 49	4 55	7 12	8 39	9 19	9 14	
181	30	Tu.	♏	Neptune rises 1.59 M.	4 26	7 40	9 29	4 38	7 29	9 25	4 55	7 12	9 17	9 49	9 41	
MOON'S PHASES. (Standard Time.)					EASTERN.		CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.			
					d. h. m.		d. h. m.		d. h. m.		d. h. m.					
LAST QUARTER.					5 7 5 A.		5 6 5 A.		5 5 5 A.		5 4 5 A.		June 1, 1880, fell on Tuesday.			
NEW MOON.					12 5 42 A.		12 4 42 A.		12 3 42 A.		12 2 42 A.		" 1881, " " " Wednesday.			
FIRST QUARTER.					19 8 48 M.		19 7 48 M.		19 6 48 M.		19 5 48 M.		" 1882, " " " Thursday.			
FULL MOON.					27 6 18 M.		27 5 18 M.		27 4 18 M.		27 3 18 M.		" 1883, " " " Friday.			
													" 1884, " " " Saturday.			
													" 1885, " " " Sunday.			
													June 1, 1886, will fall on Tuesday.			
													" 1887, " " " Wednesday.			
													" 1888, " " " Friday.			
													" 1889, " " " Saturday.			
													" 1890, " " " Sunday.			

"There, through the long, long summer hours,
The golden light should lie,
And thick young herbs and groups of flowers
Stand in their beauty by."

BRYANT.

JULY, 1885.

"The crows flapped over by twos and threes,
In the pool drowns the cattle up to their knees,
The little birds sang as if it were
The one day of summer in all the year,
And the very leaves seemed to sing on the trees." LOWELL.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Seventh Month. 31 Days.	
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Morn. H. M.	Eve. H. M.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.	
182	1	W.	♊	♂ in ♎.	4 27	7 40	10 1	4 38	7 29	9 58	4 55	7 12	9 52	10 22	10 14	{ 1750. — Franz Huber, Swiss entomologist. 1803. — Edouard Constant Biot, Fr. astronomer. 1840. — Francis A. Walker, American publicist.	
183	2	Th.	♋	Venus sets 8.30 A.	4 27	7 40	10 31	4 39	7 29	10 30	4 56	7 12	10 26	10 56	10 49		
184	3	Fr.	♌	♂ in apogee; ♄ in ♊.	4 28	7 40	11 1	4 39	7 29	11 1	4 56	7 12	11 0	11 35	11 28		
185	4	Sa.	♍	♂ gr. Hel. Lat. N.	4 29	7 39	11 32	4 40	7 28	11 34	4 57	7 11	11 36	...	0 23		
27. 5th Sunday after Trinity. Day's Length:					15h. 10m.			14h. 48m.			14h. 14m.					{ 1817. — Karl Vogt, Swiss naturalist. 1820. — W. J. M. Rankine, Scotch engineer. 1766. — Alexander Wilson, Amer. ornithologist. 1831. — Daniel C. Gilman, American educator. 1809. — Robert W. Gibbs, American naturalist. 1809. — F. A. Quenstedt, German geologist. 1732. — J. J. de LaLande, French astronomer. 1795. — Samuel L. Dana, American chemist. 1811. — W. R. Grove, English physicist.	
186	5	Su.	♎	♂ 5th. Alhacca s. 8.33 A.	4 29	7 39	Morn.	4 40	7 28	Morn.	4 57	7 11	Morn.	0 15	1 18		
187	6	M.	♏	Antares s. 9.21 A.	4 29	7 39	0 4	4 41	7 28	0 8	4 58	7 11	0 12	1 10	2 19		
188	7	Tu.	♐	Mars rises 2.27 M.	4 30	7 38	0 39	4 41	7 28	0 45	4 58	7 11	0 53	2 15	3 25		
189	8	W.	♑	♄ ♄ ♄.	4 31	7 38	1 19	4 42	7 27	1 26	4 59	7 11	1 37	3 28	4 33		
190	9	Th.	♒	♄ ♄ ♄.	4 32	7 38	2 5	4 43	7 27	2 13	4 59	7 10	2 26	4 43	5 34		
191	10	Fr.	♓	♄ ♄ ♄.	4 33	7 37	2 59	4 43	7 26	3 8	4 59	7 10	3 22	5 54	6 32		
192	11	Sa.	♊	♄ in perigee.	4 33	7 37	4 2	4 44	7 26	4 11	5 0	7 10	4 25	6 58	7 27		
28. 6th Sunday after Trinity. Day's Length:					15h. 2m.			14h. 41m.			14h. 8m.					{ 1817. — Henry D. Thoreau, Amer. naturalist. 1800. — J. B. Dumas, French chemist. 1801. — Johannes Müller, German physiologist.	
