Calendar

A "star party" at the Frank N. Bash Visitors Center at McDonald Observatory.
Photo by Frank Cianciolo; McDonald Observatory.

Seasons
Morning & Evening Stars
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Calendars for 2014 & 2015

Astronomical Calendars for 2014 & 2015

An Explanation of Texas Time

The subsequent calendars were calculated principally from data on the **U.S. Naval Observatory's website** (http://www.usno.navy.mil/USNO) and from its publications ***Astronomical Phenomena for 2014*** and ***Astronomical Phenomena for 2015.***

Times listed here are **Central Standard Time,** except for the period from 2:00 a.m. on the second Sunday in March until 2:00 a.m. on the first Sunday in November, when **Daylight Saving Time,** which is one hour later than Central Standard Time, is in effect.

All of Texas is in the Central Time Zone, except El Paso and Hudspeth counties and the northwest corner of Culberson County, which observe Mountain Time. Mountain Time is one hour earlier than Central Time.

All times are calculated for the intersection of 99° 20' west longitude and 31° 08' north latitude, which is closest to the **town of Mercury** and is about 15 miles northeast of Brady, McCulloch County. This point is the **approximate geographical center** of the state.

How to Adjust Rise & Set Times

To adjust the time of sunrise or sunset, moonrise or moonset for any point in Texas, apply the following rule: **Add four minutes** to the time given in this calendar for each degree of longitude that the place lies west of the 99th meridian; **subtract four minutes** for each degree of longitude the place lies east of the 99th meridian.

At times there will be considerable variation for distances north and south of the line of 31° 08' north latitude, but the rule for calculating it is complicated. The formula given above will get sufficiently close results.

The **accompanying map** shows the intersection for which all times given here are calculated, with some major Texas cities and their longitudes. These make it convenient to calculate time at any given point.

Planetary Configurations & Phenomena

The phenomena and planetary configurations of the heavens for 2014 and 2015 are given in the center column of the calendars on pages 155–162. Below is an explanation of the symbols used in those tables:

☉ The Sun	● The Earth	♅ Uranus
☾ The Moon	♂ Mars	♆ Neptune
☿ Mercury	♃ Jupiter	♇ Pluto
♀ Venus	♄ Saturn	

Aspects: Conjunction & Opposition

☌ This symbol, appearing between symbols for heavenly bodies, means they are **"in conjunction,"** that is, having the same longitude in the sky and appearing near each other. For example, ♀ ☌ ☾ means Venus is **north** or **south** of the moon by a few degrees. Conjunctions listed in this calendar are separated by **10 degrees** or less. **Inferior** and **superior conjuctions** mean an inner plant, Venus or Mercury, is in line with the Sun, either between the Earth and the Sun **(inferior)** or on the opposite side of the Sun **(superior).**

☍ This symbol means that the heavenly body listed is in **"opposition"** to the Sun, or that they differ by 180 degrees of longitude.

Common Astronomical Terms

★ **Aphelion** — Point at which a planet's orbit is farthest from the sun.
★ **Perihelion** — Point at which a planet's orbit is nearest the sun.
★ **Apogee** — That point of the moon's orbit farthest from the earth.
★ **Perigee** — That point of the moon's orbit nearest the earth.

The Seasons

2014

Spring — Thursday, **March 20,** at 11:57 a.m. (CDT);
Summer — Saturday, **June 21,** at 5:51 a.m. (CDT);
Autumn — Monday, **Sept. 22,** at 9:29 p.m. (CDT);
Winter — Sunday, **Dec. 21,** at 5:03 p.m. (CST).

2015

Spring — Friday, **March 20,** at 5:45 p.m. (CDT);
Summer — Sunday, **June 21,** at 11:38 a.m. (CDT);
Autumn — Wednesday, **Sept. 23,** at 3:21 a.m. (CDT);
Winter — Monday, **Dec. 21,** at 10:48 p.m. (CST).

Morning & Evening Stars

Morning Stars, 2014

Venus ♀ **—** Jan. 17 – Sept. 17
Mars ♂ **—** Jan. 1 – April 8
Jupiter ♃ **—** Jan. 1 – Jan. 5; Aug. 8 – Dec. 31
Saturn ♄ **—** Jan. 1 – May 10; Dec. 6 – Dec. 31

Evening Stars, 2014

Venus ♀ **—** Jan. 1 – Jan. 5; Dec. 5 – Dec. 31
Mars ♂ **—** April 8 – Dec. 31
Jupiter ♃ **—** Jan. 5 – July 11
Saturn ♄ **—** May 10 – Nov. 1

Morning Stars, 2015

Venus ♀ **—** Aug. 20 – Dec. 31
Mars ♂ **—** Aug. 6 – Dec. 31
Jupiter ♃ **—** Jan. 1 – Feb. 6; Sept. 10 – Dec. 31
Saturn ♄ **—** Jan. 1 – May 23; Dec. 17 – Dec. 31

Evening Stars, 2015

Venus ♀ **—** Jan. 1 – Aug. 11
Mars ♂ **—** Jan. 1 – April 18
Jupiter ♃ **—** Feb. 6 – Aug. 13
Saturn ♄ **—** May 23 – Nov. 13

Major Meteor Showers

These are approximate dates. Listen to local news/weather broadcasts several days beforehand to determine peak observation days and hours. Generally, viewing is best between midnight and dawn of the date listed.

Meteor shower dates are provided by McDonald Observatory, The University of Texas at Austin.

Meteor Shower	Peak 2014	Peak 2015
Quadrantid	Jan. 3	Jan. 4
Lyrid	April 21	April 22
Eta Aquarid	May 5	May 6
Perseid	Aug. 12	Aug. 13
Orionid	Oct. 21	Oct. 22
Leonid	Nov. 17	Nov. 18
Geminid	Dec. 13	Dec. 14

Eclipses

2014

April 15 — Moon, total eclipse, visible in Western Africa, Western Europe, the Americas, Australasia, Eastern Asia.

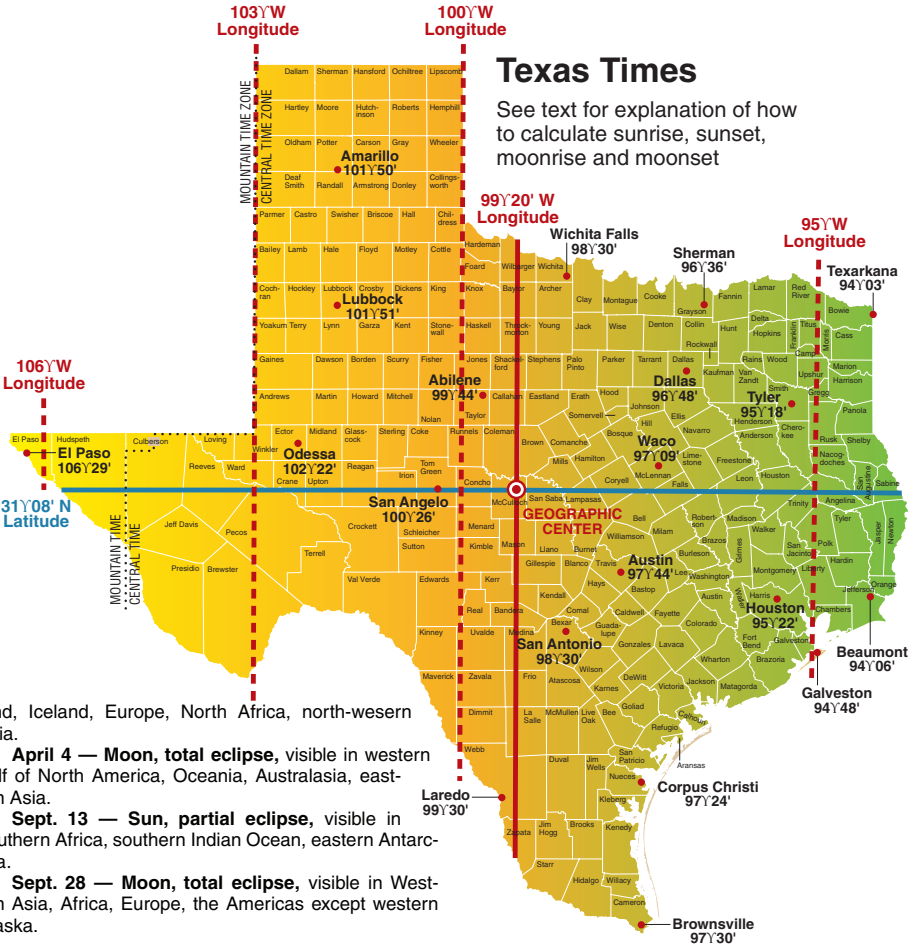
April 29 — Sun, annular eclipse, visible in Antarctica, Australia.

Oct. 8 — Moon, total eclipse, visible in the Americas, Australasia, Asia.

Oct. 23 — Sun, partial eclipse, visible in most of North America, Mexico, Eastern Russia.

2015

March 20 — Sun, total eclipse, visible in Green-



land, Iceland, Europe, North Africa, north-wesern Asia.

April 4 — Moon, total eclipse, visible in western half of North America, Oceania, Australasia, eastern Asia.

Sept. 13 — Sun, partial eclipse, visible in southern Africa, southern Indian Ocean, eastern Antarctica.

Sept. 28 — Moon, total eclipse, visible in Western Asia, Africa, Europe, the Americas except western Alaska.

