

National Aeronautics and  
Space Administration



NASA Space Place

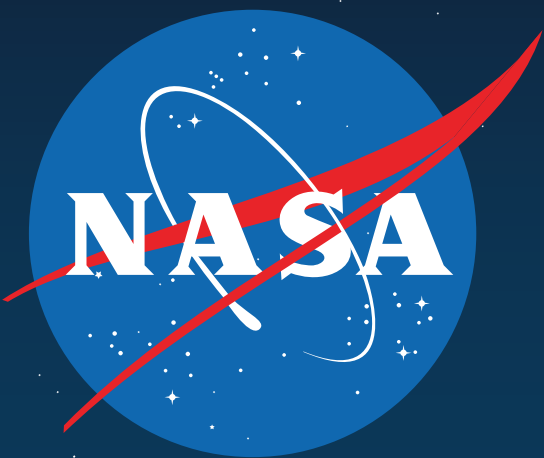


# Calendar

July 2016 - June 2017

## NASA Science

Using the vantage point of space, NASA's Science Mission Directorate seeks to achieve (with the science community and our partners) a deep scientific understanding of our planet, other planets and solar system bodies, the interplanetary environment, the Sun and its effects on the solar system, and the universe beyond. In so doing, we lay the intellectual foundation for the robotic and human expeditions of the future while meeting today's needs for scientific information to address national concerns, such as climate change and space weather. At every step we share the journey of scientific exploration with the public and partner with others to substantially improve science, technology, engineering and mathematics (STEM) education nationwide.



Visit <http://science.nasa.gov> for the latest information on this quest.

Watch the NASA Science YouTube channel at <https://www.youtube.com/user/ScienceAtNASA/>

The moon phases in this calendar are given in UTC (Coordinated Universal Time).



## NASA Space Place

NASA's award-winning Space Place website engages upper-elementary-aged children in space and Earth science through interactive games, hands-on activities, fun articles, and short videos. With material in both English and Spanish and numerous resources for parents and teachers, Space Place has something for everyone. Learn about everything from black holes and wild space weather to the reasons for seasons here on Earth. NASA Space Place has material on space, the Sun, the Solar System, our own planet, and the science and technology that make discovery possible.

Visit NASA Space Place at <http://spaceplace.nasa.gov>

Keep up with what's new on our Space Place Facebook page at <https://www.facebook.com/nasaspaceplace>

Follow us on Twitter: <https://twitter.com/nasaspaceplace>

See the Space Place YouTube channel at <https://www.youtube.com/user/nasaspaceplace>



NASA's New Horizons spacecraft captured this high-resolution enhanced-color view of Pluto on July 14, 2015.

Image Credit: NASA/JHUAPL/SwRI

JULY 2016

spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>Anti-boredom Month. Fight boredom by playing games at Space Place. /menu/play</div>				<div>On this calendar means spaceplace.nasa.gov/</div>	<div>1</div> <div>First U.S. zoo opened in 1874 in Philadelphia, PA. Many zoos give homes to endangered species. How can satellites help these animals in the wild? /migration</div>	<div>2</div>
<div>3</div>	<div>4</div> <div>NEW MOON</div> <div>Earth at aphelion, the time of year when we are farthest from the Sun. Why isn't it cold if we are farthest from the sun? /seasons</div> <div>U.S. Independence Day</div>	<div>5</div>	<div>6</div>	<div>7</div>	<div>8</div>	<div>9</div> <div>Voyager 2 flew by Jupiter and discovered the Jovian moon Adrastea in 1979. Play "JunoQuest" and help unravel more Jupiter mysteries. /junoquest</div>
<div>10</div>	<div>11</div>	<div>12</div> <div>FIRST QUARTER</div>	<div>13</div> <div>Galileo spacecraft dropped its probe into Jupiter's atmosphere this day in 1995. Read about Jupiter at /all-about-jupiter/</div>	<div>14</div>	<div>15</div>	<div>16</div>
<div>17</div>	<div>18</div>	<div>19</div> <div>FULL MOON</div>	<div>20</div> <div>Neil Armstrong was the first human to walk on the Moon this day in 1969. Why is the Moon so scarred with craters? /craters/</div>	<div>21</div>	<div>22</div>	<div>23</div>
<div>24</div> <div>31</div> <div>Apollo 15's rover was the first vehicle driven on the Moon, 1971. See a picture of the lunar rover. /gallery-earth/#moon</div>	<div>25</div>	<div>26</div> <div>LAST QUARTER</div>	<div>27</div>	<div>28</div>	<div>29</div>	<div>30</div>