193	12	Su.	♋	♂ 11th, 12th. Jupiter sets 9.37 A.	4 34	7 36	Sets.	4 45	7 26	Sets.	5 1	7 9	Sets.	7 57	8 18		
194	13	M.	♌	♄ ♄ ♄; ♄ ♄ ♄.	4 35	7 36	8 35	4 45	7 25	8 31	5 1	7 9	8 22	8 54	9 7		
195	14	Tu.	♍	♄ ♄ ♄.	4 36	7 35	9 16	4 46	7 24	9 13	5 2	7 9	9 8	9 47	9 55		
196	15	W.	♎	Vega s. 10.56 A.	4 37	7 34	9 52	4 47	7 24	9 51	5 3	7 8	9 49	10 39	10 42		
197	16	Th.	♏	♄ ♄ ♄.	4 38	7 34	10 25	4 48	7 23	10 26	5 3	7 8	10 26	11 32	11 34		
198	17	Fr.	♐	♄ ♄ ♄; ♄ in ♎.	4 38	7 33	10 57	4 48	7 23	11 0	5 4	7 8	11 3	...	0 23		
199	18	Sa.	♑	♄ gr. Hel. Lat. N.	4 39	7 32	11 30	4 49	7 22	11 35	5 5	7 7	11 40	0 26	1 22		
29. 7th Sunday after Trinity. Day's Length:					14h. 52m.			14h. 32m.			14h. 2m.					{ 1806. — A. D. Bache, American geodesist. 1846. — Edward C. Pickering, Am. astronomer. 1810. — H. V. Regnault, French physicist. 1784. — F. W. Bessel, German astronomer. 1752. — M. A. Picet, Swiss physicist. 1737. — A. Dalrymple, English hydrographer. 1778. — Heinrich A. Vogel, German chemist.	
200	19	Su.	♒	♄ 18th. Saturn rises 3.0 M.	4 40	7 32	Morn.	4 50	7 22	Morn.	5 5	7 7	Morn.	1 23	2 24		
201	20	M.	♓	♄ ♄ ♄ Geminorum.	4 41	7 31	0 4	4 51	7 21	0 10	5 6	7 6	0 18	2 24	3 29		
202	21	Tu.	♊	Altair s. 11.45 A.	4 42	7 30	0 40	4 52	7 20	0 48	5 7	7 5	0 58	3 33	4 30		
203	22	W.	♋	Fomalhaut s. 2.50 M.	4 43	7 29	1 19	4 53	7 19	1 27	5 7	7 5	1 40	4 42	5 24		
204	23	Th.	♌	Markab. s. 2.54 M.	4 44	7 28	2 1	4 52	7 19	2 10	5 8	7 4	2 24	5 41	6 13		
205	24	Fr.	♍	Uranus sets 9.51 A.	4 45	7 27	2 46	4 54	7 18	2 55	5 8	7 3	3 9	6 33	6 48		
206	25	Sa.	♎	♄ in apogee.	4 46	7 26	3 34	4 55	7 17	3 43	5 9	7 3	3 57	7 16	7 29		
30. 8th Sunday after Trinity. Day's Length:					14h. 38m.			14h. 20m.			13h. 52m.					{ 1787. — T. F. L. Nees v. Esenbeck, Ger. botanist. 1667. — Johann Bernoulli, Swiss mathematician. 1787. — Thomas Say, American zoologist. 1801. — G. B. Airy, English astronomer. 1800. — Friedrich Wöhler, German chemist. 1829. — J. A. Meigs, American ethnologist.	
207	26	Su.	♏	♄ 26th. ♄ ♄ Regulus.	4 47	7 25	4 27	4 56	7 16	4 35	5 10	7 2	4 48	7 51	7 59		
208	27	M.	♐	♄ in ♊.	4 48	7 24	Rises.	4 57	7 15	4 35	5 10	7 2	Rises.	8 24	8 26		
209	28	Tu.	♑	Algenib s. 3.43 M.	4 49	7 23	8 5	4 57	7 14	8 2	5 11	7 1	7 55	8 53	8 49		
210	29	W.	♒	Polaris s. 4.48 M.	4 50	7 22	8 35	4 58	7 13	8 33	5 12	7 0	8 29	9 21	9 18		
211	30	Th.	♓	Neptune rises 11.59 A.	4 51	7 21	9 5	4 59	7 12	9 5	5 12	6 59	9 3	9 50	9 47		
212	31	Fr.	♊	♄ in ♋.	4 52	7 20	9 35	5 0	7 12	9 37	5 13	6 58	9 38	10 22	10 19		
MOON'S PHASES. (Standard Time.)				EASTERN.	CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.						
				d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	d. h. m.	July 4, 1880, fell on Sunday.		July 4, 1886, will fall on Sunday.				
LAST QUARTER.				5 7 26 M.	5 6 26 M.	5 5 26 M.	5 5 26 M.	5 4 26 M.	5 4 26 M.	5 4 26 M.	" 1881, " " Monday.		" 1887, " " " Monday.				
NEW MOON				12 0 16 M.	11 11 16 A.	11 10 16 A.	11 10 16 A.	11 9 16 A.	11 9 16 A.	11 9 16 A.	" 1882, " " Tuesday.		" 1888, " " " Wednesday.				
FIRST QUARTER				18 7 20 A.	18 6 20 A.	18 5 20 A.	18 5 20 A.	18 4 20 A.	18 4 20 A.	18 4 20 A.	" 1883, " " Wednesday.		" 1889, " " " Thursday.				
FULL MOON				26 9 23 A.	26 8 23 A.	26 7 23 A.	26 7 23 A.	26 6 23 A.	26 6 23 A.	26 6 23 A.	" 1884, " " Friday.		" 1890, " " " Friday.				

