A YEAR OF BIRTHDAYS ON OTHER WORLDS

Birthdays Across the Solar System

Ada born May 20, 2015

Leo born Jun 3, 2019

Priya born Sep 14, 1986

Grandma Rosa born Feb 20, 1968



January 2027 – December 2027

137 birthdays in 12 months



JANUARY 2027

The planet Saturn. Observed on November 30, 1874, at 5h. 50m. P.M.
Étienne Léopold Trouvelot (1881), New York Public Library

Saturn's rings, drawn in finer detail than any camera of the 1870s could record. The bright rings are about 170,000 miles across, yet typically only about 30 feet thick: countless pieces of water ice, from grains to boulders. Trouvelot shows the dark Cassini Division between the gray outer ring and the bright one, a fine dark line splitting the outer ring itself, and the planet's shadow falling across the rings at lower right. Inside lies the dim, see-through "crepe ring," discovered at Harvard in 1850; Trouvelot joined Harvard's observatory in 1872 and studied the ring through the very telescope used to find it.

Birthdays on Saturn this month
Grandma Rosa turns 2 on Jan 12

January 2027

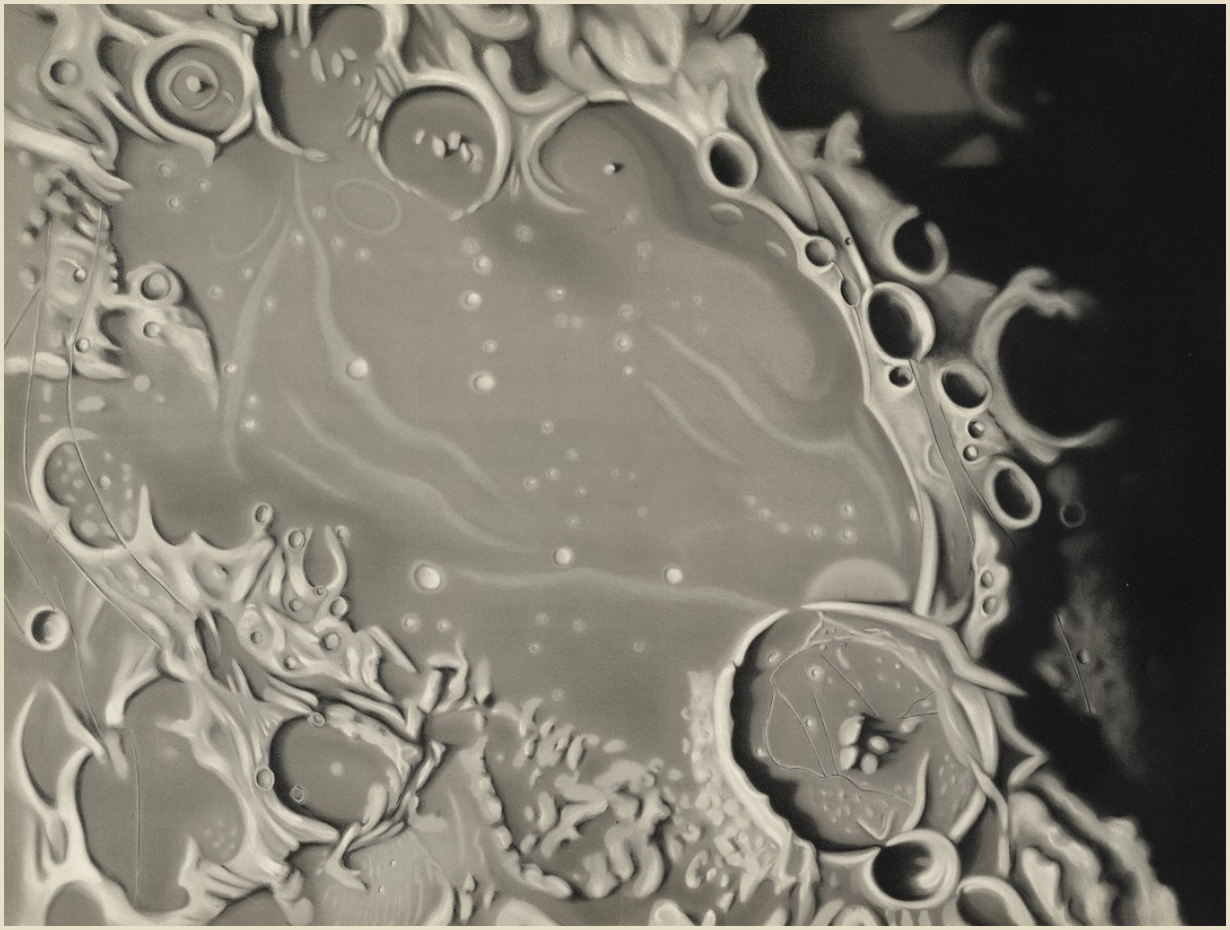
BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28	29	30	31	**1** *Ceres, the first asteroid, found 226 years ago*	**2**
3 *Quadrantid meteors peak around now*	**4**	**5** **Grandma Rosa** Kepler-16b 94th	**6**	**7**	**8**	**9**
10	**11**	**12** **Leo** Sun 111th **Priya** Sun 588th **G.** Saturn 2nd	**13**	**14** **Priya** TRAPPIST-1f 1,600th *Huygens probe lands on Saturn's moon Titan, 22 years ago*	**15** **Ada** Sun 170th	**16**
17 **Grandma Rosa** Bennu 49th	**18**	**19**	**20** **Grandma Rosa** Sun 859th	**21**	**22**	**23**
24	**25**	**26** **Ada** Venus 19th **Ada** Ryugu 9th	**27** **Ada** TRAPPIST-1e 700th	**28**	**29**	**30**
31	1	2	3	4	5	6