This image, released for Hubble's 17th anniversary, shows a region of star birth and death in the Carina Nebula. The nebula contains at least a dozen brilliant stars that are 50 to 100 times the mass of our Sun.

Image Credit: NASA/ESA

AUGUST 2016

spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>On this calendar means spaceplace.nasa.gov/</div>	<div>1</div> <div>Joseph Priestley discovered oxygen in 1774. Oxygen is great to breathe. It also makes up part of greenhouse gas molecules! /gumdrops</div>	<div>2</div> <div>NEW MOON</div>	<div>3</div>	<div>4</div> <div>The U.S. Coast Guard's official history began in 1790. Play Wild Weather Adventure, and don't make the Coast Guard rescue you! /wild-weather-adventure</div>	<div>5</div>	<div>6</div>
<div>7</div> <div>Friendship Day. Make sunspot cookies with a friend! /sunspot-cookies/</div>	<div>8</div>	<div>9</div>	<div>10</div> <div>FIRST QUARTER</div>	<div>11</div>	<div>12</div> <div>Perseids meteor shower at maximum. What causes a meteor shower? /meteor-shower</div>	<div>13</div>
<div>14</div>	<div>15</div> <div>National Relaxation Day. Lie under a tree and watch the pigeons fly by. Are they in a race home? Will they get lost? /pigeons</div>	<div>16</div> <div>Tell A Joke Day. Make a robot puzzle, give it to friends, and test their sense of humor. /space-robots</div>	<div>17</div>	<div>18</div> <div>FULL MOON</div>	<div>19</div> <div>National Aviation Day. Did you know some NASA missions use planes rather than rockets? /mission-chronicles/#hansen</div>	<div>20</div>
<div>21</div>	<div>22</div>	<div>23</div>	<div>24</div>	<div>25</div> <div>LAST QUARTER</div> <div>Why does the Moon have phases at all? Get some Oreos and find out! /oreo-moon</div>	<div>26</div> <div>Voyager 2 flew by Saturn in 1981. Saturn has its very own page at /all-about-saturn/</div>	<div>27</div> <div>Today, Venus and Jupiter will be very close together in the night sky. Discover why planets are round! /planets-round</div>
<div>28</div>	<div>29</div>	<div>30</div>	<div>31</div>			





A photo of Howland Forest in Maine, one of the regions AirMOSS has studied using radar measurements of root-zone soil moisture to help determine the overall carbon exchange between plants and the atmosphere.

Image Credit: National Science Foundation

# SEPTEMBER 2016

# spaceplace.nasa.gov

Sunday

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Saturday

**National School Success Month.** Space Place has free resources to help students become successful.  
[/menu/parents-and-educators](#)

*On this calendar  
means  
[spaceplace.nasa.gov/](#)*

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NEW MOON

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**National Cheese Pizza Day.** Find out how GPS can help you in the quest for pizza!  
[/gps-pizza](#)

**Labor Day**

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FIRST QUARTER

9

**Teddy Bear Day.** Make a topo map of your bear as he hibernates in a box!  
[/topo-bear](#)

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**National Swap Ideas Day.** Read some of Dr. Marc's amazing facts and swap some ideas with a friend.  
[/menu/dr-marc](#)

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**Positive Thinking Day.** Make your positive ions outnumber your negative ions when you do the "Ions in Action" experiment.  
[/ion-balloons](#)