"The tender speckled moth here dancing seen,
The vaulting grasshopper of glossy green,
And all-prolific summer's sporting train,
Their little lives by various pow'rs sustain."

BLOOMFIELD.

AUGUST, 1885.

"The sky is a drinking-cup that was o'returned of old,
And it poureth forth in the eyes of men its wine of airy gold.
We drink of the wine all day, till the last drop is drained up,
And are lighted off to bed by the jewels in the cup."

R. H. STODDARD.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Eighth Month. 31 Days.	
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Morn. H. M.	Eve. H. M.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.	
213	1	Sa.	♋	Antares s. 7.40 A.	4 53	7 19	10 6	5 1	7 11	10 9	5 14	6 57	10 13	11 2	10 59	{ 1778. — John C. Warren, American anatomist. 1779. — Lorenz Oken, German naturalist. 1818. — Maria Mitchell, American astronomer. 1773. — Jeremiah Day, American mathematician. 1802. — N. H. Abel, Norwegian mathematician. 1766. — William H. Wollaston, Eng. physicist. 1727. — James Bowdoin, American physicist. 1799. — Benjamin Silliman, American chemist. 1822. — J. A. W. Moleschott, Dutch physiologist. 1779. — Joachim Barrande, Bohemian paleontol. 1814. — Jeffries Wyman, American physiologist. 1814. — A. J. Ångström, Swedish astronomer. 1819. — George G. Stokes, Irish physicist. 1777. — H. C. Oersted, Danish physicist. 1743. — A. L. Lavoisier, French chemist. 1821. — A. Cayley, English mathematician. 1699. — B. J. Jussieu, French botanist. 1646. — J. Flamsteed, English astronomer. 1793. — Elisha Mitchell, American naturalist. 1794. — Bernhard Studer, Swiss geologist. 1820. — John Tyndall, English physicist. 1647. — D. Papin, French physicist. 1796. — Baden Powell, English mathematician. 1769. — George Cuvier, French naturalist. 1784. — Joseph E. Worcester, American geographer and philologist. 1749. — Wilhelm von Goethe, Ger. poet and nat. 1810. — O. M. Mitchel, Amer. astronomer. 1779. — J. J. Berzelius, Swedish chemist. 1809. — Oliver Wendell Holmes, Am. physiol. Oswald Heers, Swiss naturalist. 1821. — H. L. F. Helmholtz, German physicist.	
31. 9th Sunday after Trinity.				Day's Length: 14h. 24m.			14h. 7m.			13h. 43m.			11 48	11 45			
214	2	Su.	♋	Venus sets 8.19 A.	4 54	7 18	10 39	5 2	7 9	10 44	5 14	6 57	10 51	11 48	11 45		
215	3	M.	♋	3d. Vega s. 9.42 A.	4 55	7 16	11 16	5 3	7 8	11 23	5 15	6 56	11 32	11 48	11 45		
216	4	Tu.	♋	♄ ♄; ♄ ♄ ♄.	4 56	7 15	11 58	5 4	7 7	Morn.	5 16	6 55	Morn.	11 48	11 45		
217	5	W.	♋	♄ ♄ ♄; ♄ ♄ ♄.	4 57	7 14	Morn.	5 5	7 6	0 6	5 16	6 54	0 18	11 49	11 46		
218	6	Th.	♋	gr. elong. E. 27° 23'; ♄ ♄ ♄.	4 58	7 13	0 47	5 5	7 5	0 56	5 17	6 53	1 9	11 49	11 46		
219	7	Fr.	♋	♄ in aphelion; ♄ ♄ ♄; ♄ ♄ ♄.	4 59	7 11	1 43	5 6	7 4	1 52	5 18	6 52	2 6	11 49	11 46		
220	8	Sa.	♋	♄ ♄ ♄.	5 0	7 10	2 46	5 7	7 3	2 55	5 19	6 52	3 8	11 49	11 46		
32. 10th Sunday after Trinity.				Day's Length: 14h. 8m.			13h. 54m.			13h. 32m.			6 47	7 10			
221	9	Su.	♋	♄ in perigee.	5 1	7 9	3 55	5 8	7 2	4 3	5 19	6 51	4 15	6 47	7 10		
222	10	M.	♋	♄ 10th. Mars rises 1.48 M.	5 2	7 7	4 55	5 9	7 0	5 25	5 20	6 50	5 25	6 48	7 10		
223	11	Tu.	♋	♄ ♄ ♄.	5 3	7 6	7 46	5 10	6 59	7 44	5 21	6 49	7 40	6 48	7 10		
224	12	W.	♋	♄ ♄ ♄; ♄ ♄ ♄.	5 4	7 4	8 22	5 11	6 58	8 22	5 21	6 48	8 21	6 48	7 10		
225	13	Th.	♋	♄ ♄ ♄; ♄ in ♄.	5 5	7 3	8 56	5 12	6 56	8 58	5 22	6 47	9 0	6 48	7 10		
226	14	Fr.	♋	Altair s. 10.10 A.	5 6	7 2	9 30	5 13	6 55	9 34	5 23	6 45	9 38	6 48	7 10		
227	15	Sa.	♋	Fomalhaut s. 1.16 M.	5 7	7 0	10 4	5 14	6 54	10 10	5 24	6 44	10 17	6 48	7 10		
33. 11th Sunday after Trinity.				Day's Length: 13h. 57m.			13h. 38m.			13h. 19m.			6 48	7 10			
228	16	Su.	♋	Jupiter sets 7.37 A.	5 8	6 59	10 39	5 15	6 53	10 46	5 24	6 43	10 56	6 48	7 10		
229	17	M.	♋	♄ 17th. Markab s. 1.16 M.	5 10	6 57	11 17	5 15	6 51	11 25	5 25	6 42	11 37	6 48	7 10		
230	18	Tu.	♋	♄ ♄ ♄.	5 11	6 56	11 58	5 16	6 50	Morn.	5 26	6 41	Morn.	6 48	7 10		
231	19	W.	♋	♄ ♄ ♄; ♄ ♄ ♄.	5 12	6 54	Morn.	5 17	6 49	0 7	5 26	6 40	0 20	6 48	7 10		
232	20	Th.	♋	♄ stationary.	5 13	6 53	0 42	5 18	6 47	0 51	5 27	6 39	1 5	6 48	7 10		
233	21	Fr.	♋	♄ in apogee.	5 14	6 51	1 30	5 19	6 46	1 39	5 27	6 38	1 53	6 48	7 10		
234	22	Sa.	♋	Saturn rises 1.2 M.	5 15	6 50	2 21	5 20	6 44	2 30	5 28	6 36	2 42	6 48	7 10		
34. 12th Sunday after Trinity.				Day's Length: 13h. 32m.			13h. 22m.			13h. 6m.			6 44	6 58			
235	23	Su.	♋	Algenib s. 2.0 M.	5 16	6 48	3 15	5 21	6 43	3 23	5 29	6 35	3 35	6 44	6 58		
236	24	M.	♋	♄ ♄ ♄.	5 17	6 46	4 11	5 22	6 42	4 18	5 30	6 34	4 27	6 44	6 58		
237	25	Tu.	♋	♄ 25th. Uranus sets 7.47 A.	5 18	6 45	Rises.	5 23	6 40	Rises.	5 30	6 33	Rises.	6 44	6 58		
238	26	W.	♋	Polaris s. 2.58 M.	5 19	6 43	7 9	5 24	6 39	7 8	5 31	6 32	7 6	6 44	6 58		
239	27	Th.	♋	♄ ♄ ♄; ♄ gr. Hel. Lat. S.; ♄ in ♄.	5 20	6 41	7 39	5 25	6 38	7 40	5 31	6 30	7 40	6 44	6 58		
240	28	Fr.	♋	♄ stationary.	5 21	6 40	8 10	5 26	6 36	8 13	5 32	6 29	8 15	6 44	6 58		
241	29	Sa.	♋	Achernar s. 3.3 M.	5 22	6 38	8 43	5 26	6 34	8 47	5 33	6 28	8 53	6 44	6 58		
35. 13th Sunday after Trinity.				Day's Length: 13h. 14m.			13h. 6m.			12h. 54m.			6 44	6 58			
242	30	Su.	♋	Neptune rises 9.58 A.	5 23	6 37	9 18	5 27	6 33	9 24	5 33	6 27	9 33	6 44	6 58		
243	31	M.	♋	♄ ♄ ♄.	5 24	6 35	9 57	5 28	6 31	10 4	5 34	6 25	10 15	6 44	6 58		
MOON'S PHASES. (Standard Time.)				EASTERN.		CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.					
				d. h. m.		d. h. m.		d. h. m.		d. h. m.		Aug. 1, 1880, fell on Sunday.		Aug. 1, 1886, will fall on Sunday.			
LAST QUARTER				3	4 56 A.	3	3 56 A.	3	2 56 A.	3	1 56 A.	" 1881, " " Monday.		" 1887, " " " Monday.		" 1887, " " " Monday.	
NEW MOON				10	7 14 M.	10	6 14 M.	10	5 14 M.	10	4 14 M.	" 1882, " " Tuesday.		" 1888, " " " Wednesday.		" 1888, " " " Wednesday.	
FIRST QUARTER				17	8 47 M.	17	7 47 M.	17	6 47 M.	17	5 47 M.	" 1883, " " Wednesday.		" 1889, " " " Thursday.		" 1889, " " " Thursday.	
FULL MOON				25	0 25 A.	25	11 25 M.	25	10 25 M.	25	9 25 M.	" 1884, " " Friday.		" 1890, " " " Friday.		" 1890, " " " Friday.	