Sun Venus Bennu Ryugu Saturn Planets of other stars

next: Leo's 112th Sun birthday, Feb 6, 2027



FEBRUARY 2027

Mare Humorum. From a study made in 1875.
Étienne Léopold Trouvelot (1881), New York Public Library

A lunar "sea" that is really an ancient impact basin, 260 miles across and flooded with lava. Mare Humorum, the "Sea of Moisture," has never held water: dark lava cooled long ago into the smooth plain at center. Like his other telescope views, Trouvelot's drawing is upside down, so the big walled crater Gassendi, on the plain's northern shore, sits at lower right. Sunrise is just reaching the region: the black at right is still night, and the low light throws every rim and ridge into relief. His soft, rounded hills look more like what Apollo astronauts found than the jagged peaks space artists painted in the 1950s.

Birthdays on Earth this month
Grandma Rosa turns 59 on Feb 20

February 2027

BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
31	1	2	3	4	5	6 **Leo** Sun 112th **Priya** Sun 589th *Annular eclipse over South America and Africa*
7	8	9 **Ada** Sun 171st	10	11	12	13
14 **Grandma Rosa** Sun 860th	15 *Galileo Galilei born, 463 years ago*	16 **Leo** Mercury 32nd	17	18 *Pluto discovered, 97 years ago*	19	20 **Grandma Rosa** Earth 59th
21 **Grandma Rosa** Kepler-452b 56th	22 **Grandma Rosa** Mercury 245th	23	24	25	26	27
28	1	2	3	4	5	6

Sun Mercury Earth Planets of other stars

next: Priya's 168th Mercury birthday, Mar 1, 2027



MARCH 2027

The planet Jupiter. Observed November 1, 1880, at 9h. 30m. P.M.
Étienne Léopold Trouvelot (1881), New York Public Library

Jupiter's Great Red Spot in 1880, when the giant storm was about three Earths long. The pink oval sits near the top because his telescope showed Jupiter upside down. Trouvelot had followed it since 1878, when it became conspicuous; it has since shrunk, and today it is only a little wider than Earth. The white disks at left are the moons Io and Europa, and the black dots are their shadows, Europa's falling on the spot. In a footnote Trouvelot admitted that an error in enlarging his drawing made the moons and shadows twice their true size.

Birthdays on Jupiter this month
Ada turns 1 on Mar 30

March 2027

BIRTHDAYS ACROSS THE SOLAR SYSTEM

Ada	Leo	Priya	Grandma Rosa
2015	2019	1986	1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
28	**1** **Priya** Mercury 168th	**2**	**3** **Leo** Sun 113th **Priya** Sun 590th	**4**	**5**	**6** **Ada** Sun 172nd **Priya** Kepler-22b 51st
7 **Leo** TRAPPIST-1d 700th	**8** **Ada** Mercury 49th	**9**	**10**	**11** **Grandma Rosa** Sun 861st	**12**	**13** **Grandma Rosa** Venus 96th
14	**15** **Priya** Eros 23rd	**16**	**17**	**18**	**19** **Grandma Rosa** 51 Pegasi b 5,100th	**20** **Leo** Ryugu 6th
21	**22**	**23**	**24**	**25**	**26**	**27**
28 **Leo** Sun 114th **Priya** Sun 591st *Pallas discovered, 225 years ago*	**29** *Vesta discovered, 220 years ago*	**30** **Ada** Jupiter 1st **Priya** 51 Pegasi b 3,500th	**31**	1	2	3

Sun · Mercury · Venus · Ryugu · Eros · Jupiter · Planets of other stars

next: Ada's 173rd Sun birthday, Apr 1, 2027



APRIL 2027

Group of sun spots and veiled spots. Observed on June 17th 1875 at 7 h. 30 m. A.M.
Étienne Léopold Trouvelot (1881), New York Public Library

Sunspots are darker patches where intense magnetic fields suppress the movement of hot plasma, reducing the heat reaching the Sun's surface. They come and go in a cycle of about eleven years, and a large one can be wider than Earth. Trouvelot watched this group grow from three tiny dots in under two days; by the morning of June 17, 1875, it spanned about 67,000 miles, more than eight Earths. He drew the thatch-like rims strand by strand, with rosy veils inside the left spot and a honeycombed patch hiding a third spot. The faint gray smudge at upper left, below the pale streaks, is a "veiled spot," a name he proposed.