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**Luna 2** successfully reached the surface of the Moon in 1959. Do you know what part the Moon plays in a solar eclipse?  
[/venus-transit](#)

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FULL MOON

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**Voyager 1** took the first full-frame photo of Earth and the Moon together in 1977. Check out other photos of the solar system at NASA Space Place.  
[/gallery-solar-system](#)

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**Autumnal Equinox** (first day of fall). Learn what causes the seasons.  
[/seasons](#)

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LAST QUARTER

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**National Crush a Can Day.** Crush a can without touching it in this experiment to test new spacecraft materials.  
[/soda-can-test](#)

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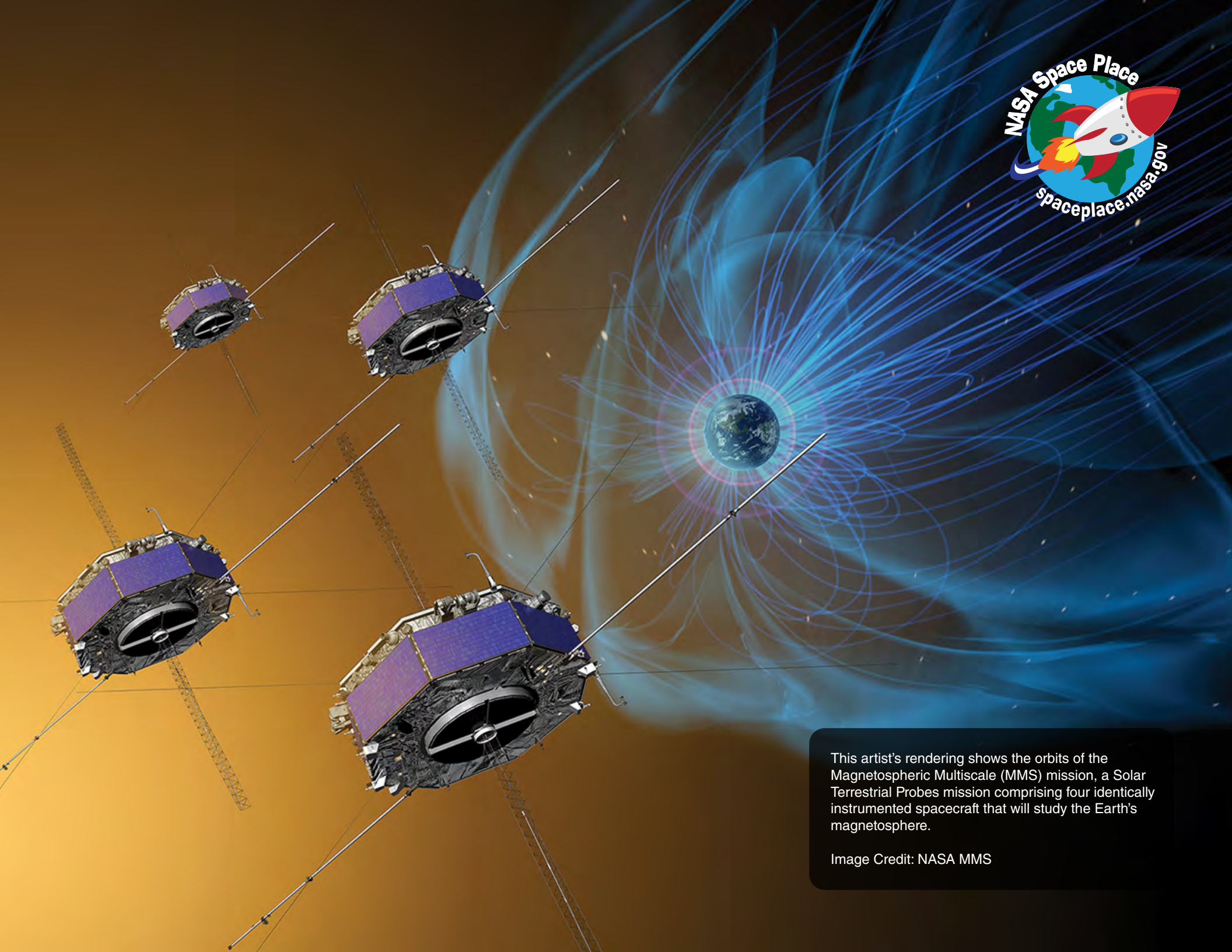
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This artist's rendering shows the orbits of the Magnetospheric Multiscale (MMS) mission, a Solar Terrestrial Probes mission comprising four identically instrumented spacecraft that will study the Earth's magnetosphere.