"Earth's increase, foison plenty,
Barns and garner's never empty,
Vines with clustering bunches growing,
Plants with goodly burthen bowing;
Spring come to you at the farthest
In the very end of harvest!"
SHAKESPEARE.

SEPTEMBER, 1885.

"The wind-flower and the violet, they perished long ago,
And the brier-rose and the orchis died amid the summer glow;
But on the hill the golden-rod, and the aster in the wood,
And the yellow sunflower by the brook in autumn beauty stood."
BRYANT.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Ninth Month. 30 Days.	
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Morn. H. M.	Eve. H. M.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.	
244	1	Tu.	♈	♂ 1st. Hamel s. 3.18 M. ♂ 2d. ♀ ♀ inferior. ♂ ♀ ♀. Venus sets 7.41 A.	5 25	6 33	10 42	5 29	6 29	10 51	5 35	6 24	11 3	...	0 18	1806.—Stephen Alexander, Amer. astronomer.	
245	2	W.	♈		5 26	6 31	11 34	5 30	6 28	11 43	5 35	6 23	11 57	0 30	1 23	1814.—James J. Sylvester, Eng. mathematician.	
246	3	Th.	♈		5 27	6 30	Morn.	5 31	6 26	Morn.	5 36	6 21	Morn.	1 45	2 38	{ 1766.—J. Dalton, English chemist.	
247	4	Fr.	♈		5 29	6 28	0 32	5 32	6 25	0 41	5 37	6 20	0 55	3 10	3 54	{ 1826.—T. Sterry Hunt, Canadian chemist.	
248	5	Sa.	♈		5 30	6 26	1 36	5 33	6 23	1 45	5 37	6 19	1 57	4 29	5 2		
36. 14th Sunday after Trinity. Day's Length:					12h. 53m.			12h. 48m.			12h. 39m.						
249	6	Su.	♈	♂ in perigee. ♂ ♀ ♀. ♂ 8th. ♀ ♀ ♀; ♀ ♀ ♀. ♂ ♀ ♀; ♀ in ♀. ♂ ♀ ♀. 													

LOWELL.

BRYANT.