Chronological Eras & Cycles

Chronological Eras, 2014

The year 2014 of the **Christian** era comprises the latter part of the 238th and the beginning of the 239th year of the independence of the United States of America, and corresponds to the year 6727 of the Julian period. All dates, below, are given in terms of the Gregorian calendar, in which Jan. 14, 2014, corresponds to Jan. 1, 2014, of the Julian calendar:

Era	Year	Begins
Byzantine	7523	Sept. 14
Jewish (A.M.)*	5775	Sept. 24
Chinese (jia wu)	4651	Jan. 31
Roman (A.U.C.)	2767	Jan. 14
Nabonassar	2763	April 20
Japanese	2674	Jan. 1
Grecian (Seleucidæ)	2326	Sept. 14 or Oct. 14
Indian (Saka)	1936	March 22
Diocletian (Coptic)	1731	Sept. 11
Islamic (Hegira)*	1436	Oct. 24

*Year begins at sunset.

Chronological Cycles, 2014

Dominical Letter	E	Julian Period	6727
Epact	29	Roman Indiction	7
Golden Number or Lunar Cycle	I	Solar Cycle	7

Chronological Eras, 2015

The year 2015 of the **Christian** era comprises the latter part of the 239th and the beginning of the 240th year of the independence of the United States of America, and corresponds to the year 6728 of the Julian period. All dates, below, are given in terms of the Gregorian calendar, in which Jan. 14, 2015, corresponds to Jan. 1, 2015, of the Julian calendar:

Era	Year	Begins
Byzantine	7524	Sept. 14
Jewish (A.M.)*	5776	Sept. 13
Chinese (gui si)	4652	Feb. 19
Roman (A.U.C.)	2768	Jan. 14
Nabonassar	2764	April 20
Japanese	2675	Jan. 1
Grecian (Seleucidæ)	2327	Sept. 14 or Oct. 14
Indian (Saka)	1937	March 22
Diocletian (Coptic)	1732	Sept. 12
Islamic (Hegira)*	1437	Oct. 14

*Year begins at sunset.

Chronological Cycles, 2015

Dominical Letter	D	Julian Period	6728
Epact	10	Roman Indiction	8
Golden Number or Lunar Cycle	II	Solar Cycle	8

2014

Times are **Central Standard Time,** except from March 9 to Nov. 2, during which **Daylight Saving Time** is observed. **Boldface times for moonrise and moonset indicate p.m.** Times are figured for the point **99° 20' West and 31° 08' North,** the approximate geographical center of the state. **See page 165** for explanation of **how to get the approximate time at any other Texas point.** (On the web: http://www.usno.navy.mil/astronomy) Please note: Not all eclipses are visible in United States. For visibility, see listing beginning on **page 165.**

1st Month January 2014 31 Days

Moon's Phases — *New,* Jan. 1, 5:14 a.m.; *First Qtr.,* Jan. 7, 9:39 p.m.; *Full,* Jan. 15, 10:52 p.m.; *Last Qtr.,* Jan. 23, 11:19 p.m.; *New,* Jan. 30, 3:39 p.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moonrise	Hour of Moonset
1	1	We.	New ☾ at perigee	7:36	5:46	7:32	**6:28**
2	2	Th.		7:36	5:47	8:26	**7:38**
3	3	Fr.		7:36	5:48	9:15	**8:46**
4	4	Sa.	● at perihelion (6 am)	7:36	5:48	9:59	**9:53**
5	5	Su.	♃ ☍ (3 pm)	7:37	5:49	10:39	**10:57**
6	6	Mo.		7:37	5:50	11:18	**11:58**
7	7	Tu.	♁ ☌ ☾ First qtr. ☾	7:37	5:51	11:56	
8	8	We.		7:37	5:52	**12:33**	12:58
9	9	Th.		7:37	5:52	**1:12**	1:55
10	10	Fr.		7:37	5:53	**1:53**	2:52
11	11	Sa.	♀ in inferior ☌	7:37	5:54	**2:37**	3:46
12	12	Su.		7:37	5:55	**3:22**	4:38
13	13	Mo.		7:37	5:56	**4:11**	5:28
14	14	Tu.		7:36	5:57	**5:01**	6:14
15	15	We.	Full ☾ apogee; ♃ ☌ ☾	7:36	5:58	**5:53**	6:57
16	16	Th.		7:36	5:58	**6:45**	7:37
17	17	Fr.		7:36	5:59	**7:38**	8:14
18	18	Sa.		7:36	6:00	**8:31**	8:49
19	19	Su.		7:35	6:01	**9:24**	9:22
20	20	Mo.		7:35	6:02	**10:18**	9:55
21	21	Tu.		7:35	6:03	**11:13**	10:28
22	22	We.		7:34	6:04		11:03
23	23	Th.	♀ ☌ ☾ Last qtr. ☾	7:34	6:05	12:09	11:40
24	24	Fr.		7:34	6:06	1:08	**12:21**
25	25	Sa.	♄ ☌ ☾ (8 am)	7:33	6:07	2:08	**1:07**
26	26	Su.		7:33	6:07	3:10	**1:59**
27	27	Mo.		7:32	6:08	4:12	**2:58**
28	28	Tu.	♀ ☌ ☾ (9 pm)	7:32	6:09	5:12	**4:02**
29	29	We.		7:31	6:10	6:08	**5:11**
30	30	Th.	New ☾ perigee (4 am)	7:31	6:11	7:00	**6:20**
31	31	Fr.	♀ stationary	7:30	6:12	7:48	**7:30**

2nd Month February 2014 28 Days

Moon's Phases — *First Qtr.,* Feb. 6, 1:22 p.m.; *Full,* Feb. 14, 5:53 p.m.; *Last Qtr.,* Feb. 22, 11:15 a.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moonrise	Hour of Moonset
32	1	Sa.	☿ ☌ ☾ (am) ♆ ☌ ☾ (pm)	7:29	6:13	8:32	**8:37**
33	2	Su.		7:29	6:14	9:13	**9:42**
34	3	Mo.	♁ ☌ ☾	7:28	6:15	9:52	**10:45**
35	4	Tu.		7:27	6:15	10:31	**11:45**
36	5	We.		7:27	6:16	11:11	
37	6	Th.	First qtr. ☾	7:26	6:17	11:52	12:44
38	7	Fr.		7:25	6:18	**12:35**	1:40
39	8	Sa.		7:24	6:19	**1:20**	2:33
40	9	Su.		7:24	6:20	**2:08**	3:24
41	10	Mo.		7:23	6:21	**2:57**	4:11
42	11	Tu.	♄ ☌ ☾ ☾ at apogee;	7:22	6:22	**3:48**	4:55
43	12	We.		7:21	6:22	**4:40**	5:36
44	13	Th.		7:20	6:23	**5:33**	6:14
45	14	Fr.	Full ☾ (6 pm)	7:19	6:24	**6:26**	6:50
46	15	Sa.		7:18	6:25	**7:20**	7:24
47	16	Su.		7:17	6:26	**8:13**	7:58
48	17	Mo.		7:17	6:26	**9:08**	8:31
49	18	Tu.		7:16	6:27	**10:04**	9:06
50	19	We.	♂ ☌ ☾ (6 pm)	7:15	6:28	**11:01**	9:42
51	20	Th.		7:14	6:29		10:21
52	21	Fr.	♄ ☌ ☾ (4 pm)	7:13	6:30	12:00	11:04
53	22	Sa.	Last qtr. ☾	7:12	6:30	12:59	11:52
54	23	Su.	♆ ☌ ☉ (12 pm)	7:10	6:31	1:59	**12:46**
55	24	Mo.		7:09	6:32	2:57	**1:46**
56	25	Tu.	♀ ☌ ☾ (11 pm)	7:08	6:33	3:54	**2:50**
57	26	We.		7:07	6:33	4:46	**3:56**
58	27	Th.	☾ at perigee	7:06	6:34	5:35	**5:05**
59	28	Fr.		7:05	6:35	6:20	**6:13**

† Daylight Saving Time begins at 2 a.m.

3rd Month March 2014 31 Days

Moon's Phases — *New,* March 1, 2:00 a.m.; *First Qtr.,* March 8, 7:27 a.m.; *Full,* March 16, 12:08 p.m.; *Last Qtr.,* March 23, 8:46 p.m.; *New,* March 30, 1:45 p.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moonrise	Hour of Moonset
60	1	Sa.	New ☾ ♂ stationary	7:04	6:36	7:03	**7:19**
61	2	Su.	♄ stationary	7:03	6:36	7:44	**8:24**
62	3	Mo.	♁ ☌ ☾	7:02	6:37	8:24	**9:28**
63	4	Tu.		7:01	6:38	9:05	**10:29**
64	5	We.		6:59	6:39	9:47	**11:28**
65	6	Th.	stationary	6:58	6:39	10:30	
66	7	Fr.		6:57	6:40	11:16	12:24
67	8	Sa.	First qtr. ☾	6:56	6:41	**12:03**	1:16
68	† 9	Su.	**DST begins**	7:55	7:41	**1:52**	3:06
69	10	Mo.	♃ ☌ ☾ (6 am)	7:53	7:42	**2:43**	3:51
70	11	Tu.	☾ at apogee (3 pm)	7:52	7:43	**3:34**	4:33
71	12	We.		7:51	7:44	**4:26**	5:12
72	13	Th.		7:50	7:44	**5:19**	5:49
73	14	Fr.	☿ gr. elongation E	7:49	7:45	**6:13**	6:24
74	15	Sa.		7:47	7:46	**7:07**	6:58
75	16	Su.	Full ☾ (12 pm)	7:46	7:46	**8:02**	7:32
76	17	Mo.		7:45	7:47	**8:58**	8:07
77	18	Tu.	♀ ☌ ☾ (10 pm)	7:44	7:48	**9:56**	8:43
78	19	We.		7:42	7:48	**10:54**	9:22
79	20	Th.	**Equinox;** ♄ ☌ ☾ (10pm)	7:41	7:49	**11:54**	10:04
80	21	Fr.		7:40	7:50		10:51
81	22	Sa.	☿ ☌ ♆	7:39	7:50	12:53	11:42
82	23	Su.	Last qtr. ☾	7:37	7:51	1:51	**12:38**
83	24	Mo.		7:36	7:51	2:46	**1:39**
84	25	Tu.		7:35	7:52	3:39	**2:43**
85	26	We.		7:34	7:53	4:27	**3:48**
86	27	Th.	♀ ☌ ☾ ☾ at perigee	7:32	7:53	5:12	**4:54**
87	28	Fr.	♆ ☌ ☾	7:31	7:54	5:55	**5:59**
88	29	Sa.	☿ ☌ ☾ (12 am)	7:30	7:55	6:36	**7:04**
89	30	Su.	New ☾	7:29	7:55	7:16	**8:08**
90	31	Mo.		7:27	7:56	7:57	**9:11**