Image Credit: NASA MMS

OCTOBER 2016

spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>National Energy Awareness Month. Much of the energy we use creates pollution and greenhouse gases. What are those? 🌍/greenhouse</div>				<div>On this calendar 🌍/ means spaceplace.nasa.gov/</div>		1 <div>NEW MOON</div>
2	3 <div>NOAA founded in 1970. NOAA helps protect the environment and keeps an eye on the weather with its GOES satellites. Play Satellite Insight to see what we can learn from a NOAA satellite! 🌍/satellite-insight/</div>	4	5	6	7 <div>In 1959, Luna 3 took the first photo of the far side of the Moon. Why does the Moon look different throughout the month? 🌍/oreo-moon</div>	8
9 <div>FIRST QUARTER</div>	10	11	12	13 <div>National Train Your Brain Day. The "Ozone Trap-n-Zap" game will help! 🌍/ozone</div>	14 <div>National Dessert Day. Make yummy "El Niño Pudding" for dessert today. 🌍/el-nino</div>	15
16 <div>FULL MOON</div> <div>Launch in 1975 of GOES-1, the first weather satellite to take pictures of Earth at night. Play a game about the newest GOES. 🌍/satellite-insight</div>	17	18	19	20	21 <div>Orionids meteor shower at maximum. What causes a meteor shower? 🌍/meteor-shower</div>	22 <div>LAST QUARTER</div>
23 <div>NEW MOON</div>	24 <div>Halloween</div>	25	26	27	28 <div>International Animation Day. Check out our "snappy" animations about science. 🌍/menu-snap</div>	29
30	31					





A galaxy about 23 million light-years away is the site of impressive, ongoing fireworks. Rather than paper, powder, and fire, this galactic light show involves a giant black hole, shock waves, and vast reservoirs of gas.

Image Credit: NASA/CXC/JPL-Caltech/STScI/NSF/NRAO/VLA

NOVEMBER 2016

spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>On this calendar means spaceplace.nasa.gov/</div>		1	2	3	4	5
6 Daylight Saving Time ends	7 FIRST QUARTER Marie Curie born in 1867. A physicist, she won a Nobel Prize for discovering two new elements. Find out about NASA women scientists. /mission-chronicles	8 X-rays were discovered in 1895. Play with x-rays in "Photon Pile-up!" /photon-pileup	9	10	11 Veterans Day	12
13	14 FULL MOON	15 I Love to Write Day. Want to get started? Write your own zany adventure! /loopy-legends	16	17 Leonids meteor shower at maximum. What causes a meteor shower? /meteor-shower	18	19
20 Edwin Hubble born in 1889. Hubble discovered galaxies and the expansion of the universe. We have a whole section about the universe! /menu/space/	21 LAST QUARTER	22	23	24 Thanksgiving Day. Did the pilgrims on the Mayflower navigate by the stars? With our starfinders, they could have. /starfinder	25	26
27	28	29 NEW MOON	30		International Creative Child and Adult Month. Try making a Cloud Mobile together. /cloud-mobile	





Refrozen meltwater ponds in northeast Greenland seen during an April 2013 IceBridge flight.