OCTOBER, 1885.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Tenth Month. 31 Days.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Morn. H. M.	Eve. H. M.		
274	1	Th.	♏	♂ 1st. ♀ ♀ ☉; ♂ ♀ ☿.	5 58	5 41	11 26	5 56	5 42	11 35	5 54	5 44	11 48	9 38	1 9	1814.—H. A. E. A. Faye, French astronomer.	
275	2	Fr.	♏	Venus sets 7.13 A.	5 59	5 39	Morn.	5 57	5 40	Morn.	5 55	5 43	Morn.	1 56	2 22		
276	3	Sa.	♏	♂ ☿ & ☿ in perigee.	6 0	5 37	0 32	5 58	5 39	0 40	5 56	5 42	0 52	3 17	3 36		
40. 18th Sunday after Trinity. Day's Length:					11h. 35m.			11h. 38m.			11h. 44m.						
277	4	Su.	♏	♂ ☿ ☿.	6 1	5 36	1 40	5 59	5 37	1 46	5 56	5 40	1 56	4 28	4 43	{ 1732.—N. Maskelyne, English astronomer. 1789.—William Scoresby, English explorer. 1803.—H. W. Dove, German meteorologist.	
278	5	M.	♏	Fomalhaut s. 9.52 A.	6 2	5 34	2 50	6 0	5 36	2 53	5 57	5 39	3 0	5 26	5 44		
279	6	Tu.	♏	♂ ☿ ☿.	6 3	5 32	4 0	6 1	5 34	4 3	5 58	5 38	4 5	6 15	6 35		
280	7	W.	♏	♂ 7th. ♂ ☿ ☿; ♂ ☿ ☿ in ♏.	6 4	5 31	5 8	6 2	5 33	5 9	5 59	5 36	5 8	7 7	7 23		
281	8	Th.	♏	♂ 8th. Mars rises 0.52 M.	6 5	5 29	Sets.	6 3	5 31	Sets.	6 0	5 35	Sets.	7 48	8 6		
282	9	Fr.	♏	Markab s. 9.44 A.	6 7	5 27	6 30	6 4	5 30	6 36	6 0	5 34	6 44	8 29	8 49	1801.—A. A. de la Rive, Swiss physicist. 1731.—H. Cavendish, English physicist.	
283	10	Sa.	♏	Algenib s. 10.48 A.	6 8	5 25	7 38	6 5	5 28	7 15	6 1	5 33	7 25	9 12	9 32		
41. 19th Sunday after Trinity. Day's Length:					11h. 15m.			11h. 21m.			11h. 29m.						
284	11	Su.	♏	♂ ☿ ☿.	6 9	5 24	7 47	6 6	5 27	7 55	6 2	5 31	8 7	9 53	10 15	{ 1792.—C. G. Gmelin, German chemist. 1802.—Hugh Miller, Scotch geologist. 1827.—J. P. Cooke, American chemist. 1788.—Sir Edward Sabine, Irish geographer. 1801.—J. A. F. Plateau, Belgian physicist. 1608.—Evangalista Torricelli, Italian physicist. 1803.—Robert Stephenson, English engineer. 1814.—Hanns Bruno Geinitz, German geologist.	
285	12	M.	♏	Jupiter rises 4.2 M.	6 10	5 22	8 29	6 7	5 25	8 38	6 2	5 30	8 51	10 34	11 0		
286	13	Tu.	♏	Polaris s. 11.45 A.	6 11	5 21	9 16	6 8	5 24	9 25	6 3	5 29	9 39	11 17	11 49		
287	14	W.	♏	Achernar s. 11.58 A.	6 13	5 19	10 6	6 9	5 22	10 15	6 4	5 28	10 28	12 0	0 3		
288	15	Th.	♏	♂ 15th. ♂ ☿ ☿ superior.	6 14	5 17	10 58	6 10	5 21	11 7	6 5	5 26	11 19	0 45	0 54		
289	16	Fr.	♏	♂ in aphelion; ☿ in apogee.	6 15	5 16	11 52	6 11	5 20	Morn.	6 5	5 25	Morn.	1 47	1 48		
290	17	Sa.	♏	Hamel s. 0.17 M.	6 16	5 14	Morn.	6 12	5 18	0 0	6 6	5 24	0 11	2 49	2 45		
42. 20th Sunday after Trinity. Day's Length:					10h. 56m.			11h. 4m.			11h. 16m.						
291	18	Su.	♏	Algol s. 1.13 M.	6 17	5 13	0 48	6 13	5 17	0 54	6 7	5 23	1 3	3 45	3 42	1632.—Sir Christopher Wren, English architect. 1729.—J. R. Forster, German voyager. 1632.—A. v. Leeuwenhoek, Dutch microscopist. 1808.—Bernhard Cotta, German geologist.	
292	19	M.	♏	Saturn rises 9.24 A.	6 18	5 11	1 46	6 14	5 15	1 51	6 8	5 22	1 57	4 30	4 37		
293	20	Tu.	♏	♂ stationary; ☿ in ♏.	6 19	5 10	2 45	6 15	5 14	2 48	6 8	5 21	2 52	5 12	5 21		
294	21	W.	♏	♂ in perihelion; ☿ ♀ ♀ Virginis.	6 21	5 8	3 46	6 16	5 13	3 47	6 9	5 20	3 48	5 54	6 3		
295	22	Th.	♏	Aldebaran s. 2.26 M.	6 22	5 7	4 49	6 17	5 11	4 49	6 10	5 19	4 47	6 33	6 44		
296	23	Fr.	♏	♂ 23d. ☿ in ♏.	6 23	5 5	5 53	6 18	5 10	5 51	6 11	5 18	5 46	7 12	7 27		
297	24	Sa.	♏	Uranus rises 4.12 M.	6 24	5 4	Rises.	6 19	5 9	Rises.	6 11	5 17	Rises.	7 53	8 10		
43. 21st Sunday after Trinity. Day's Length:					10h. 37m.			10h. 47m.			11h. 17m.						
298	25	Su.	♏	♂ ♀ ☿.	6 25	5 2	6 37	6 20	5 7	6 45	6 12	5 15	6 57	8 35	8 55	{ 1781.—Chester Dewey, American botanist. 1792.—Franklin Bache, American chemist. 1728.—Capt. Cook, English navigator. 1806.—Alphonse de Candolle, Swiss botanist. 1765.—E. Halley, English astronomer. 1831.—O. C. Marsh, American paleontologist. 1783.—K. W. G. Kastner, German chemist.	
299	26	M.	♏	Capella s. 2.49 M.	6 26	5 1	7 25	6 21	5 6	7 34	6 13	5 14	7 47	9 18	9 44		
300	27	Tu.	♏	Rigel s. 2.46 M.	6 28	5 0	8 20	6 22	5 5	8 29	6 14	5 13	8 43	10 5	10 38		
301	28	W.	♏	♂ ♀ ☿; ☿ in perigee.	6 29	4 58	9 21	6 24	5 4	9 30	6 15	5 12	9 43	10 56	11 39		
302	29	Th.	♏	Neptune rises 6.0 A.	6 30	4 57	10 25	6 25	5 3	10 33	6 16	5 12	10 45	11 53	12 1		
303	30	Fr.	♏	♂ 30th. Canopus s. 3.46 M.	6 32	4 55	11 31	6 26	5 1	11 38	6 16	5 11	11 48	0 48	0 56		
304	31	Sa.	♏	♂ ☿ ☿.	6 33	4 54	Morn.	6 27	5 0	Morn.	6 17	5 10	Morn.	2 3	2 5		
MOON'S PHASES. (Standard Time.)					EASTERN.		CENTRAL.	MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.					
					d. h. m.		d. h. m.	d. h. m.		d. h. m.		Oct. 1, 1880, fell on Friday.					
LAST QUARTER					1 6 29 M.		1 5 29 M.	1 4 29 M.		1 3 29 M.		" 1881, " " Saturday. " 1887, " " " Saturday.					
NEW MOON					8 2 31 M.		8 1 31 M.	8 0 31 M.		7 11 31 A.		" 1882, " " Sunday. " 1888, " " " Monday.					
FIRST QUARTER					15 8 20 A.		15 7 20 A.	15 6 20 A.		15 5 20 A.		" 1883, " " Monday. " 1889, " " " Tuesday.					
FULL MOON					23 4 22 A.		23 3 22 A.	23 2 22 A.		23 1 22 A.		" 1884, " " Wednesday. " 1890, " " " Wednesday.					
LAST QUARTER					30 0 58 A.		30 11 58 M.	30 10 58 M.		30 9 58 M.							

"The sobered robin, hunger-silent now,
Seeks cedar-berries blue, his autumn cheer;
The squirrel, on the shingly shagbark's bough,
Now saws, now lists with downward eye and ear."

LOWELL.

NOVEMBER, 1885.

"On my cornice linger the ripe black grapes ungathered;
Children fill the groves with the echoes of their glee,
Gathering tawny chestnuts, and shouting when beside them
Drops the heavy fruit of the tall black-walnut tree."