Astronomical Calendar for 2014

4th Month April 2014 30 Days

Moon's Phases — *First Qtr.,* April 7, 3:31 a.m.; *Full,* April 15, 2:42 a.m.; *Last Qtr.,* April 22, 2:52 a.m.; *New,* April 29, 1:14 a.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
91	1	Tu.		7:26	7:57	8:38	**10:11**
92	2	We.	♢ ☌ ☉	7:25	7:57	9:22	**11:10**
93	3	Th.		7:24	7:58	10:07	
94	4	Fr.		7:22	7:59	10:55	12:05
95	5	Sa.		7:21	7:59	11:44	12:57
96	6	Su.	♃☌☾ (6 pm)	7:20	8:00	**12:35**	1:45
97	7	Mo.	First qtr. ☾	7:19	8:01	**1:26**	2:29
98	8	Tu.	☾ at apogee; ♂ ☍	7:18	8:01	**2:18**	3:09
99	9	We.	♄ ☌ ☾	7:16	8:02	**3:11**	3:47
100	10	Th.	♇ stationary	7:15	8:02	**4:04**	4:22
101	11	Fr.		7:14	8:03	**4:57**	4:57
102	12	Sa.	♀ ☌ ☾ (3 am)	7:13	8:04	**5:52**	5:31
103	13	Su.		7:12	8:04	**6:48**	6:05
104	14	Mo.		7:10	8:05	**7:46**	6:41
105	15	Tu.	Full ☾	7:09	8:06	**8:45**	7:19
106	16	We.		7:08	8:06	**9:46**	8:01
107	17	Th.	♄ ☌ ☾ (2 am)	7:07	8:07	**10:46**	8:47
108	18	Fr.		7:06	8:08	**11:46**	9:38
109	19	Sa.		7:05	8:08		10:34
110	20	Su.		7:04	8:09	12:43	11:33
111	21	Mo.		7:03	8:10	1:36	**12:36**
112	22	Tu.	Last qtr. ☾ at perigee	7:02	8:10	2:25	**1:39**
113	23	We.		7:01	8:11	3:10	**2:44**
114	24	Th.	♆ ☌ ☾ (5 pm)	7:00	8:12	3:52	**3:47**
115	25	Fr.	♀ ☌ ☾ (6 pm)	6:59	8:12	4:32	**4:50**
116	26	Sa.		6:58	8:13	5:11	**5:53**
117	27	Su.	♢ ☌ ☾ (6 am)	6:57	8:14	5:51	**6:55**
118	28	Mo.		6:56	8:14	6:31	**7:56**
119	29	Tu.	New ☾;	6:55	8:15	7:14	**8:56**
120	30	We.		6:54	8:16	7:58	**9:53**

5th Month May 2014 31 Days

Moon's Phases — *First Qtr.,* May 6, 10:15 p.m.; *Full,* May 14, 2:16 p.m.; *Last Qtr.,* May 21, 7:59 a.m.; *New,* May 28, 1:40 p.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
121	1	Th.		6:53	8:16	8:45	**10:47**
122	2	Fr.		6:52	8:17	9:34	**11:37**
123	3	Sa.		6:51	8:18	10:25	
124	4	Su.	♃ ☌ ☾ (9 am)	6:50	8:19	11:17	12:23
125	5	Mo.		6:49	8:19	**12:09**	1:05
126	6	Tu.	First qtr. ☾ at apogee	6:48	8:20	**1:01**	1:44
127	7	We.		6:48	8:21	**1:54**	2:20
128	8	Th.		6:47	8:21	**2:47**	2:55
129	9	Fr.		6:46	8:22	**3:40**	3:28
130	10	Sa.	♄ ☍	6:45	8:23	**4:35**	4:02
131	11	Su.	♀ ☌ ☾ (9 am)	6:44	8:23	**5:32**	4:37
132	12	Mo.		6:44	8:24	**6:31**	5:14
133	13	Tu.		6:43	8:25	**7:32**	5:54
134	14	We.	Full ☾ ♄ ☌ ☾ (7 am)	6:42	8:25	**8:34**	6:39
135	15	Th.		6:42	8:26	**9:35**	7:29
136	16	Fr.		6:41	8:27	**10:35**	8:24
137	17	Sa.		6:40	8:27	**11:31**	9:24
138	18	Su.	☾ at perigee	6:40	8:28		0:28
139	19	Mo.		6:39	8:29	12:23	11:32
140	20	Tu.		6:39	8:29	1:10	**12:37**
141	21	We.	Last qtr. ☾ ♆ ☌ ☾	6:38	8:30	1:53	**1:41**
142	22	Th.		6:38	8:31	2:33	**2:43**
143	23	Fr.		6:37	8:31	3:12	**3:45**
144	24	Sa.		6:37	8:32	3:50	**4:46**
145	25	Su.		6:36	8:32	4:29	**5:46**
146	26	Mo.		6:36	8:33	5:10	**6:45**
147	27	Tu.		6:36	8:34	5:53	**7:42**
148	28	We.	New ☾	6:35	8:34	6:38	**8:37**
149	29	Th.		6:35	8:35	7:26	**9:29**
150	30	Fr.		6:35	8:35	8:16	**10:17**
151	31	Sa.		6:34	8:36	9:08	**11:01**

6th Month June 2014 30 Days

Moon's Phases — *First Qtr.,* June 5, 3:39 p.m.; *Full,* June 12, 11:11 p.m.; *Last Qtr.,* June 19, 1:39 p.m.; *New,* June 27, 3:08 a.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
152	1	Su.	♃☌☾ (3 am)	6:34	8:37	10:00	**11:42**
153	2	Mo.	☾ at apogee	6:34	8:37	10:52	
154	3	Tu.		6:34	8:38	11:45	12:19
155	4	We.		6:34	8:38	**12:37**	12:54
156	5	Th.	First qtr.☾	6:33	8:39	**1:30**	1:27
157	6	Fr.		6:33	8:39	**2:23**	2:00
158	7	Sa.	♀ ☌ ☾ (10 pm)	6:33	8:40	**3:18**	2:34
159	8	Su.		6:33	8:40	**4:15**	3:09
160	9	Mo.		6:33	8:40	**5:14**	3:47
161	10	Tu.	♄ ☌ ☾ (2 pm)	6:33	8:41	**6:16**	4:29
162	11	We.		6:33	8:41	**7:18**	5:17
163	12	Th.	Full ☾	6:33	8:42	**8:20**	6:10
164	13	Fr.		6:33	8:42	**9:20**	7:09
165	14	Sa.	☾ at perigee (10 pm)	6:33	8:42	**10:15**	8:13
166	15	Su.		6:33	8:43	**11:05**	9:19
167	16	Mo.		6:33	8:43	**11:51**	10:26
168	17	Tu.		6:33	8:43		11:32
169	18	We.	♆ ☌ ☾ (5 am)	6:33	8:44	12:34	**12:36**
170	19	Th.	Last qtr. ☾	6:34	8:44	1:13	**1:39**
171	20	Fr.	♢ ☌ ☾ (10pm)	6:34	8:44	1:52	**2:40**
172	21	Sa.	**Solstice** (6 am)	6:34	8:44	2:31	**3:40**
173	22	Su.		6:34	8:44	3:10	**4:39**
174	23	Mo.		6:34	8:45	3:51	**5:36**
175	24	Tu.		6:35	8:45	4:35	**6:31**
176	25	We.		6:35	8:45	5:22	**7:24**
177	26	Th.		6:35	8:45	6:10	**8:13**
178	27	Fr.	New ☾	6:36	8:45	7:01	**8:58**
179	28	Sa.	♃☌☾ (10 pm)	6:36	8:45	7:53	**9:40**
180	29	Su.		6:36	8:45	8:45	**10:18**
181	30	Mo.	☾ at apogee	6:37	8:45	9:38	**10:54**

☉ The Sun ● The Earth ☾ The Moon ☿ Mercury ♀ Venus ♂ Mars ♃ Jupiter ♄ Saturn ♆ Neptune ♢ Uranus ♇ Pluto ☌ = in conjunction ☍ = opposition to the ☉