Image Credit: NASA / Michael Studinger

DECEMBER 2016

spaceplace.nasa.gov

Sunday

Monday

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Thursday

Friday

Saturday

**Read a New Book Month.**  
If you haven't read it yet,  
"Lucy's Planet Hunt" is a  
real page turner.  
[/story-lucy/](#)

*On this calendar*  
  
means  
[spaceplace.nasa.gov/](http://spaceplace.nasa.gov/)

**Pioneer 10** flew past Jupiter in 1973. Play "JunoQuest" to explore the mysteries of Jupiter!  
[/junoquest](#)

  
FIRST QUARTER

The **Galileo spacecraft** became the first to orbit Jupiter in 1995. Read about Jupiter at [/all-about-jupiter/](#)

  
FULL MOON

**Geminids meteor shower** at maximum early this morning. What causes a meteor shower?  
[/meteor-shower](#)

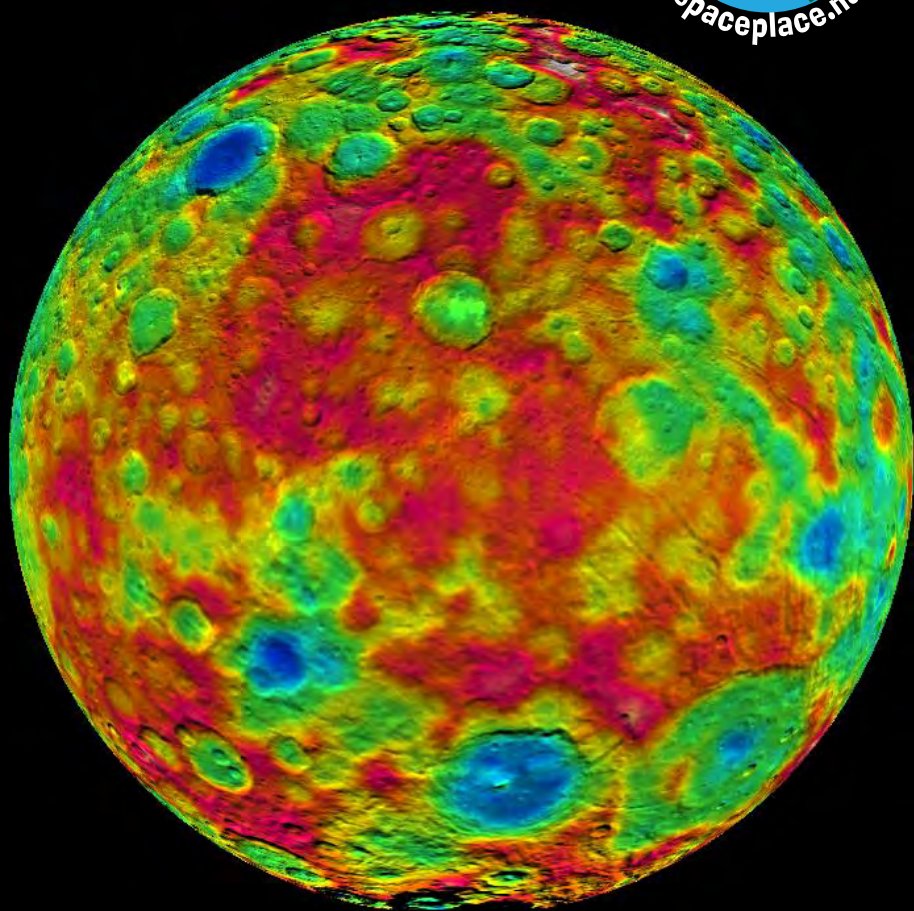
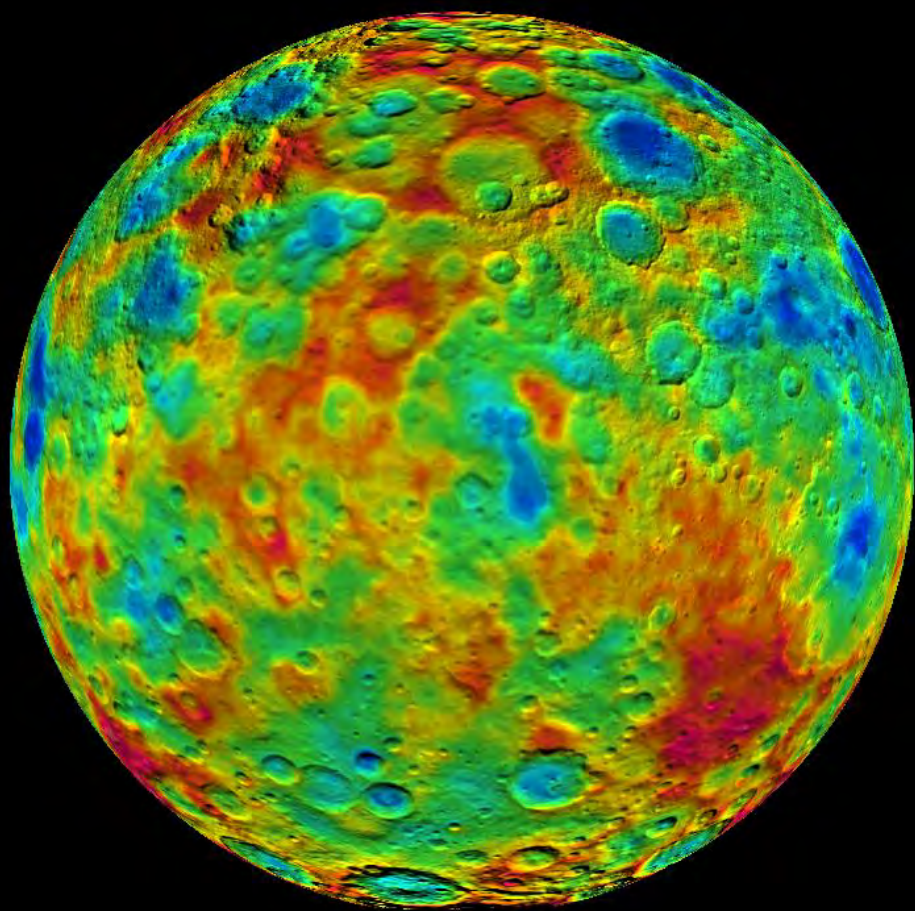
  