Birthdays on the Sun this month
Ada turns 173 on Apr 1
Grandma Rosa turns 862 on Apr 5
Priya turns 592 on Apr 22
Leo turns 115 on Apr 23
Ada turns 174 on Apr 26

April 2027

BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
28	29	30	31	**1** **Ada** Sun 173rd	**2** **Priya** Milky Way 0.0000001763	**3**
4	**5** **Grandma Rosa** Sun 862nd	**6**	**7**	**8**	**9**	**10**
11	**12** *Hygiea discovered, 178 years ago*	**13** **Ada** Kepler-16b 19th	**14** **Ada** Kepler-22b 15th **Priya** TRAPPIST-1g 1,200th	**15**	**16**	**17**
18	**19** *Ingenuity's first flight on Mars, 6 years ago*	**20**	**21**	**22** **Priya** Sun 592nd **Priya** Venus 66th *Lyrid meteors peak around now*	**23** **Leo** Sun 115th	**24**
25	**26** **Ada** Sun 174th	**27**	**28**	**29**	**30** **Ada** Bennu 10th	1

Sun Venus Bennu Planets of other stars Milky Way

next: Grandma Rosa's 863rd Sun birthday, May 1, 2027



MAY 2027

Partial eclipse of the moon. Observed October 24, 1874.
Étienne Léopold Trouvelot (1881), New York Public Library

Earth's curved shadow creeps over the Moon: the evidence Aristotle cited that our world is round. The shadow has covered most of the Moon, leaving a bright crescent at upper right. The shadowed part glows coppery brown because Earth's atmosphere bends a little sunlight onto it, filtered red as at sunset. Trouvelot drew the scene as it looked to the naked eye on the night of October 24–25, 1874, yet craters show through the shadow: the bright rayed spot near the bottom is Tycho. Later that night the Moon slid wholly into the shadow and stayed there for about half an hour.

Birthdays on Earth this month
Ada turns 12 on May 20

May 2027

BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
25	26	27	28	29	30	**1** **Grandma Rosa** Sun 863rd
2	**3**	**4**	**5**	**6** *Eta Aquariid meteors (dust from Halley's Comet) peak around now*	**7**	**8**
9	**10** **Leo** Kepler-22b 10th *Ryugu discovered, 28 years ago*	**11**	**12**	**13**	**14** **Leo** Mercury 33rd	**15**
16	**17** **Priya** Sun 593rd	**18** **Leo** Sun 116th	**19**	**20** **Ada** Earth 12th	**21** **Ada** Sun 175th **Grandma Rosa** Mercury 246th	**22**
23	**24** **Leo** Apophis 9th	**25**	**26** **Grandma Rosa** Sun 864th	**27**	**28** **Priya** Mercury 169th	**29**
30	**31**	1	2	3	4	5

Sun · Mercury · Apophis · Earth · Planets of other stars

next: Priya's 65th Kepler-16b birthday, Jun 1, 2027



JUNE 2027

Jupiter on January 28, 1873, from a drawing by P. Tacchini at Palermo
Pietro Tacchini, in Amédée Guillemin, Le Ciel (Paris, 1877), plate XXIII bis, Wellesley College Library

Jupiter in color on January 28, 1873, drawn at the telescope by Pietro Tacchini in Palermo, Sicily. Amédée Guillemin printed it in Le Ciel, his popular book of the heavens, to show the planet's colors: cream zones, tan belts, rose-tinted clouds and dark curling streaks along the belts' edges. Guillemin read the round dark spots as signs of whirlwinds, and he was right: Jupiter's clouds are crowded with storms. The Great Red Spot grew conspicuous only five years later; none shows here. A year before, Tacchini had launched the Memorie of Italy's spectroscopists, often called the first journal of astrophysics.