Astronomical Calendar for 2014

7th Month — July 2014 — 31 Days

Moon's Phases — *First Qtr.,* July 5, 6:59 a.m.; *Full,* July 12, 6:25 a.m.; *Last Qtr.,* July 18, 9:08 p.m.; *New,* July 26, 5:42 p.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
182	1	Tu.		6:37	8:45	10:30	**11:28**
183	2	We.		6:38	8:45	11:22	
184	3	Th.	● at aphelion (7 pm)	6:38	8:45	**12:15**	12:01
185	4	Fr.		6:38	8:45	**1:08**	12:34
186	5	Sa.	First qtr. ☾ ♂ ☌ ☾	6:39	8:45	**2:03**	1:08
187	6	Su.		6:39	8:45	**2:59**	1:43
188	7	Mo.	♄ ☌ ☾ (9 pm)	6:40	8:45	**3:58**	2:22
189	8	Tu.		6:40	8:44	**4:59**	3:06
190	9	We.		6:41	8:44	**6:01**	3:55
191	10	Th.		6:41	8:44	**7:02**	4:50
192	11	Fr.		6:42	8:44	**8:00**	5:52
193	12	Sa.	Full ☾	6:42	8:43	**8:54**	6:58
194	13	Su.	☾ at perigee (3 am)	6:43	8:43	**9:44**	8:07
195	14	Mo.	☿ stationary (12 am)	6:43	8:43	**10:29**	9:15
196	15	Tu.	♆ ☌ ☾ (12 pm)	6:44	8:42	**11:12**	10:23
197	16	We.		6:45	8:42	**11:52**	11:29
198	17	Th.		6:45	8:42		**12:32**
199	18	Fr.	Last qtr. ☾ ♁ ☌ ☾	6:46	8:41	12:31	**1:34**
200	19	Sa.		6:46	8:41	1:11	**2:33**
201	20	Su.		6:47	8:40	1:52	**3:31**
202	21	Mo.		6:48	8:40	2:35	**4:27**
203	22	Tu.		6:48	8:39	3:20	**5:20**
204	23	We.		6:49	8:39	4:08	**6:10**
205	24	Th.	♀ ☌ ☾ (1 pm)	6:49	8:38	4:57	**6:56**
206	25	Fr.		6:50	8:37	5:48	**7:39**
207	26	Sa.	New ☾	6:51	8:37	6:40	**8:19**
208	27	Su.	☾ at apogee (10 pm)	6:51	8:36	7:33	**8:55**
209	28	Mo.		6:52	8:35	8:25	**9:30**
210	29	Tu.	☿ ☌ Pollux (12 am)	6:52	8:35	9:17	**10:03**
211	30	We.		6:53	8:34	10:09	**10:36**
212	31	Th.		6:54	8:33	11:02	**11:09**

8th Month — August 2014 — 31 Days

Moon's Phases — *First Qtr.,* Aug. 3, 7:50 p.m.; *Full,* Aug. 10, 1:09 p.m.; *Last Qtr.,* Aug. 17, 7:26 a.m.; *New,* Aug. 25, 9:13 a.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
213	1	Fr.		6:54	8:33	11:55	**11:43**
214	2	Sa.		6:55	8:32	**12:50**	
215	3	Su.	First qtr. ☾ ♂ ☌ ☾	6:56	8:31	**1:47**	12:20
216	4	Mo.	♄ ☌ ☾ (6 am)	6:56	8:30	**2:45**	1:00
217	5	Tu.		6:57	8:29	**3:44**	1:45
218	6	We.		6:58	8:28	**4:44**	2:36
219	7	Th.	☿ ☌ Pollux (4 pm)	6:58	8:28	**5:42**	3:33
220	8	Fr.	☿ in superior ☌	6:59	8:27	**6:38**	4:36
221	9	Sa.		6:59	8:26	**7:30**	5:42
222	10	Su.	Full ☾ at perigee	7:00	8:25	**8:19**	6:51
223	11	Mo.	♆ ☌ ☾ (9 pm)	7:01	8:24	**9:04**	8:01
224	12	Tu.		7:01	8:23	**9:46**	9:09
225	13	We.		7:02	8:22	**10:28**	10:16
226	14	Th.		7:03	8:21	**11:09**	11:21
227	15	Fr.		7:03	8:20	**11:51**	**12:23**
228	16	Sa.		7:04	8:19		**1:23**
229	17	Su.	Last qtr. ☾ ♀ ☌ ♃	7:04	8:18	12:34	**2:21**
230	18	Mo.		7:05	8:17	1:19	**3:16**
231	19	Tu.		7:06	8:16	2:06	**4:07**
232	20	We.		7:06	8:15	2:55	**4:54**
233	21	Th.		7:07	8:13	3:45	**5:38**
234	22	Fr.		7:07	8:12	4:37	**6:19**
235	23	Sa.	♃ ☌ ☾ (12 pm)	7:08	8:11	5:29	**6:56**
236	24	Su.	☾ at apogee	7:09	8:10	6:21	**7:32**
237	25	Mo.	New ☾	7:09	8:09	7:13	**8:06**
238	26	Tu.		7:10	8:08	8:05	**8:39**
239	27	We.		7:10	8:07	8:58	**9:12**
240	28	Th.		7:11	8:05	9:51	**9:46**
241	29	Fr.	♆ ☍	7:12	8:04	10:45	**10:21**
242	30	Sa.		7:12	8:03	11:40	**11:00**
243	31	Su.	♄ ☌ ☾ (2 pm)	7:13	8:02	**12:37**	**11:42**

9th Month — September 2014 — 30 Days

Moon's Phases — *First Qtr.,* Sept. 2, 6:11 a.m.; *Full,* Sept. 8, 8:38 p.m.; *Last Qtr.,* Sept. 15, 9:05 p.m.; *New,* Sept. 24, 1:14 a.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
244	1	Mo.	♂ ☌ ☾ (7 pm)	7:13	8:01	**1:34**	
245	2	Tu.	First qtr. ☾	7:14	7:59	**2:32**	12:29
246	3	We.		7:15	7:58	**3:29**	1:22
247	4	Th.		7:15	7:57	**4:24**	2:20
248	5	Fr.		7:16	7:56	**5:17**	3:22
249	6	Sa.		7:16	7:54	**6:06**	4:28
250	7	Su.	☾ at perigee	7:17	7:53	**6:52**	5:37
251	8	Mo.	Full ☾	7:18	7:52	**7:36**	6:45
252	9	Tu.		7:18	7:51	**8:19**	7:53
253	10	We.	♁ ☌ ☾ (9 pm)	7:19	7:49	**9:01**	9:00
254	11	Th.		7:19	7:48	**9:44**	10:06
255	12	Fr.		7:20	7:47	**10:28**	11:09
256	13	Sa.		7:20	7:45	**11:13**	**12:09**
257	14	Su.		7:21	7:44		**1:07**
258	15	Mo.	Last qtr. ☾	7:22	7:43	12:01	**2:00**
259	16	Tu.		7:22	7:42	12:50	**2:50**
260	17	We.		7:23	7:40	1:40	**3:36**
261	18	Th.		7:23	7:39	2:32	**4:17**
262	19	Fr.		7:24	7:38	3:24	**4:56**
263	20	Sa.	☾ at apogee	7:24	7:36	4:16	**5:32**
264	21	Su.	☿ gr. elongation E	7:25	7:35	5:08	**6:07**
265	22	Mo.	**Equinox** (9 pm)	7:26	7:34	6:00	**6:40**
266	23	Tu.		7:26	7:33	6:53	**7:13**
267	24	We.	New ☾	7:27	7:31	7:46	**7:47**
268	25	Th.		7:27	7:30	8:40	**8:23**
269	26	Fr.	☿ ☌ ☾ (5 am)	7:28	7:29	9:36	**9:01**
270	27	Sa.	♄ ☌ ☾ (11 pm)	7:29	7:27	10:32	**9:42**
271	28	Su.		7:29	7:26	11:29	**10:27**
272	29	Mo.		7:30	7:25	**12:26**	**11:17**
273	30	Tu.		7:30	7:24	**1:22**	

Bright stars = Aldebaran, Antares, Spica, Pollux, Regulus. ★ **Minor planets or asteroids =** Ceres, Pallas, Juno, Vesta ★ ☌ = in conjunction by 10º or < ★ ☍ = opposition to ☉

Astronomical Calendar for 2014

10th Month — October 2014 — 31 Days

Moon's Phases — *First Qtr.,* Oct. 1, 2:33 p.m.; *Full,* Oct. 8, 5:51 a.m. *Last Qtr.,* Oct. 15, 2:12 p.m.; *New,* Oct. 23, 4:57 p.m.; *First Qtr.,* Oct. 30, 9:48 p.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
274	1	We.	First qtr. ☾	7:31	7:22	**2:17**	12:12
275	2	Th.		7:32	7:21	**3:08**	1:11
276	3	Fr.		7:32	7:20	**3:57**	2:14
277	4	Sa.	☿ stationary	7:33	7:19	**4:43**	3:18
278	5	Su.	♆ ☌ ☾ (4 pm)	7:34	7:17	**5:26**	4:25
279	6	Mo.	☾ at perigee	7:34	7:16	**6:09**	5:31
280	7	Tu.	♅ ☍	7:35	7:15	**6:51**	6:38
281	8	We.	Full ☾	7:35	7:14	**7:34**	7:44
282	9	Th.		7:36	7:13	**8:18**	8:49
283	10	Fr.		7:37	7:11	**9:03**	9:52
284	11	Sa.		7:37	7:10	**9:51**	10:52
285	12	Su.		7:38	7:09	**10:41**	11:49
286	13	Mo.		7:39	7:08	**11:32**	**12:42**
287	14	Tu.		7:39	7:07		**1:30**
288	15	We.	Last qtr. ☾	7:40	7:06	12:24	**2:14**
289	16	Th.	☿ in inferior ☌	7:41	7:04	1:16	**2:54**
290	17	Fr.	♃ ☌ ☾ (11 pm)	7:42	7:03	2:08	**3:31**
291	18	Sa.	☾ at apogee	7:42	7:02	3:01	**4:06**
292	19	Su.		7:43	7:01	3:53	**4:40**
293	20	Mo.		7:44	7:00	4:45	**5:13**
294	21	Tu.		7:44	6:59	5:38	**5:47**
295	22	We.		7:45	6:58	6:33	**6:22**
296	23	Th.	New ☾	7:46	6:57	7:28	**7:00**
297	24	Fr.		7:47	6:56	8:25	**7:40**
298	25	Sa.	♀ in superior ☌	7:47	6:55	9:23	**8:25**
299	26	Su.		7:48	6:54	10:21	**9:14**
300	27	Mo.		7:49	6:53	11:18	**10:08**
301	28	Tu.		7:50	6:52	**12:13**	**11:05**
302	29	We.		7:50	6:51	**1:05**	
303	30	Th.	First qtr. ☾	7:51	6:50	**1:54**	12:06
304	31	Fr.		7:52	6:50	**2:40**	1:09