LAST QUARTER

**Winter Solstice** (first day of winter). What causes the seasons, anyway?  
[/seasons](#)

  
NEW MOON

**Christmas Day.**  
If you get an iPad or iPhone for Christmas, we have some more gifts for you.  
[/ios](#)





This pair of images shows color-coded maps from NASA's Dawn mission, revealing the highs and lows of topography on the surface of dwarf planet Ceres.

JANUARY 2017

spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 1 New Year's Day	2 2	3 3 Quadrantid meteor shower at maximum. What causes a meteor shower? 🌠/meteor-shower	4 4 Earth at perihelion, the time of year when it is closest to the Sun. Just how close is Earth to the Sun right now? 🌠/seasons	5 5 FIRST QUARTER	6 6	7 7 Galileo first spots, in 1610, what became known as Jupiter's Galilean moons. How do these moons interact with each other and their massive parent? 🌠/io-tides
8 8 Physicist Stephen W. Hawking born 1942. He writes about black holes. How does it "sound" when a big star is swallowed by a black hole? 🌠/ligo-g-waves	9 9	10 10	11 11	12 12 FULL MOON	13 13	14 14
15 15	16 16 Martin Luther King day	17 17 Ben Franklin's birthday, 1706. Ben played the violin. Perhaps he played one made during the "little ice age"? 🌠/violins	18 18	19 19 LAST QUARTER	20 20 Penguin Awareness Day. Emperor penguins migrate each year to breed. What other animals migrate? 🌠/migration	21 21
22 22	23 23	24 24	25 25	26 26	27 27	28 28 NEW MOON
29 29 National Puzzle Day. Unscramble beautiful "Earth-as-Art" puzzles. 🌠/spuzzled	30 30	31 31		On this calendar 🌠/ means spaceplace.nasa.gov/	National Thank You Month. To thank your teachers for their wonderful work, give them one of our downloadable space and Earth posters! 🌠/posters	
















This storm cell photo was taken from NASA's high-altitude ER-2 aircraft on May 23, 2014. The Integrated Precipitation and Hydrology Experiment, or IPHEX, field campaign is part of the ground validation effort for the Global Precipitation Measurement (GPM) mission, an international satellite mission led by NASA and the Japan Aerospace Exploration Agency.