Birthdays on Jupiter this month
Grandma Rosa turns 5 on Jun 12

June 2027

BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
30	31	1 Priya Kepler-16b 65th	2 Leo Venus 13th	3 Leo Earth 8th	4 Ada Mercury 50th	5
6	7	8	9	10	11	12 Leo Sun 117th Priya Sun 594th Grandma Rosa Jupiter 5th
13	14	15 Ada Sun 176th	16	17	18	19 *Apophis discovered, 23 years ago*
20 Grandma Rosa Sun 865th	21	22 *Pluto's moon Charon found, 49 years ago*	23	24	25	26
27	28	29	30	1	2	3

Sun Mercury Venus Earth Jupiter Planets of other stars

next: Priya's 34th Bennu birthday, Jul 1, 2027



JULY 2027

The great comet of 1881.
Observed on the night of June 25–26, at 1h. 30m. A.M.
Étienne Léopold Trouvelot (1881), University of Michigan Library

The Great Comet of 1881 rises beside a small domed observatory, its tail streaming up the sky. Trouvelot drew it as the naked eye saw it, but with detail only a telescope could show: a diamond-shaped core, a double halo and a dark rift down the tail. Stars shone through even the brightest parts of the tail with little dimming. A comet's tail is gas and dust driven off its icy core by sunlight and pushed away from the Sun. This comet takes about 2,400 years to circle the Sun; Comet Encke, which has one of the shortest orbits of any comet, comes back every 3.3 years.

Birthdays on Encke this month
Grandma Rosa turns 18 on Jul 8

July 2027

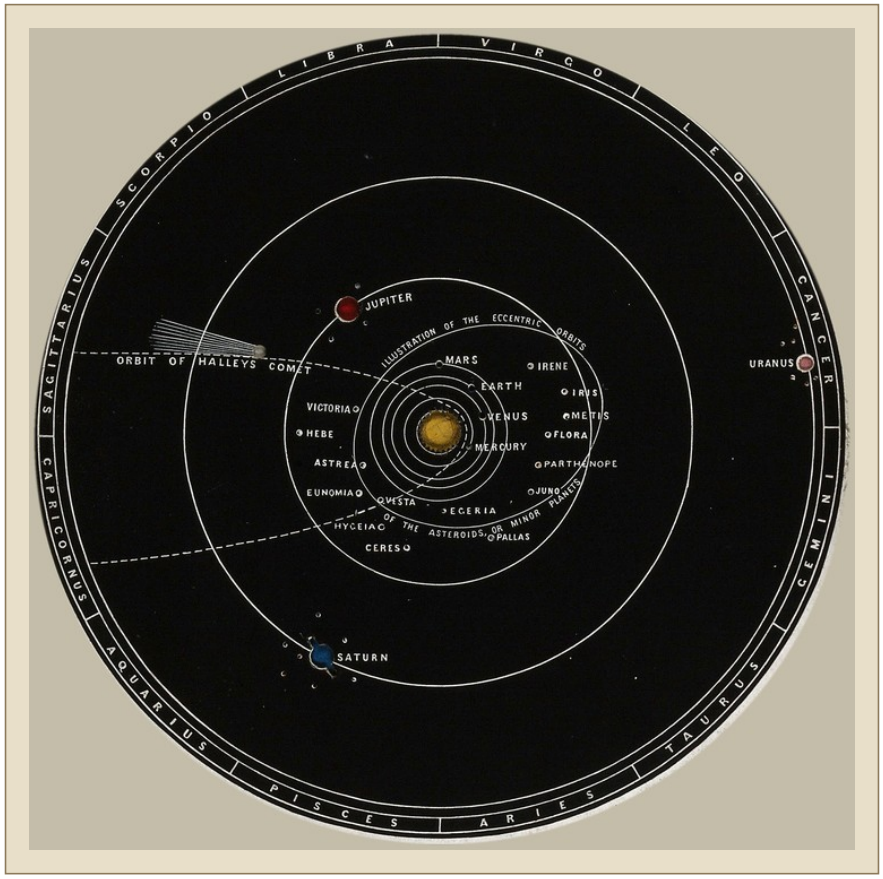
BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28	29	30	1 **Priya** Bennu 34th	2	3 **Priya** Apophis 46th
4 *Pathfinder lands on Mars, 30 years ago*	5	6	7 **Leo** Sun 118th **Priya** Sun 595th	8 **Grandma Rosa** Encke 18th	9	10 **Ada** Sun 177th
11	12 **Leo** 51 Pegasi b 700th	13	14 *Mariner 4 flies past Mars, 62 years ago*	15 **Grandma Rosa** Sun 866th	16	17
18	19	20	21	22	23	24
25 **Leo** Kepler-16b 13th **Grandma Rosa** TOI-700 d 580th	26	27	28	29	30 **Ada** TRAPPIST-1d 1,100th	31

Sun · Apophis · Bennu · Encke · Planets of other stars

next: Leo's 119th Sun birthday, Aug 1, 2027



AUGUST 2027

Transparent solar system, displaying the planets with their orbits, as known at the present day
James Reynolds, London (c. 1868), Wellcome Collection

The solar system as a Victorian family could buy it for a shilling, with the asteroids still being counted. James Reynolds of London sold cards like this one, first issued in 1846, to bring astronomy into middle-class homes. Tiny Mercury hugs the gold Sun; farther out circle red Jupiter and blue Saturn. A tilted oval, labeled as the "eccentric orbits of the Asteroids, or Minor Planets," winds among Ceres, Pallas, Juno, Vesta, Hygeia and more. Ceres, found in 1801, was the first; the card lists 85, but its newest, Ianthe, was really the 98th. Today over a million are known, and spacecraft have orbited Vesta and Ceres.