11th Month — November 2014 — 30 Days

Moon's Phases — *Full,* Nov. 6, 4:23 p.m.; *Last Qtr.,* Nov. 14, 9:16 a.m.; *New,* Nov. 22, 6:32 a.m.; *First Qtr.,* Nov. 29, 4:06 a.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
305	1	Sa.	♆ ☌ ☾ (11 pm)	7:53	6:49	**3:22**	2:13
306 †	2	Su.	**DST ends;** ☾ perigee	6:54	5:48	**3:04**	2:17
307	3	Mo.	☿ ☌ Spica (12 am)	6:54	5:47	**3:44**	3:21
308	4	Tu.		6:55	5:46	**4:25**	4:26
309	5	We.		6:56	5:45	**5:08**	5:30
310	6	Th.	Full ☾	6:57	5:45	**5:52**	6:33
311	7	Fr.		6:58	5:44	**6:39**	7:35
312	8	Sa.		6:59	5:43	**7:29**	8:34
313	9	Su.		6:59	5:43	**8:20**	9:30
314	10	Mo.		7:00	5:42	**8:13**	10:21
315	11	Tu.		7:01	5:41	**10:06**	11:08
316	12	We.		7:02	5:41	**10:59**	11:50
317	13	Th.		7:03	5:40	**11:51**	**12:29**
318	14	Fr.	Last qtr. ☾ at apogee	7:04	5:40		**1:05**
319	15	Sa.		7:04	5:39	12:44	**1:39**
320	16	Su.	♆ stationary	7:05	5:39	1:36	**2:12**
321	17	Mo.	☿ in inferior ☌	7:06	5:38	2:28	**2:45**
322	18	Tu.	♄ ☌ ☉	7:07	5:38	3:22	**3:19**
323	19	We.		7:08	5:37	4:17	**3:56**
324	20	Th.		7:09	5:37	5:13	**4:35**
325	21	Fr.		7:10	5:37	6:11	**5:19**
326	22	Sa.	New ☾	7:10	5:36	7:11	**6:07**
327	23	Su.		7:11	5:36	8:10	**7:00**
328	24	Mo.		7:12	5:36	9:07	**7:58**
329	25	Tu.		7:13	5:35	10:02	**8:59**
330	26	We.	♂ ☌ ☾ (4 am)	7:14	5:35	10:53	**10:02**
331	27	Th.	☾ at perigee	7:15	5:35	11:40	**11:06**
332	28	Fr.		7:16	5:35	**12:23**	
333	29	Sa.	First qtr. ☾ ♆ ☌ ☾	7:16	5:35	**1:04**	12:10
334	30	Su.		7:17	5:35	**1:44**	1:13

† Daylight Saving Time ends at 2 a.m.

12th Month — December 2014 — 31 Days

Moon's Phases — *Full,* Dec. 6, 6:27 a.m.; *Last Qtr.,* Dec. 14, 6:51 a.m.; *New,* Dec. 21, 7:36 p.m.; *First Qtr.,* Dec. 28, 12:31 p.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
335	1	Mo.	♅ ☌ ☾ (6 pm)	7:18	5:35	**2:23**	2:16
336	2	Tu.		7:19	5:35	**3:04**	3:18
337	3	We.		7:20	5:35	**3:46**	4:20
338	4	Th.		7:20	5:35	**4:31**	5:21
339	5	Fr.		7:21	5:35	**5:19**	6:21
340	6	Sa.	Full ☾	7:22	5:35	**6:09**	7:18
341	7	Su.		7:23	5:35	**7:01**	8:11
342	8	Mo.	☿ in superior ☌	7:23	5:35	**7:54**	9:00
343	9	Tu.	♃ stationary	7:24	5:35	**8:48**	9:45
344	10	We.		7:25	5:35	**9:41**	10:25
345	11	Th.	Ceres ☌ ☉ ♃ ☌ ☾	7:26	5:36	**10:34**	11:03
346	12	Fr.	☾ at apogee	7:26	5:36	**11:26**	11:38
347	13	Sa.		7:27	5:36		**12:11**
348	14	Su.	Last qtr. ☾	7:28	5:36	12:18	**12:44**
349	15	Mo.		7:28	5:37	1:10	**1:17**
350	16	Tu.		7:29	5:37	2:04	**1:52**
351	17	We.		7:29	5:37	2:59	**2:29**
352	18	Th.		7:30	5:38	3:56	**3:10**
353	19	Fr.	♄ ☌ ☾	7:31	5:38	4:54	**3:55**
354	20	Sa.		7:31	5:39	5:54	**4:47**
355	21	Su.	**Solstice;** New ☾	7:32	5:39	6:54	**5:43**
356	22	Mo.	♅ stationary	7:32	5:40	7:51	**6:45**
357	23	Tu.		7:33	5:40	8:46	**7:50**
358	24	We.	☾ at perigee	7:33	5:41	9:36	**8:56**
359	25	Th.	♀ ☌ ☾	7:34	5:41	10:22	**10:02**
360	26	Fr.	♆ ☌ ☾	7:34	5:42	11:05	**11:06**
361	27	Sa.		7:34	5:43	11:46	
362	28	Su.	First qtr. ☾ ♅ ☌ ☾	7:35	5:43	**12:25**	12:10
363	29	Mo.		7:35	5:44	**1:05**	1:12
364	30	Tu.		7:35	5:45	**1:46**	2:13
365	31	We.		7:36	5:45	**2:29**	3:14

☉ The Sun ● The Earth ☾ The Moon ☿ Mercury ♀ Venus ♂ Mars ♃ Jupiter ♄ Saturn ♆ Uranus ♅ Uranus ♇ Pluto ☌ = in conjunction ☍ = opposition to the ☉

2015

Times are **Central Standard Time,** except from March 8 to Nov. 1, during which **Daylight Saving Time** is observed. **Boldface times for moonrise and moonset indicate p.m.** Times are figured for the point **99° 20' West and 31° 08' North,** the approximate geographical center of the state. **See page 165 for explanation of how to get the approximate time at any other Texas point.** (On the web: http://www.usno.navy.mil/astronomy) Please note: Not all eclipses are visible in United States. For visibility, see listing beginning on **page 165.**

1st Month — January 2015 — 31 Days

Moon's Phases — *Full,* Jan. 4, 10:53 p.m.; *Last Qtr.,* Jan. 13, 3:46 a.m.; *New,* Jan. 20, 7:14 a.m.; *First Qtr.,* Jan. 26, 10:48 p.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moonrise	Hour of Moonset
1	1	Th.		7:36	5:46	**3:14**	4:13
2	2	Fr.		7:36	5:47	**4:02**	5:10
3	3	Sa.	♇ ☌ ☉	7:36	5:48	**4:53**	6:03
4	4	Su.	Full ☾ ● at perihelion	7:36	5:48	**5:45**	6:54
5	5	Mo.		7:37	5:49	**6:39**	7:40
6	6	Tu.		7:37	5:50	**7:32**	8:22
7	7	We.		7:37	5:51	**8:25**	9:01
8	8	Th.	♃ ☌ ☾	7:37	5:51	**9:18**	9:37
9	9	Fr.	☾ at apogee	7:37	5:52	**10:09**	10:11
10	10	Sa.		7:37	5:53	**11:01**	10:44
11	11	Su.		7:37	5:54	**11:54**	11:17
12	12	Mo.		7:37	5:55		11:50
13	13	Tu.	Last qtr. ☾	7:37	5:56	12:47	**12:25**
14	14	We.	☿ gr. elongation E	7:36	5:56	1:41	**1:03**
15	15	Th.		7:36	5:57	2:38	**1:45**
16	16	Fr.	♄ ☌ ☾ (6 am)	7:36	5:58	3:36	**2:33**
17	17	Sa.		7:36	5:59	4:35	**3:26**
18	18	Su.		7:36	6:00	5:33	**4:25**
19	19	Mo.		7:35	6:01	6:30	**5:28**
20	20	Tu.	New ☾	7:35	6:02	7:24	**6:35**
21	21	We.	☾ at perigee ♀ ☌ ☾	7:35	6:03	8:13	**7:44**
22	22	Th.	♆ ☌ ☾ ♂ ☌ ☾	7:34	6:04	9:00	**8:52**
23	23	Fr.		7:34	6:04	9:43	**9:58**
24	24	Sa.		7:34	6:05	10:24	**11:03**
25	25	Su.	♁ ☌ ☾	7:33	6:06	11:05	
26	26	Mo.	First qtr. ☾	7:33	6:07	11:47	12:06
27	27	Tu.		7:32	6:08	**12:29**	1:08
28	28	We.		7:32	6:09	**1:14**	2:07
29	29	Th.		7:31	6:10	**2:00**	3:05
30	30	Fr.	☿ in inferior ☌	7:31	6:11	**2:50**	3:59
31	31	Sa.		7:30	6:12	**3:41**	4:50