Image Credit: NASA / Stu Broce

FEBRUARY 2017

spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>Plant the Seeds of Greatness Month. Watch "Space Place Live!" interviews to find out how!  / space-place-live</div>		<div>On this calendar  / means spaceplace.nasa.gov/</div>	1	2	3	4 <div>FIRST QUARTER </div>
5	6 <div>Apollo 14 astronauts played golf on the Moon in 1971. See astronauts at work and play.  /gallery-technology/ #astronauts</div>	7	8	9	10	11 <div>FULL MOON </div>
12	13	14 <div>Valentine's Day. Print your own space valentines!  /valentines</div>	15	16	17 <div>The Great Backyard Bird Count begins. Learn about how NASA keeps track of some birds using radar.  /birds</div>	18 <div>Clyde Tombaugh discovered Pluto in 1930. Learn more about Pluto, the strange King of the Ice Dwarfs.  /ice-dwarf</div>
19	20 <div>Presidents' Day</div>	21 <div>International Mother Language Day. If yours is Spanish, we have a website just for you.  /sp</div>	22	23	24	25
26 <div>NEW MOON </div>	27 <div>NASA and JAXA launched the Global Precipitation Measurement satellite in 2014. How would you build your own satellite?  /build-a-spacecraft</div>	28				





A view from the “Kimberley” formation on Mars taken by NASA’s Curiosity rover. The strata in the foreground dip towards the base of Mount Sharp, indicating the ancient depression that existed before the larger bulk of the mountain formed.

Image Credit: NASA/JPL-Caltech

MARCH 2017

spaceplace.nasa.gov

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

International Listening Awareness Month. Listening makes the world a better place. Practice with our podcasts. [/podcasts](#)

On this calendar [/](#) means [spaceplace.nasa.gov/](#)

**Dr. Seuss** was born this day in 1904. If you like Dr. Seuss stories, you might like “Ode to Aerogel.” [/aerogel](#)

FIRST QUARTER

FULL MOON

Daylight Saving Time begins

LAST QUARTER

**World Storytelling Day.** Create your own zany story to tell today! [/loopy-legends](#)

Vernal Equinox (Spring begins)

NEW MOON

**Pi Day.** What would pi be in binary numbers? [/binary-code2](#)

**International Goof-off Day.** Download our Space Place games for your iPhone and iPad! You might learn something while goofing off! [/ios](#)

**First telephone call, 1876.** How do we talk to spacecraft way out in space? [/x-ponder](#)

**St. Patrick’s Day.** Leprechauns are Irish folklore fairies in green. If we met green beings in space, what would we tell them about Earth? [/voyager-to-stars](#)





In this image, taken by the Chandra X-ray Observatory and combined with a Hubble visible light image, an expanding shell of debris called SNR 0519-69.0 is left behind after a massive star exploded in the Large Magellanic Cloud, a satellite galaxy to the Milky Way.

Image Credit: NASA/CXC/SAO

APRIL 2017

spaceplace.nasa.gov

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

**National Humor Month.** Check out our short book, "The First Annual Planet Awards!" Planets can be pretty funny when they compete!

[/story-planet-awards](#)

On this calendar



means

[spaceplace.nasa.gov/](#)

**April Fool's Day.** At least teach your nose not to be fooled!

[/e-nose](#)

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FIRST QUARTER

4

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**National Read a Road Map Day.** How do homing pigeons find their way home? Do they read a map?

[/pigeons](#)

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**Jupiter** will be closest to Earth. It's a great day to play JunoQuest, a game about the giant planet.