Birthdays on Mercury this month
Leo turns 34 on Aug 10
Grandma Rosa turns 247 on Aug 17
Priya turns 170 on Aug 24
Ada turns 51 on Aug 31

August 2027

BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 Leo Sun 119th Priya Sun 596th	**2** *Total solar eclipse across southern Spain, North Africa and Arabia*	**3**	**4** Ada Sun 178th	**5**	**6** *Rosetta reaches its comet, 13 years ago*	**7**
8	**9** Grandma Rosa Sun 867th	**10** Leo Mercury 34th	**11**	**12** *Perseid meteors peak around now*	**13** Leo TOI-700 d 80th	**14**
15	**16**	**17** Grandma Rosa Mercury 247th	**18** Ada Proxima b 400th	**19**	**20** Leo 3,000 days old *Voyager 2 launched, 50 years ago*	**21**
22 Grandma Rosa Kepler-16b 95th	**23**	**24** Priya Mercury 170th	**25**	**26** Leo Sun 120th Priya Sun 597th	**27** Grandma Rosa Apophis 67th	**28** Grandma Rosa Kepler-22b 75th
29 Ada Sun 179th	**30**	**31** Ada Mercury 51st	1	2	3	4

Sun · Mercury · Apophis · Planets of other stars

next: Grandma Rosa's 868th Sun birthday, Sep 3, 2027



SEPTEMBER 2027

Aurora Borealis. As observed March 1, 1872, at 9h. 25m. P.M.
Étienne Léopold Trouvelot (1881), New York Public Library

Northern lights over a dark treeline, drawn twenty years before anyone managed to photograph an aurora. Trouvelot called it a rare spectacle: arches spanning the sky from east to west, pale green rays fanning up from a dark arc, and red glowing low at left, in the west. Polaris is near the center and the Big Dipper at right. On two nights when auroras glowed red in the west, his spectroscope showed a red line beside the usual green. He tied auroras to the sunspot cycle “in some mysterious way”; we now know solar storms drive particles into the upper air, where oxygen glows green and, higher up, red.

Birthdays on Earth this month
Priya turns 41 on Sep 14

September 2027

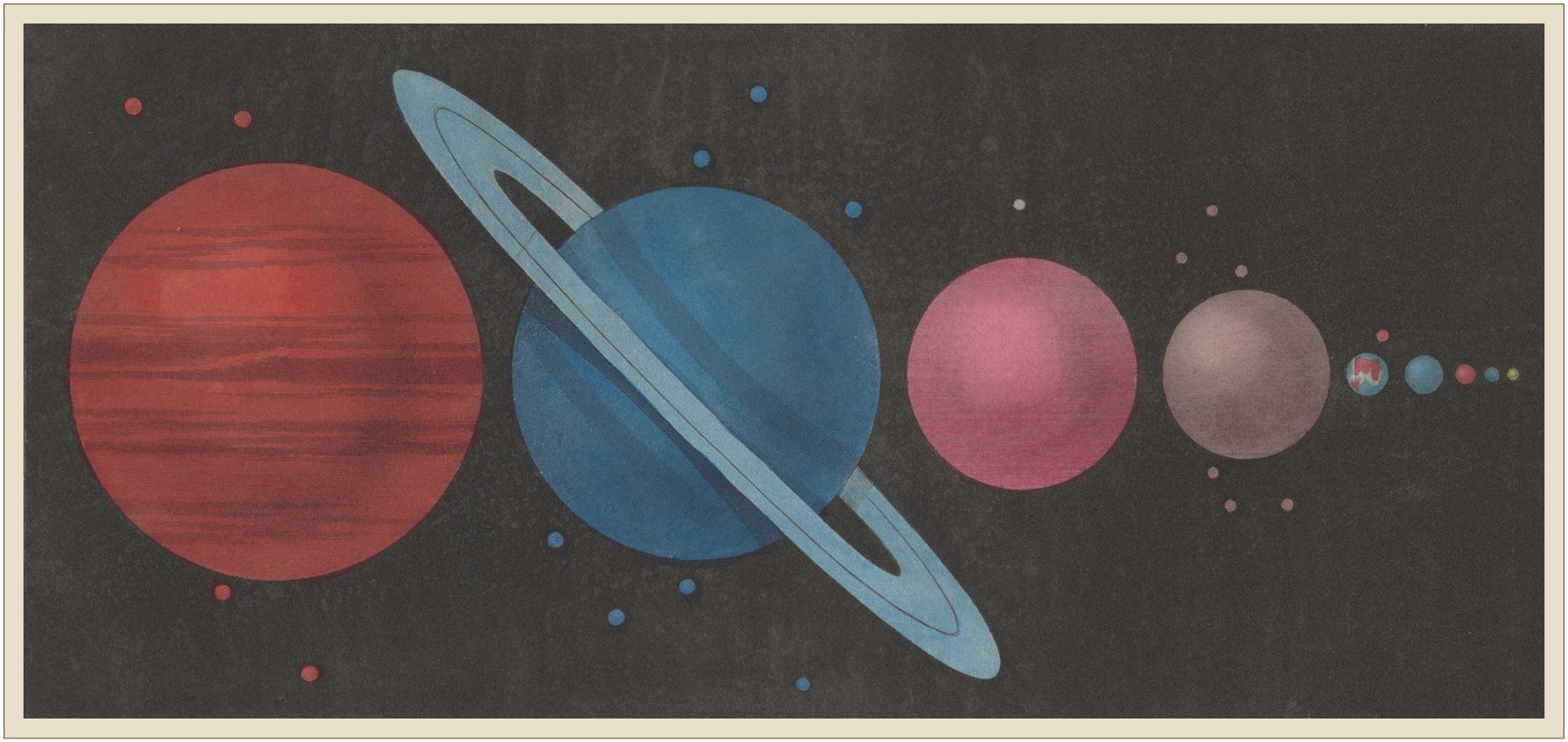
BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
29	30	31	1	2	3 **Grandma Rosa** Sun 868th	4 **Ada** TOI-700 d 120th
5	6	7	8 **Ada** Venus 20th **Priya** TOI-700 d 400th	9	10 **Leo** TRAPPIST-1b 2,000th	11 *Bennu discovered, 28 years ago*
12	13	14 **Priya** Earth 41st	15 **Ada** Eros 7th *Cassini's last plunge into Saturn, 10 years ago*	16	17	18
19	20 **Leo** Sun 121st **Priya** Sun 598th	21 **Priya** TRAPPIST-1d 3,700th	22	23 **Ada** Sun 180th	24	25
26	27	28 **Grandma Rosa** Sun 869th	29	30	1	2