2nd Month — February 2015 — 28 Days

Moon's Phases — *Full,* Feb. 3, 5:09 p.m.; *Last Qtr.,* Feb. 11, 9:50 p.m.; *New,* Feb. 18, 5:47 p.m.; *First Qtr.,* Feb. 25, 11:14 a.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moonrise	Hour of Moonset
32	1	Su.	♀ ☌ ♆ (5 am)	7:30	6:13	**4:33**	5:37
33	2	Mo.		7:29	6:13	**5:26**	6:20
34	3	Tu.	Full ☾	7:28	6:14	**6:19**	7:00
35	4	We.	♃ ☌ ☾	7:28	6:15	**7:11**	7:37
36	5	Th.		7:27	6:16	**8:03**	8:12
37	6	Fr.	☾ at apogee ♃ ☍	7:26	6:17	**8:55**	8:46
38	7	Sa.		7:25	6:18	**9:47**	9:18
39	8	Su.	☿ ☌ ♂ (3 pm)	7:25	6:19	**10:39**	9:51
40	9	Mo.		7:24	6:20	**11:33**	10:25
41	10	Tu.		7:23	6:20		11:01
42	11	We.	Last qtr. ☾	7:22	6:21	12:27	11:41
43	12	Th.	♄ ☌ ☾	7:21	6:22	1:22	**12:24**
44	13	Fr.		7:20	6:23	2:19	**1:12**
45	14	Sa.		7:20	6:24	3:16	**2:07**
46	15	Su.		7:19	6:25	4:12	**3:06**
47	16	Mo.		7:18	6:25	5:07	**4:11**
48	17	Tu.	☿ ☌ ☾	7:17	6:26	5:58	**5:18**
49	18	We.	New ☾	7:16	6:27	6:47	**6:27**
50	19	Th.	☾ at perigee	7:15	6:28	7:33	**7:36**
51	20	Fr.	♂ ☌ ☾ ♀ ☌ ☾	7:14	6:29	8:17	**8:44**
52	21	Sa.	♀ ☌ ♂ ♁ ☌ ☾	7:13	6:29	9:00	**9:51**
53	22	Su.		7:12	6:30	9:42	**10:56**
54	23	Mo.		7:11	6:31	10:26	**11:58**
55	24	Tu.	☿ gr. elongation W	7:10	6:32	11:11	
56	25	We.	First qtr. ☾	7:09	6:33	11:58	12:58
57	26	Th.		7:08	6:33	**12:47**	1:54
58	27	Fr.		7:06	6:34	**1:38**	2:47
59	28	Sa.		7:05	6:35	**2:29**	3:35

† Daylight Saving Time begins at 2 a.m.

3rd Month — March 2015 — 31 Days

Moon's Phases — *Full,* March 5, 12:05 p.m.; *Last Qtr.,* March 13, 12:48 p.m.; *New,* March 20, 4:36 a.m; *First Qtr.,* March 27, 2:43 a.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moonrise	Hour of Moonset
60	1	Su.		7:04	6:36	**3:22**	4:19
61	2	Mo.		7:03	6:36	**4:14**	5:00
62	3	Tu.	♃ ☌ ☾ (2 am)	7:02	6:37	**5:06**	5:38
63	4	We.		7:01	6:38	**5:58**	6:13
64	5	Th.	Full ☾ at apogee	7:00	6:38	**6:50**	6:47
65	6	Fr.	☾ at perigee	6:58	6:39	**7:42**	7:20
66	7	Sa.		6:57	6:40	**8:35**	7:53
67	† 8	Su.	**DST begins**	7:56	7:41	**10:27**	9:27
68	9	Mo.		7:55	7:41	**11:21**	10:02
69	10	Tu.		7:54	7:42		10:40
70	11	We.		7:52	7:43	12:16	11:21
71	12	Th.	♄ ☌ ☾	7:51	7:43	1:11	**12:07**
72	13	Fr.	Last qtr. ☾	7:50	7:44	2:06	**12:57**
73	14	Sa.		7:49	7:45	3:01	**1:52**
74	15	Su.		7:48	7:45	3:54	**2:52**
75	16	Mo.		7:46	7:46	4:45	**3:56**
76	17	Tu.	♃ ☌ ☾	7:45	7:47	5:33	**5:02**
77	18	We.	♆ ☌ ☾	7:44	7:47	6:20	**6:10**
78	19	Th.	☿ ☌ ☾ ☾ at perigee	7:43	7:48	7:04	**7:19**
79	20	Fr.	**Equinox;** New ☾	7:41	7:49	7:48	**8:27**
80	21	Sa.	♂ ☌ ☾	7:40	7:49	8:32	**9:35**
81	22	Su.	♀ ☌ ☾	7:39	7:50	9:17	**10:41**
82	23	Mo.		7:38	7:51	10:03	**11:44**
83	24	Tu.		7:36	7:51	10:51	
84	25	We.		7:35	7:52	11:40	12:44
85	26	Th.		7:34	7:53	**12:32**	1:39
86	27	Fr.	First qtr. ☾	7:33	7:53	**1:24**	2:30
87	28	Sa.		7:31	7:54	**2:17**	3:17
88	29	Su.		7:30	7:55	**3:09**	3:59
89	30	Mo.	♃ ☌ ☾	7:29	7:55	**4:02**	4:38
90	31	Tu.		7:28	7:56	**4:54**	5:14

Astronomical Calendar for 2015

4th Month April 2015 30 Days

Moon's Phases — *Full,* April 4, 7:06 a.m.; *Last Qtr.,* April 11, 10:44 p.m.; *New,* April 18, 1:57 p.m.; *First Qtr.,* April 25, 6:55 p.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
91	1	We.	☾ at apogee	7:26	7:56	**5:45**	5:48
92	2	Th.		7:25	7:57	**6:37**	6:22
93	3	Fr.		7:24	7:58	**7:30**	6:55
94	4	Sa.	Full ☾	7:23	7:58	**8:23**	7:28
95	5	Su.		7:21	7:59	**9:16**	8:03
96	6	Mo.	♅ ☌ ☉	7:20	8:00	**10:11**	8:41
97	7	Tu.		7:19	8:00	**11:06**	9:21
98	8	We.	♄ ☌ ☾	7:18	8:01		10:05
99	9	Th.	☿ in superior ☌	7:17	8:02	12:01	10:53
100	10	Fr.		7:15	8:02	12:55	11:46
101	11	Sa.	Last qtr. ☾	7:14	8:03	1:48	**12:43**
102	12	Su.		7:13	8:04	2:38	**1:43**
103	13	Mo.		7:12	8:04	3:26	**2:46**
104	14	Tu.		7:11	8:05	4:11	**3:51**
105	15	We.	♆ ☌ ☾	7:10	8:06	4:55	**4:57**
106	16	Th.	☾ at perigee	7:08	8:06	5:38	**6:04**
107	17	Fr.		7:07	8:07	6:21	**7:11**
108	18	Sa.	New ☾	7:06	8:08	7:05	**8:18**
109	19	Su.		7:05	8:08	7:50	**9:24**
110	20	Mo.		7:04	8:09	8:38	**10:27**
111	21	Tu.	♀ ☌ ☾	7:03	8:10	9:28	**11:26**
112	22	We.		7:02	8:10	10:20	
113	23	Th.		7:01	8:11	11:14	12:21
114	24	Fr.		7:00	8:12	**12:08**	1:11
115	25	Sa.	First qtr. ☾	6:59	8:12	**1:02**	1:56
116	26	Su.	Juno ☌ ☾ (2 am)	6:58	8:13	**1:55**	2:36
117	27	Mo.		6:57	8:14	**2:47**	3:14
118	28	Tu.	☾ at apogee	6:56	8:14	**3:39**	3:49
119	29	We.		6:55	8:15	**4:31**	4:22
120	30	Th.		6:54	8:16	**5:23**	4:55

5th Month May 2015 31 Days

Moon's Phases — *Full,* May 3, 10:42 p.m. *Last Qtr.,* May 11, 5:36 a.m.; *New,* May 17, 11:13 p.m.; *First Qtr.,* May 25, 12:19 p.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
121	1	Fr.		6:53	8:16	**6:16**	5:28
122	2	Sa.		6:52	8:17	**7:10**	6:03
123	3	Su.	Full ☾	6:51	8:18	**8:05**	6:40
124	4	Mo.		6:50	8:18	**9:00**	7:19
125	5	Tu.	♄ ☌ ☾	6:49	8:19	**9:56**	8:02
126	6	We.		6:49	8:20	**10:52**	8:50
127	7	Th.	☿ gr. elongation E	6:48	8:20	**11:45**	9:42
128	8	Fr.		6:47	8:21		10:38
129	9	Sa.		6:46	8:22	12:36	11:37
130	10	Su.		6:45	8:22	1:24	**12:38**
131	11	Mo.	Last qtr. ☾	6:45	8:23	2:10	**1:41**
132	12	Tu.	♆ ☌ ☾	6:44	8:24	2:52	**2:45**
133	13	We.		6:43	8:24	3:34	**3:49**
134	14	Th.	☾ at perigee	6:43	8:25	4:15	**4:54**
135	15	Fr.	♅ ☌ ☾	6:42	8:26	4:57	**5:59**
136	16	Sa.		6:41	8:26	5:40	**7:04**
137	17	Su.	New ☾	6:41	8:27	6:26	**8:08**
138	18	Mo.		6:40	8:28	7:15	**9:10**
139	19	Tu.	☿ ☌ ☾ (2 am)	6:39	8:28	8:06	**10:08**
140	20	We.		6:39	8:29	9:00	**11:01**
141	21	Th.	♀ ☌ ☾	6:38	8:30	9:55	**1:49**
142	22	Fr.	♄ ☍	6:38	8:30	10:50	
143	23	Sa.		6:37	8:31	11:45	12:32
144	24	Su.	♃ ☌ ☾	6:37	8:32	**12:38**	1:12
145	25	Mo.	First qtr. ☾	6:37	8:32	**1:31**	1:48
146	26	Tu.	☾ at apogee	6:36	8:33	**2:23**	2:22
147	27	We.		6:36	8:34	**3:15**	2:55
148	28	Th.		6:35	8:34	**4:07**	3:28
149	29	Fr.		6:35	8:35	**5:00**	4:02
150	30	Sa.	☿ in inferior ☌	6:35	8:35	**5:55**	4:37
151	31	Su.		6:34	8:36	**6:51**	5:15