[/junoquest](#)

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FULL MOON

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**Leonardo da Vinci** was born this day in 1452. Ever wonder how most inventors do their work?

[/classroom-activities/](#)

[#history](#)

16

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LAST QUARTER

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**Earth Day.** Make a stained glass Earth and see our planet in a whole new light!

[/stained-glass-earth](#)

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NEW MOON

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**Tell a Story Day.** Read a couple of the storybooks on Space Place, then make up your own story about space!

[/menu/storybook](#)

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NASA's EPIC camera, aboard NOAA's DSCOVR satellite, captured a unique view of this week's solar eclipse. While residents of the Western Pacific looked up in the early morning hours to observe a total eclipse of the sun, DSCOVR looked on from a million miles away and captured the shadow of the Moon crossing the planet.

Image Credit: NASA DSCOVR EPIC team.

MAY 2017

spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>On this calendar means spaceplace.nasa.gov/</div>	1	2 <div>National Teacher Appreciation Day. Check out our fun classroom activities, articles, and images on our Parents &amp; Educators page! /menu/parents-and-educators</div>	3 <div>FIRST QUARTER</div>	4 <div>National Weather Observers Day. To celebrate, go on a "Wild Weather Adventure!" /wild-weather-adventure</div>	5 <div>National Space Day. Build a cool model of a spacecraft such as the Hubble Space Telescope. /build-a-spacecraft</div>	6
7	8	9	10 <div>FULL MOON</div>	11	12	13
14 <div>Mother's Day</div>	15 <div>National Chocolate Chip Day. Celebrate by making our yummy sunspot cookies with chocolate chips! /sunspot-cookies</div>	16	17 <div>Pack Rat Day. You may be a pack rat on Earth, but you'd have to change your ways if you took a trip to Mars! /classroom-activities/#marspacking</div>	18	19 <div>LAST QUARTER</div>	20
21	22	23 <div>In 1785, Benjamin Franklin announced his invention of bifocals. Why do we even need two eyes? /stereo-vision</div>	24	25 <div>NEW MOON</div> <div>In 1961, President Kennedy announced that the U.S. will land a person on the Moon by the end of the decade. Build your own "Moon Habitat." /moon-habitat</div>	26 <div>Happy Birthday to Dr. Sally Ride (1951), the first American woman in space. Learn more about other NASA women! /space-place-live</div>	27
28	29 <div>Memorial Day</div>	30	31		<div>National Inventors Month Boots, bottles and braces – these inventions were originally developed for the space program! /spinoffs</div>	





In July, 2013 the Interface Region Imaging Spectrograph (IRIS) mission released its first light imagery. Shown here is a fantastic image of an active region in great detail. The NASA mission is studying what is known as the interface region between the photosphere and corona.

Image Credit: NASA Iris

JUNE 2017

spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div><div>National Zoo and Aquarium Month. Maybe you will see some endangered species, like these: /migration</div></div>		<div><div>On this calendar  means spaceplace.nasa.gov/</div></div>		1 <div><div>FIRST QUARTER</div></div>	2	3
4	5	6	7	8 <div><div>World Oceans Day. Explore ocean currents and play "Go With the Flow." /ocean-currents</div></div>	9 <div><div>FULL MOON</div></div>	10
11	12	13	14	15 <div><div>Saturn will be at its closest approach to Earth. Check out Saturn's very own Space Place page! /all-about-saturn</div></div>	16 <div><div>The first roller coaster opened in 1884. How does a roller coaster work? Build a "Newtonian Physics Machine" and find out. /momentum</div></div>	17 <div><div>LAST QUARTER</div></div>
18 <div><div>Father's Day. Play the "Helios" game with Dad. /helios-game</div></div>	19	20	21 <div><div>Summer Solstice (first day of summer). What causes Earth to have seasons? /seasons</div></div>	22	23	24 <div><div>NEW MOON</div></div>
25	26	27	28	29	30	