BRYANT.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Eleventh Month. 30 Days.	
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises.	Sun Sets.	Moon Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Morn.	Eve.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.	
44. 22d Sunday after Trinity.				Day's Length:	roh. 18m.			roh. 31m.			roh. 51m.					{ 1810. — Gen. A. A. Humphreys, Am. engineer. 1815. — G. Boole, English mathematician. 1786. — E. F. Germar, German naturalist. 1744. — Johann Bernoulli, Swiss astronomer. 1798. — Karl Kreil, Austrian meteorologist. 1809. — R. H. Kohlrausch, German physicist. 1818. — E. H. du Bois-Reymond, Ger. physicist.	
305	1	Su.	♏	Sirius s. 3.57 M.	6 34	4 52	0 39	6 28	4 59	0 44	6 18	5 0	0 51	3 12	3 17		
306	2	M.	♏	♄ in apellon.	6 35	4 52	1 47	6 29	4 58	1 51	6 19	5 8	1 54	4 14	4 25		
307	3	Tu.	♏	♄ ♄ ♄; ♄ in ♏.	6 36	4 50	2 54	6 30	4 57	2 56	6 20	5 7	2 57	5 9	5 22		
308	4	W.	♏	Venus sets 7.16 A.	6 38	4 48	4 1	6 31	4 56	4 1	6 21	5 6	3 59	6 0	6 14		
309	5	Th.	♏	Fomalhaut s. 7.50 A.	6 39	4 48	5 6	6 32	4 55	5 4	6 22	5 6	4 59	6 47	7 2		
310	6	Fr.	♏	♄ 6th. Markab s. 7.53 A.	6 40	4 47	6 11	6 34	4 54	6 7	6 23	5 5	6 0	7 29	7 47		
311	7	Sa.	♏	♄ ♄ ♄.	6 42	4 46	Sets.	6 35	4 53	Sets.	6 24	5 4	Sets.	8 10	8 31		
45. 23d Sunday after Trinity.				Day's Length:	roh. 2m.			roh. 16m.			roh. 38m.					{ 1781. — G. A. A. Plana, Italian mathematician. 1748. — C. L. Berthollet, French physicist. 1805. — Charles Pickering, American naturalist. 1743. — C. P. Thunberg, Swedish naturalist. 1795. — Thaddeus W. Harris, Am. entomologist. 1842. — Lord Rayleigh, English physicist. 1797. — Sir Charles Lyell, English geologist.	
312	8	Su.	♏	♀ gr. Hel. Lat. S.	6 43	4 45	6 23	6 36	4 52	6 32	6 25	5 3	6 45	8 50	9 14		
313	9	M.	♏	Mars rises 0.15 M.	6 44	4 44	7 8	6 37	4 51	7 17	6 26	5 2	7 31	9 27	9 55		
314	10	Tu.	♏	♄ ♄ ♄.	6 45	4 42	7 56	6 38	4 50	8 5	6 26	5 1	8 19	10 4	10 37		
315	11	W.	♏	Algenib s. 8.42 A.	6 47	4 41	8 47	6 39	4 49	8 56	6 27	5 1	9 9	10 41	11 20		
316	12	Th.	♏	♄ in apogee.	6 48	4 40	9 40	6 40	4 48	9 48	6 28	5 0	10 0	11 18	...		
317	13	Fr.	♏	Polaris s. 9.43 A.	6 49	4 40	10 35	6 41	4 47	10 42	6 29	5 0	10 52	0 7	11 58*		
318	14	Sa.	♏	♄ 14th. Achernar s. 9.56 A.	6 51	4 39	11 31	6 42	4 47	11 37	6 30	4 59	11 44	0 58	0 44		
46. 24th Sunday after Trinity.				Day's Length:	gh. 46m.			roh. 2m.			roh. 28m.					{ 1738. — F. W. Herschel, English astronomer. 1793. — M. Chasles, French mathematician. 1717. — J. le R. d'Alembert, French geometer. 1790. — A. F. Moebius, German astronomer. 1810. — Asa Gray, American botanist. 1821. — F. F. E. Brinnow, Amer. astronomer 1832. — N. A. E. Nordenskiöld, Finnish traveller.	
319	15	Su.	♏	Jupiter rises 2.19 M.	6 52	4 38	Morn.	6 44	4 46	Morn.	6 31	4 59	Morn.	1 48	1 39		
320	16	M.	♏	♄ ♄ ♄; ♄ in ♏.	6 53	4 37	0 29	6 45	4 45	0 33	6 32	4 58	0 38	2 38	2 33		
321	17	Tu.	♏	Hamel s. 10.11 A.	6 54	4 36	1 29	6 46	4 45	1 31	6 33	4 58	1 34	3 32	3 27		
322	18	W.	♏	Algor s. 11.7 A.	6 55	4 35	2 31	6 47	4 44	2 32	6 34	4 57	2 31	4 23	4 22		
323	19	Th.	♏	Aldebaran s. 0.36 M.	6 57	4 35	3 35	6 48	4 43	3 34	6 35	4 57	3 30	5 12	5 17		
324	20	Fr.	♏	Saturn rises 7.14 A.	6 58	4 34	4 40	6 49	4 43	4 37	6 36	4 56	4 31	5 59	6 9		
325	21	Sa.	♏	♄ 22d. ♄ ♄ ♄.	6 59	4 33	5 47	6 50	4 42	5 42	6 36	4 56	5 34	6 47	7 2		
47. 25th Sunday after Trinity.				Day's Length:	gh. 33m.			gh. 51m.			roh. 19m.					{ 1819. — Joseph D. Whitney, American geologist. 1796. — A. von Ettingshausen, Ger. physicist. 1817. — Charles A. Wurtz, French chemist. 1701. — A. Celsius, Swedish physicist. 1734. — Johann A. Euler, Russ. mathematician.	
326	22	Su.	♏	Uranus rises 2.25 M.	7 0	4 33	Rises.	6 51	4 42	Rises.	6 37	4 56	Rises.	7 33	7 55		
327	23	M.	♏	♄ gr. Hel. Lat. S.	7 2	4 32	6 8	6 52	4 41	6 17	6 38	4 55	6 31	8 19	8 48		
328	24	Tu.	♏	♄ ♄ ♄; ♄ in perigee.	7 3	4 32	7 9	6 54	4 41	7 18	6 39	4 55	7 32	9 7	9 43		
329	25	W.	♏	Capella s. 0.51 M.	7 4	4 31	8 14	6 54	4 40	8 23	6 40	4 55	8 36	9 58	10 39		
330	26	Th.	♏	Rigel s. 0.48 M.	7 5	4 31	9 21	6 55	4 40	9 29	6 41	4 54	9 39	10 47	11 40		
331	27	Fr.	♏	Canopus s. 1.56 M.	7 6	4 30	10 30	6 56	4 39	10 36	6 42	4 54	10 44	11 42	...		
332	28	Sa.	♏	♄ 28th. Neptune sets 5.55 M.	7 7	4 30	11 39	6 57	4 39	11 43	6 42	4 54	11 48	0 45	0 39		
48. 1st Sunday in Advent.				Day's Length:	gh. 21m.			gh. 41m.			roh. 11m.					* Second morning tide.	
333	29	Su.	♏	♄ ♄ ♄.	7 8	4 29	Morn.	6 58	4 39	Morn.	6 43	4 54	Morn.	1 49	1 47		
334	30	M.	♏	♄ gr. el. E. 21° 21'; ♄ ♄ ♄; ♄ in ♏.	7 9	4 29	0 47	6 59	4 39	0 49	6 44	4 54	0 51	2 53	2 54		
MOON'S PHASES. (Standard Time.)				EASTERN.		CENTRAL.		MOUNTAIN.		PACIFIC.		A BRIEF GUIDE TO THE DECADE.					
				d. h. m.		d. h. m.		d. h. m.		d. h. m.		Nov. 1, 1880, fell on Monday.					
NEW MOON				6 4 3 A.		6 3 3 A.		6 2 3 A.		6 1 3 A.		" 1881, " " Tuesday.					
FIRST QUARTER				14 4 59 A.		14 3 59 A.		14 2 59 A.		14 1 59 A.		" 1882, " " Wednesday.					
FULL MOON				22 4 39 M.		22 3 39 M.		22 2 39 M.		22 1 39 M.		" 1883, " " Thursday.					
LAST QUARTER				28 8 57 A.		28 7 57 A.		28 6 57 A.		28 5 57 A.		" 1884, " " Saturday.					
												Nov. 1, 1886, will fall on Monday					
												" 1887, " " " Tuesday.					
												" 1888, " " " Thursday.					
												" 1889, " " " Friday.					
												" 1890, " " " Saturday.					