6th Month June 2015 30 Days

Moon's Phases — *Full,* June 2, 11:19 a.m.; *Last Qtr.,* June 9, 10:42 a.m.; *New,* June 16, 9:05 a.m.; *First Qtr.,* June 24, 6:03 a.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
152	1	Mo.	♄ ☌ ☾	6:34	8:36	**7:48**	5:57
153	2	Tu.	Full ☾	6:34	8:37	**8:44**	6:44
154	3	We.		6:34	8:37	**9:40**	7:35
155	4	Th.		6:34	8:38	**10:33**	8:30
156	5	Fr.		6:33	8:38	**11:23**	9:30
157	6	Sa.	♀ gr. elongation E	6:33	8:39		10:31
158	7	Su.		6:33	8:39	12:10	11:34
159	8	Mo.		6:33	8:40	12:53	**12:38**
160	9	Tu.	Last qtr. ☾	6:33	8:40	1:35	**1:41**
161	10	We.	☾ at perigee	6:33	8:41	2:15	**2:45**
162	11	Th.	☿ stationary	6:33	8:41	2:55	**3:48**
163	12	Fr.	♆ stationary	6:33	8:42	3:37	**4:51**
164	13	Sa.		6:33	8:42	4:20	**5:54**
165	14	Su.	♂ ☌ ☉ ☿ ☌ ☾	6:33	8:42	5:06	**6:56**
166	15	Mo.		6:33	8:43	5:56	**7:55**
167	16	Tu.	New ☾	6:33	8:43	6:48	**8:50**
168	17	We.		6:33	8:43	7:42	**9:41**
169	18	Th.		6:33	8:44	8:38	**10:27**
170	19	Fr.		6:34	8:44	9:33	**11:08**
171	20	Sa.	♃ ☌ ☾	6:34	8:44	10:28	**11:46**
172	21	Su.	**Solstice**	6:34	8:44	11:21	
173	22	Mo.		6:34	8:44	**12:14**	12:21
174	23	Tu.	☾ at apogee	6:34	8:45	**1:06**	12:55
175	24	We.	First qtr. ☾	6:35	8:45	**1:58**	1:28
176	25	Th.		6:35	8:45	**2:50**	2:01
177	26	Fr.		6:35	8:45	**3:44**	2:35
178	27	Sa.		6:36	8:45	**4:38**	3:11
179	28	Su.	♄ ☌ ☾ (8 pm)	6:36	8:45	**5:35**	3:51
180	29	Mo.		6:36	8:45	**6:32**	4:35
181	30	Tu.		6:37	8:45	**7:28**	5:24

☉ The Sun ● The Earth ☾ The Moon ☿ Mercury ♀ Venus ♂ Mars ♃ Jupiter ♄ Saturn ♆ Uranus ♅ Uranus ♇ Pluto ☌ = in conjunction ☍ = opposition to the ☉

Astronomical Calendar for 2015

7th Month — July 2015 — 31 Days

Moon's Phases — *Full,* July 1, 9:20 p.m.; *Last Qtr.,* July 8, 3:24 p.m.; *New,* July 15, 8:24 p.m.; *First Qtr.,* July 23, 11:04 p.m.; *Full,* July 31, 5:43 a.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
182	1	We.	Full ☾	6:37	8:45	**8:24**	6:19
183	2	Th.		6:37	8:45	**9:17**	7:17
184	3	Fr.		6:38	8:45	**10:06**	8:20
185	4	Sa.		6:38	8:45	**10:52**	9:24
186	5	Su.	☾ at perigee	6:39	8:45	**11:35**	10:29
187	6	Mo.	● at aphelion ♆ ☌ ☾	6:39	8:45		11:34
188	7	Tu.		6:40	8:45	12:17	**12:38**
189	8	We.	Last qtr. ☾ ⛢ ☌ ☾	6:40	8:44	12:57	**1:42**
190	9	Th.		6:41	8:44	1:38	**2:44**
191	10	Fr.		6:41	8:44	2:20	**3:47**
192	11	Sa.		6:42	8:44	3:04	**4:47**
193	12	Su.		6:42	8:43	3:51	**5:46**
194	13	Mo.		6:43	8:43	4:41	**6:42**
195	14	Tu.		6:43	8:43	5:34	**7:34**
196	15	We.	New ☾	6:44	8:42	6:28	**8:21**
197	16	Th.		6:44	8:42	7:23	**9:05**
198	17	Fr.		6:45	8:42	8:18	**9:44**
199	18	Sa.	♃ ☌ ☾ ♀ ☌ ☾	6:46	8:41	9:12	**10:21**
200	19	Su.		6:46	8:41	10:05	**10:55**
201	20	Mo.		6:47	8:40	10:57	**11:28**
202	21	Tu.	☾ at apogee	6:47	8:40	11:49	
203	22	We.		6:48	8:39	**12:41**	12:01
204	23	Th.	First qtr. ☾	6:49	8:39	**1:33**	12:34
205	24	Fr.		6:49	8:38	**2:27**	1:09
206	25	Sa.		6:50	8:38	**3:21**	1:47
207	26	Su.	♄ ☌ ☾	6:50	8:37	**4:17**	2:28
208	27	Mo.		6:51	8:36	**5:13**	3:14
209	28	Tu.		6:52	8:36	**6:09**	4:05
210	29	We.		6:52	8:35	**7:04**	5:01
211	30	Th.		6:53	8:34	**7:56**	6:02
212	31	Fr.	Full ☾	6:54	8:33	**8:45**	7:07

8th Month — August 2015 — 31 Days

Moon's Phases — *Last Qtr.,* Aug. 6, 9:03 p.m.; *New,* Aug. 14, 9:53 a.m.; *First Qtr.,* Aug. 22, 2:31 p.m.; *Full,* Aug. 29, 1:35 p.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
213	1	Sa.		6:54	8:33	**9:31**	8:13
214	2	Su.	☾ at perigee	6:55	8:32	**10:14**	9:20
215	3	Mo.		6:55	8:31	**10:56**	10:27
216	4	Tu.		6:56	8:30	**11:38**	11:33
217	5	We.	☿ ☌ ☾ ⛢ ☌ ☾	6:57	8:29		**12:37**
218	6	Th.	Last qtr. ☾ ☿ ☌ ♃	6:57	8:29	12:20	**1:40**
219	7	Fr.		6:58	8:28	1:04	**2:42**
220	8	Sa.		6:59	8:27	1:50	**3:41**
221	9	Su.		6:59	8:26	2:39	**4:37**
222	10	Mo.		7:00	8:25	3:30	**5:30**
223	11	Tu.		7:01	8:24	4:22	**6:18**
224	12	We.		7:01	8:23	5:16	**7:02**
225	13	Th.	♀ ☌ ☾	7:02	8:22	6:11	**7:43**
226	14	Fr.	New ☾	7:02	8:21	7:05	**8:20**
227	15	Sa.	♀ in inferior ☌	7:03	8:20	7:58	**8:55**
228	16	Su.		7:04	8:19	8:50	**9:29**
229	17	Mo.	☾ at apogee	7:04	8:18	9:42	**10:02**
230	18	Tu.		7:05	8:17	10:34	**10:35**
231	19	We.		7:06	8:16	11:26	**11:09**
232	20	Th.		7:06	8:15	**12:18**	**11:45**
233	21	Fr.		7:07	8:14	**1:12**	
234	22	Sa.	First qtr. ☾ ♄ ☌ ☾	7:07	8:13	**2:06**	12:23
235	23	Su.		7:08	8:11	**3:00**	1:06
236	24	Mo.		7:09	8:10	**3:55**	1:53
237	25	Tu.		7:09	8:09	**4:49**	2:46
238	26	We.	♃ ☌ ☉	7:10	8:08	**5:42**	3:43
239	27	Th.		7:10	8:07	**6:32**	4:46
240	28	Fr.		7:11	8:06	**7:20**	5:51
241	29	Sa.	Full ☾; ♀ ☌ ♂; ♆ ☌ ☾	7:12	8:05	**8:05**	6:59
242	30	Su.	☾ at perigee	7:12	8:03	**8:49**	8:07
243	31	Mo.		7:13	8:02	**9:32**	9:15

9th Month — September 2015 — 30 Days

Moon's Phases — *Last Qtr.,* Sept. 5, 4:54 a.m.; *New,* Sept. 13, 1:41 a.m.; *First Qtr.,* Sept. 21, 3:59 a.m.; *Full,* Sept. 27, 9:50 p.m.

Day of Year	Month	Week	Planetary Configurations and Phenomena	Hour of Sunrise	Sunset	Moon-rise	Moon-set
244	1	Tu.	⛢ ☌ ☾	7:13	8:01	**10:16**	10:23
245	2	We.		7:14	8:00	**11:01**	11:29
246	3	Th.		7:14	7:58	**11:47**	**12:33**
247	4	Fr.	☿ gr. elongation E	7:15	7:57		**1:34**
248	5	Sa.	Last qtr. ☾	7:16	7:56	12:36	**2:32**
249	6	Su.		7:16	7:55	1:27	**3:26**
250	7	Mo.		7:17	7:53	2:19	**4:16**
251	8	Tu.		7:17	7:52	3:13	**5:01**
252	9	We.		7:18	7:51	4:06	**5:43**
253	10	Th.	♀ ☌ ☾ (1am) ♂ ☌ ☾ (6pm)	7:19	7:50	5:00	**6:21**
254	11	Fr.		7:19	7:48	5:53	**6:56**
255	12	Sa.		7:20	7:47	6:45	**7:30**
256	13	Su.	New ☾	7:20	7:46	7:37	**8:03**
257	14	Mo.	☾ at apogee	7:21	7:44	8:29	**8:36**
258	15	Tu.	☿ ☌ ☾	7:21	7:43	9:21	**9:10**
259	16	We.		7:22	7:42	10:13	**9:45**
260	17	Th.		7:23	7:41	11:06	**10:22**
261	18	Fr.	♄ ☌ ☾	7:23	7:39	11:59	**11:03**
262	19	Sa.		7:24	7:38	**12:52**	**11:47**
263	20	Su.		7:24	7:37	**1:45**	
264	21	Mo.	First qtr. ☾	7:25	7:35	**2:38**	12:36
265	22	Tu.		7:25	7:34	**3:30**	1:30
266	23	We.	**Equinox**	7:26	7:33	**4:19**	2:28
267	24	Th.		7:27	7:32	**5:07**	3:30
268	25	Fr.		7:27	7:30	**5:53**	4:35
269	26	Sa.	♆ ☌ ☾	7:28	7:29	**6:37**	5:42
270	27	Su.	Full ☾ at perigee	7:28	7:28	**7:21**	6:51
271	28	Mo.	⛢ ☌ ☾	7:29	7:26	**8:06**	7:59
272	29	Tu.		7:30	7:25	**8:51**	9:08
273	30	We.	☿ in inferior ☌	7:30	7:24	**9:39**	10:15