Sun Venus Earth Eros Planets of other stars

next: Leo's 500th TRAPPIST-1e birthday, Oct 9, 2027



OCTOBER 2027

Comparative magnitudes of the planets
John Emslie, published by James Reynolds, London (c. 1846), Wellcome Collection

The planets side by side, drawn to their sizes as known in 1846, the year Neptune was found. John Emslie's print, sold by James Reynolds in London, lines them up from banded Jupiter and ringed Saturn to Neptune, Uranus, Earth, Venus, Mars and tiny Mercury, with our Moon last. The colors are decoration, not observation. Most of the sizes are close to today's, but brand-new Neptune is drawn far too big, larger than Uranus; in fact it is a little smaller. Uranus wears the six moons William Herschel claimed to have seen; only two of them, Titania and Oberon, were real.

Birthdays on Venus this month
Grandma Rosa turns 97 on Oct 23

October 2027

BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
26	27	28	29	30	1	2
3	4 *Sputnik 1 launched, 70 years ago*	5	6	7	8	9 **Leo** TRAPPIST-1e 500th **Priya** 15,000 days old
10	11 *Phaethon discovered, 44 years ago*	12	13 **Leo** Bennu 7th	14 **Ada** Apophis 14th	15 **Leo** Sun 122nd **Priya** Sun 599th	16 **Ada** TRAPPIST-1b 3,000th
17 **Priya** Kepler-452b 39th	18 **Ada** Sun 181st	19	20	21 *Orionid meteors (more Halley dust) peak around now*	22	23 **Grandma Rosa** Sun 870th **Grandma Rosa** Venus 97th
24	25 **Grandma Rosa** TRAPPIST-1c 9,000th	26	27 **Priya** TRAPPIST-1h 800th	28	29	30
31	1	2	3	4	5	6

Sun Venus Apophis Bennu Planets of other stars

next: Leo's 35th Mercury birthday, Nov 6, 2027



NOVEMBER 2027

The zodiacal light. Observed February 20, 1876.
Étienne Léopold Trouvelot (1881), New York Public Library

A faint cone of light after dusk: sunlight scattered by dust, most of it shed by comets. In 1983 the IRAS satellite found bands in this dust left by collisions among asteroids, the small worlds whose birthdays this calendar can mark. In late winter and spring the glow rises from the western horizon after dusk, in autumn from the east before dawn. Venus is the bright star near its base, Mars a tiny red dot higher up, and the tip reaches the little Pleiades cluster; the orange star left of the Pleiades is Aldebaran. It takes a truly dark sky.