"Within the hall are song and laughter,
The cheeks of Christmas grow red and jolly,
And sprouting is every corbel and rafter
With the lightsome green of ivy and holly."

LOWELL.

DECEMBER, 1885.

"The snow-bird twittered on the beachen bough,
And 'neath the hemlock, whose thick branches bent
Beneath its bright cold burden, and kept dry
A circle, on the earth, of withered leaves,
The partridge found a shelter. Through the snow
The rabbit sprang away."

BRYANT.

Mean time is used unless otherwise specified.				PLANETARY PHENOMENA.	LATITUDE OF BOSTON.			LATITUDE OF WASHINGTON.			LATITUDE OF CHARLESTON, S.C.			HIGH WATER, NEW YORK. (Standard Time.)		Twelfth Month. 31 Days.			
Day of Year.	Day of Month.	Day of Week.	Moon's Constellation.		Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Sun Rises. H. M.	Sun Sets. H. M.	Moon Rises. H. M.	Morn. H. M.	Eve. H. M.	BIRTHDAYS OF SCIENTIFIC CELEBRITIES.			
335	1	Tu.	♊	♂ ☿.	7 10	4 28	1 53	7 0	4 39	1 53	6 45	4 54	1 52	3 55	3 58	1838. — Cleveland Abbé, American meteorologist. 1818. — John L. LeConte, Amer. entomologist.			
336	2	W.	♋	Venus sets 7.55 A.	7 11	4 28	2 57	7 1	4 38	2 55	6 46	4 54	2 52	4 54	4 58				
337	3	Th.	♌	♂ ☿.	7 12	4 28	4 0	7 2	4 38	3 57	6 47	4 54	3 50	5 44	5 54				
338	4	Fr.	♍	Algenib s. 7.11 A.	7 13	4 28	5 1	7 3	4 38	4 56	6 47	4 54	4 47	6 32	6 47				
339	5	Sa.	♎	Polaris s. 8.17 A.	7 14	4 28	6 1	7 4	4 38	5 55	6 48	4 54	5 44	7 15	7 33				
49. 2d Sunday in Advent. Day's Length:					gh. 13m.			gh. 33m.			roh. 5m.			1778. — L. J. Gay-Lussac, French chemist. 1786. — J. G. Charpentier, Swiss geologist. 1804. — W. B. Rogers, American geologist. 1810. — Theodor Schwann, Belgian physiologist. 1781. — Sir David Brewster, Scotch chemist. 1731. — Erasmus Darwin, English physicist.					
340	6	Su.	♏	♂ 6th. Achernar s. 8.29 A.	7 15	4 28	Sets.	7 5	4 38	Sets.	6 49	4 54	Sets.					7 56	8 18
341	7	M.	♐	♂ ☿. ☿.	7 16	4 28	5 48	7 6	4 38	5 57	6 50	4 54	6 11					8 33	8 59
342	8	Tu.	♑	♂ gr. el. E. 47° 19'; ☿ ♄ η Virginis.	7 17	4 28	6 38	7 7	4 38	6 47	6 51	4 54	7 1					9 5	9 37
343	9	W.	♒	☿ stationary.	7 18	4 28	7 31	7 8	4 38	7 40	6 52	4 54	7 52					9 38	10 14
344	10	Th.	♓	♂ ☿; ☿ in apogee.	7 19	4 28	8 26	7 8	4 38	8 34	6 52	4 55	8 45					10 7	10 49
345	11	Fr.	♈	Mars rises 11.20 A.	7 20	4 28	9 21	7 9	4 39	9 27	6 53	4 55	9 36					10 36	11 26
346	12	Sa.	♉	☿ in ♈.	7 21	4 28	10 18	7 10	4 39	10 23	6 54	4 55	10 29	11 12	11 56	1731. — Erasmus Darwin, English physicist.			
50. 3d Sunday in Advent. Day's Length:					gh. 7m.			gh. 28m.			roh. 1m.			1743. — Sir Jos. Banks, English naturalist. 1816. — Ernst Werner Siemens, Eng. electrician. 1546. — Tycho Brahe, Danish astronomer. 1834. — Charles A. Young, American astronomer. 1493. — Paracelsus, Swiss chemist. 1778. — Sir Humphry Davy, English chemist. 1797. — Joseph Henry, American physicist. 1714. — John Winthrop, Am. math. and astron. 1787. — O. von Kotzebue, Russian navigator. * Second morning tide. 1805. — T. Graham, Scotch chemist.					
347	13	Su.	♊	Algol s. 9.29 A.	7 21	4 28	11 16	7 11	4 39	11 19	6 54	4 55	11 23					0 4	11 56
348	14	M.	♋	☿ 15th. ☿ in ♋.	7 22	4 29	Morn.	7 11	4 39	Morn.	6 55	4 55	Morn.					0 48	0 37