Bright stars = Aldebaran, Antares, Spica, Pollux, Regulus. ★ **Minor planets or asteroids =** Ceres, Pallas, Juno, Vesta ★ ☌ = in conjunction by 10º or < ★ ☍ = opposition to ☉

Astronomical Calendar for 2015

10th Month October 2015 31 Days

Moon's Phases — *Last Qtr.,* Oct. 4, 4:06 p.m.; *New,* Oct. 12, 7:06 p.m.; *First Qtr.,* Oct. 20, 3:31 p.m.; *Full,* Oct. 27, 7:05 a.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moon-rise	Hour of Moon-set
274	1	Th.		7:31	7:23	**10:28**	11:21
275	2	Fr.		7:31	7:21	**11:20**	**12:22**
276	3	Sa.		7:32	7:20		**1:20**
277	4	Su.	Last qtr. ☾	7:33	7:19	12:13	**2:12**
278	5	Mo.		7:33	7:18	1:07	**2:59**
279	6	Tu.		7:34	7:16	2:02	**3:42**
280	7	We.		7:35	7:15	2:55	**4:21**
281	8	Th.	♀ ☌ ☾	7:35	7:14	3:49	**4:58**
282	9	Fr.	☿ ☌ ☾	7:36	7:13	4:41	**5:32**
283	10	Sa.		7:37	7:12	5:33	**6:05**
284	11	Su.	☾ at apogee; ♅ ☍	7:37	7:10	6:25	**6:38**
285	12	Mo.	New ☾	7:38	7:09	7:17	**7:11**
286	13	Tu.		7:39	7:08	8:09	**7:46**
287	14	We.		7:39	7:07	9:01	**8:23**
288	15	Th.	☿ gr. elongation W	7:40	7:06	9:55	**9:02**
289	16	Fr.	♄ ☌ ☾	7:41	7:05	10:48	**9:45**
290	17	Sa.	♂ ☌ ♃	7:41	7:04	11:41	**10:32**
291	18	Su.		7:42	7:03	**12:33**	**11:23**
292	19	Mo.		7:43	7:01	**1:24**	
293	20	Tu.	First qtr. ☾	7:43	7:00	**2:13**	12:18
294	21	We.		7:44	6:59	**2:59**	1:17
295	22	Th.		7:45	6:58	**3:44**	2:18
296	23	Fr.	♆ ☌ ☾	7:46	6:57	**4:27**	3:22
297	24	Sa.		7:46	6:56	**5:10**	4:28
298	25	Su.		7:47	6:55	**5:54**	5:35
299	26	Mo.	☾ at perigee; ♀ ☌ ♃	7:48	6:54	**6:38**	6:43
300	27	Tu.	Full ☾	7:49	6:53	**7:25**	7:51
301	28	We.		7:49	6:52	**8:14**	8:59
302	29	Th.	Aldebarean ☌ ☾	7:50	6:51	**9:07**	10:04
303	30	Fr.		7:51	6:51	**10:01**	11:06
304	31	Sa.		7:52	6:50	**10:57**	**12:02**

11th Month November 2015 30 Days

Moon's Phases — *Last Qtr.,* Nov. 3, 6:24 a.m.; *New,* Nov. 11, 11:47 a.m.; *First Qtr.,* Nov. 19, 12:27 a.m.; *Full,* Nov. 25, 4:44 p.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moon-rise	Hour of Moon-set
305	† 1	Su.	**DST ends**	6:53	5:49	**10:53**	11:54
306	2	Mo.		6:53	5:48	**11:48**	**12:39**
307	3	Tu.	Last qtr. ☾	6:54	5:47		**1:21**
308	4	We.		6:55	5:46	12:42	**1:58**
309	5	Th.		6:56	5:46	1:35	**2:33**
310	6	Fr.	♃ ☌ ☾	6:57	5:45	2:28	**3:07**
311	7	Sa.	☾ at apogee; ♂ ☌ ☾	6:57	5:44	3:19	**3:39**
312	8	Su.		6:58	5:43	4:11	**4:12**
313	9	Mo.		6:59	5:43	5:03	**4:47**
314	10	Tu.		7:00	5:42	5:56	**5:23**
315	11	We.	New ☾	7:01	5:42	6:49	**6:01**
316	12	Th.	♄ ☌ ☾	7:02	5:41	7:43	**6:44**
317	13	Fr.		7:03	5:40	8:37	**7:30**
318	14	Sa.		7:03	5:40	9:30	**8:20**
319	15	Su.		7:04	5:39	10:22	**9:13**
320	16	Mo.		7:05	5:39	11:11	**10:10**
321	17	Tu.	☿ in superior ☌	7:06	5:38	11:58	**11:10**
322	18	We.	♆ stationary	7:07	5:38	**12:42**	
323	19	Th.	First qtr. ☾ ♆ ☌ ☾	7:08	5:37	**1:24**	12:11
324	20	Fr.		7:09	5:37	**2:05**	1:14
325	21	Sa.		7:09	5:37	**2:46**	2:17
326	22	Su.	♅ ☌ ☾	7:10	5:36	**3:29**	3:23
327	23	Mo.	☾ at perigee	7:11	5:36	**4:13**	4:29
328	24	Tu.		7:12	5:36	**5:00**	5:36
329	25	We.	Full ☾	7:13	5:36	**5:50**	6:42
330	26	Th.	Aldebarean ☌ ☾	7:14	5:35	**6:44**	7:46
331	27	Fr.		7:15	5:35	**7:40**	8:47
332	28	Sa.		7:15	5:35	**8:38**	9:42
333	29	Su.	♄ ☌ ☉	7:16	5:35	**9:35**	10:32
334	30	Mo.		7:17	5:35	**10:31**	11:16

† *Daylight Saving Time ends at 2 a.m.*

12th Month December 2015 31 Days

Moon's Phases — *Last Qtr.,* Dec. 3, 1:40 a.m.; *New,* Dec. 11, 4:29 a.m.; *First Qtr.,* Dec. 18, 9:14 a.m.; *Full,* Dec. 25, 5:11 a.m.

Day of Year	Day of Month	Day of Week	Planetary Configurations and Phenomena	Hour of Sunrise	Hour of Sunset	Hour of Moon-rise	Hour of Moon-set
335	1	Tu.		7:18	5:35	**11:26**	11:56
336	2	We.		7:19	5:35		**12:33**
337	3	Th.	Last qtr. ☾	7:19	5:35	12:20	**1:07**
338	4	Fr.	♃ ☌ ☾	7:20	5:35	1:12	**1:40**
339	5	Sa.	☾ at apogee; ♂ ☌ ☾	7:21	5:35	2:04	**2:13**
340	6	Su.		7:22	5:35	2:56	**2:46**
341	7	Mo.	♀ ☌ ☾	7:23	5:35	3:48	**3:21**
342	8	Tu.		7:23	5:35	4:41	**3:59**
343	9	We.		7:24	5:35	5:35	**4:40**
344	10	Th.		7:25	5:35	6:30	**5:25**
345	11	Fr.	New ☾	7:25	5:36	7:24	**6:14**
346	12	Sa.		7:26	5:36	8:18	**7:07**
347	13	Su.		7:27	5:36	9:09	**8:04**
348	14	Mo.		7:28	5:36	9:57	**9:04**
349	15	Tu.		7:28	5:37	10:43	**10:05**
350	16	We.		7:29	5:37	11:25	**11:07**
351	17	Th.	♆ ☌ ☾	7:29	5:37	**12:06**	
352	18	Fr.	First qtr. ☾	7:30	5:38	**12:46**	12:09
353	19	Sa.	♅ ☌ ☾	7:31	5:38	**1:26**	1:12
354	20	Su.		7:31	5:39	**2:08**	2:16
355	21	Mo.	**Solstice;** ☾ at perigee	7:32	5:39	**2:52**	3:20
356	22	Tu.		7:32	5:40	**3:39**	4:25
357	23	We.	Aldebarean ☌ ☾	7:33	5:40	**4:30**	5:28
358	24	Th.		7:33	5:41	**5:24**	6:30
359	25	Fr.	Full ☾	7:33	5:41	**6:21**	7:27
360	26	Sa.	♅ stationary	7:34	5:42	**7:19**	8:20
361	27	Su.		7:34	5:43	**8:17**	9:08
362	28	Mo.	☿ gr. elongation E	7:35	5:43	**9:13**	9:51
363	29	Tu.		7:35	5:44	**10:08**	10:30
364	30	We.		7:35	5:45	**11:02**	11:06
365	31	Th.	♃ ☌ ☾	7:36	5:45	**11:54**	11:40

☉ The Sun ● The Earth ☾ The Moon ☿ Mercury ♀ Venus ♂ Mars ♃ Jupiter ♄ Saturn ♆ Uranus ♅ Uranus ♇ Pluto ☌ = in conjunction ☍ = opposition to the ☉