Birthdays on Ryugu this month
Grandma Rosa turns 46 on Nov 15

November 2027

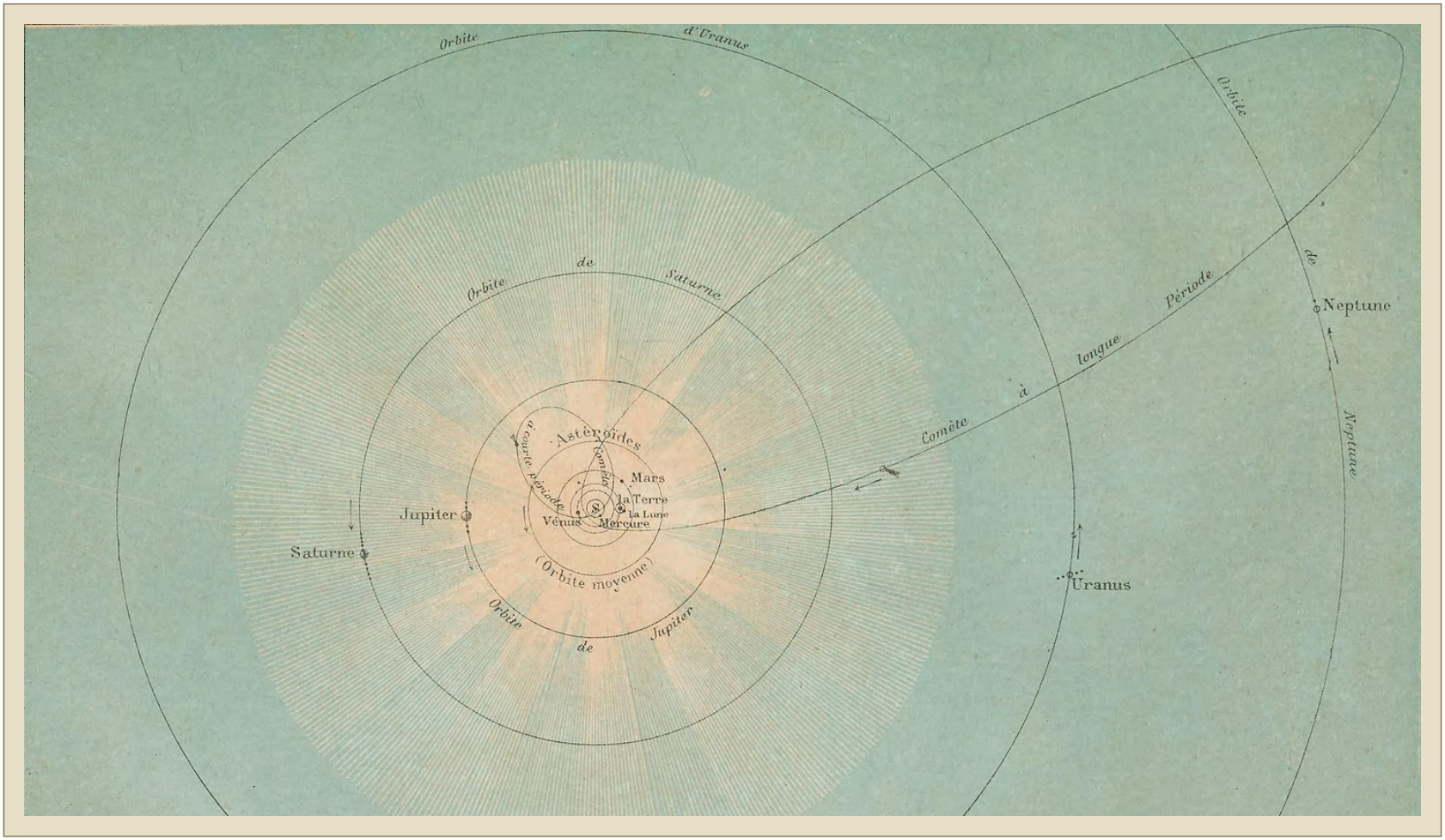
BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
31	1	2	3	4	5	6 Leo Mercury 35th Leo Kepler-452b 8th
7	8	9 Leo Sun 123rd Priya Sun 600th *Carl Sagan born, 93 years ago*	10	11	12 Ada Sun 182nd *Philae lands on a comet, 13 years ago*	13 Grandma Rosa Mercury 248th
14	15 Grandma Rosa Ryugu 46th	16	17 Grandma Rosa Sun 871st *Leonid meteors peak around now*	18	19	20 Priya Mercury 171st
21	22	23	24	25	26	27 Ada Mercury 52nd
28 Ada Kepler-16b 20th	29	30	1	2	3	4

Sun · Mercury · Ryugu · Planets of other stars

next: Priya's 67th Venus birthday, Dec 2, 2027



DECEMBER 2027

The planetary system (Le système planétaire)

Camille Flammarion, Les Terres du ciel (Paris, 1884), plate VII, Smithsonian Libraries

The solar system as Camille Flammarion drew it in 1884, out to Neptune, with two kinds of comet. Between the orbits of Mars and Jupiter he marked the zone of the "Astéroïdes," the little planets then being discovered year after year. A short-period comet circles near the middle, as Comet Encke does every 3.3 years, while a long-period comet's stretched ellipse swings out past Neptune at upper right; astronomers still sort comets into those two families. What Flammarion couldn't show lay past his frame: the Kuiper Belt of icy worlds beyond Neptune, where Pluto was found in 1930.