349	15	Tu.	♌	Jupiter rises 0.42 M.	7 23	4 29	0 16	7 12	4 40	0 17	6 56	4 56	0 18					1 40	1 28
350	16	W.	♍	Aldebaran s. 10.46 A.	7 23	4 29	1 16	7 13	4 40	1 16	6 56	4 56	1 14					2 37	2 26
351	17	Th.	♎	☿ in perihelion.	7 24	4 29	2 18	7 14	4 40	2 16	6 57	4 57	2 11					3 35	3 29
352	18	Fr.	♏	♂ ☿ ☿ inferior.	7 25	4 30	3 24	7 14	4 41	3 20	6 57	4 57	3 13					4 33	4 37
353	19	Sa.	♐	♂ ☿ ☿.	7 26	4 30	4 31	7 15	4 41	4 25	6 58	4 58	4 16	5 30	5 41	1714. — John Winthrop, Am. math. and astron. 1787. — O. von Kotzebue, Russian navigator. * Second morning tide.			
51. 4th Sunday in Advent. Day's Length:					gh. 5m.			gh. 27m.			roh. 0m.			1805. — T. Graham, Scotch chemist. 1790. — J. F. Champollion, French Egyptologist 1792. — Charles Babbage, Eng. mathematician. 1818. — J. P. Joule, English physicist. 1813. — Joseph Lovering, American physicist. 1756. — B. G. Lacépède, French naturalist.					
354	20	Su.	♑	Saturn rises 5.6 A.	7 26	4 31	5 39	7 15	4 42	5 31	6 58	4 58	5 21					6 24	6 43
355	21	M.	♒	☿ 21st. ☿ enters ♏; winter begins;	7 26	4 31	Rises.	7 15	4 42	Rises.	6 59	4 59	5 21					7 17	7 42
356	22	Tu.	♓	☿ in perigee. [♈; ☿ ♄ ☿.]	7 27	4 32	5 54	7 16	4 43	6 3	6 59	4 59	6 17					8 6	8 38
357	23	W.	♈	Capella s. 10.57 A.	7 27	4 32	7 3	7 16	4 43	7 11	7 0	5 0	7 23					8 56	9 34
358	24	Th.	♉	Uranus rises 0.25 M.	7 28	4 33	8 14	7 17	4 44	8 21	7 0	5 0	8 30					9 45	10 29
359	25	Fr.	♊	Rigel s. 10.50 A.	7 28	4 34	9 26	7 17	4 44	9 31	7 1	5 1	9 37					10 34	11 26
360	26	Sa.	♋	☿ ♄ ☿; ☿ ♄ ☿.	7 29	4 34	10 36	7 18	4 45	10 39	7 1	5 1	10 42	11 25	11 56	1756. — B. G. Lacépède, French naturalist.			
52. Sunday after Christmas. Day's Length:					gh. 6m.			gh. 28m.			roh. 0m.			1571. — J. Kepler, German astronomer. 1822. — Louis Pasteur, French physiologist. 1818. — C. R. Fresenius, German chemist. 1796. — J. C. Poggendorff, German physicist. 1784. — Major S. H. Long, American explorer. 1796. — John E. Holbrook, American zoologist.					
361	27	Su.	♌	♂ ☿ ☿; ☿ gr. H.L.N.; ☿ in ♏.	7 29	4 35	11 44	7 18	4 46	11 45	7 2	5 2	11 45					0 23	0 22
362	28	M.	♍	☿ 28th. ☿ ♄ ☿; ☿ ☿ ☿; ☿ ☿ ☿.	7 29	4 36	Morn.	7 18	4 46	Morn.	7 2	5 3	Morn.					1 21	1 21
363	29	Tu.	♎	☿ stationary.	7 29	4 36	0 49	7 19	4 47	0 48	7 2	5 4	0 45					2 26	2 24
364	30	W.	♏	☿ perigee.	7 30	4 37	1 53	7 19	4 48	1 50	7 3	5 4	1 45					3 30	3 29
365	31	Th.	♐	Neptune sets 3.41 M.	7 30	4 38	2 55	7 19	4 49	2 51	7 3	5 5	2 43					4 32	4 37
MOON'S PHASES. (Standard Time.)				EASTERN.	CENTRAL.	MOUNTAIN.	PACIFIC.	A BRIEF GUIDE TO THE DECADE.											
				d. h. m.	d. h. m.	d. h. m.	d. h. m.	Dec. 1, 1880, fell on Wednesday.		Dec. 1, 1886, will fall on Wednesday.									
NEW MOON				6 8 16 M.	6 7 16 M.	6 6 16 M.	6 5 16 M.	" 1881, " " Thursday.		" 1887, " " " Thursday.									
FIRST QUARTER				14 1 22 A.	14 0 22 A.	14 11 22 M.	14 10 22 M.	" 1882, " " Friday.		" 1888, " " " Saturday.									
FULL MOON				21 3 58 A.	21 2 58 A.	21 1 58 A.	21 0 58 A.	" 1883, " " Saturday.		" 1889, " " " Sunday.									
LAST QUARTER				28 7 22 M.	28 6 22 M.	28 5 22 M.	28 4 22 M.	" 1884, " " Monday.		" 1890, " " " Monday.									