Birthdays on Ceres this month

Grandma Rosa turns 13 on Dec 27

December 2027

BIRTHDAYS ACROSS THE SOLAR SYSTEM

● Ada 2015 ● Leo 2019 ● Priya 1986 ● Grandma Rosa 1968

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
28	29	30	1	2 **Priya** Venus 67th	3	4 **Leo** Sun 124th **Priya** Sun 601st
5	6	7 **Ada** Sun 183rd	8 **Grandma Rosa** Milky Way 0.00000026	9	10	11
12 **Grandma Rosa** Sun 872nd	13	14 *Geminid meteors peak: dust shed by the asteroid Phaethon* *Mariner 2 flies past Venus, 65 years ago*	15	16	17	18
19	20 **Priya** Kepler-22b 52nd	21	22	23	24	25
26 **Ada** TRAPPIST-1f 500th *Étienne Trouvelot born, 200 years ago*	27 **Grandma Rosa** Ceres 13th	28	29 **Leo** Sun 125th **Priya** Sun 602nd	30	31	1

Sun · Venus · Ceres · Planets of other stars · Milky Way

next: Ada's 184th Sun birthday, Jan 1, 2028

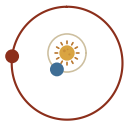
How these birthdays work

A birthday is one trip around the Sun. Every world takes a different amount of time to make that trip, so the same number of days alive adds up to a different age on each one. Each date in this calendar is the day someone completes another full orbit of that world, counted from the day they were born. Earth birthdays are the usual calendar anniversaries; anyone born on February 29 celebrates on February 28 in other years.

The Sun has no year to count here, but it does spin. Its equator turns once every 25.05 days, so a Sun birthday arrives about every three and a half weeks.

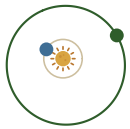
Ages on Jan 1, 2027

	Mercury	Venus	Earth	Mars	Jupiter
Ada	48.2	18.8	11.6	6.1	0.97
Leo	31.4	12.3	7.5	4.0	0.63
Priya	167.3	65.5	40.2	21.4	3.3
Grandma Rosa	244.4	95.6	58.8	31.2	4.9



Meet Ada's asteroid: 523 Ada

Discovered Jan 27, 1904 by R. S. Dugan at Heidelberg.
About 32 km (20 miles) across, it circles the Sun every 5.1 years.
On Ada's birthday, May 20, 2027, it will be 229 million miles from Earth.
Closest to Earth during this calendar: Mar 4, 2027, 165 million miles away.
At its brightest, a good 8-inch backyard telescope can just find it.



Meet Grandma Rosa's asteroid: 223 Rosa

Discovered Mar 9, 1882 by J. Palisa at Vienna.
About 80 km (50 miles) across, it circles the Sun every 5.4 years.
On Grandma Rosa's birthday, Feb 20, 2027, it will be 347 million miles from Earth.
Closest to Earth during this calendar: Dec 20, 2027, 164 million miles away.
At its brightest, a backyard telescope can find it.

How long is a year?

Sun	25.05 days (one turn)
Mercury	88 days
Venus	225 days
Apophis	324 days
Earth	365 days
Bennu	437 days
Ryugu	475 days
Eros	643 days
Encke	3.3 years
Ceres	4.6 years
Jupiter	11.9 years
Saturn	29.4 years
Milky Way	about 230 million years

The Sun carries us all around the galaxy. In months with few birthdays, "Milky Way 0.0000000437" marks the share of a lap someone has ridden: ten years.

Planets of other stars

Each circles a star of its own (Kepler-16b circles two). Most of their years are short, so for those we mark only round birthdays: every 10th, 100th or 1,000th.

TRAPPIST-1 b–h	1.5–18.8 days	51 Pegasi b	4.2 days
Proxima b	11.2 days	TOI-700 d	37 days
Kepler-16b	229 days	Kepler-22b	290 days
Kepler-452b	385 days		

Planet periods: NASA Planetary and Sun Fact Sheets. Asteroid and comet dates follow each world's real path around the Sun, day by day, from NASA JPL's Horizons system (retrieved October 2026) — including Apophis's close pass by Earth on April 13, 2029, which stretches its year from 324 to 423 days. Dates marked ≈ fall outside 1901–2099 and use an average year.
Planets of other stars: NASA Exoplanet Archive (retrieved October 2026).
Asteroid names, orbits and discoveries: NASA JPL Small-Body Database.

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