



# **Calendar** June 2015 - June 2016

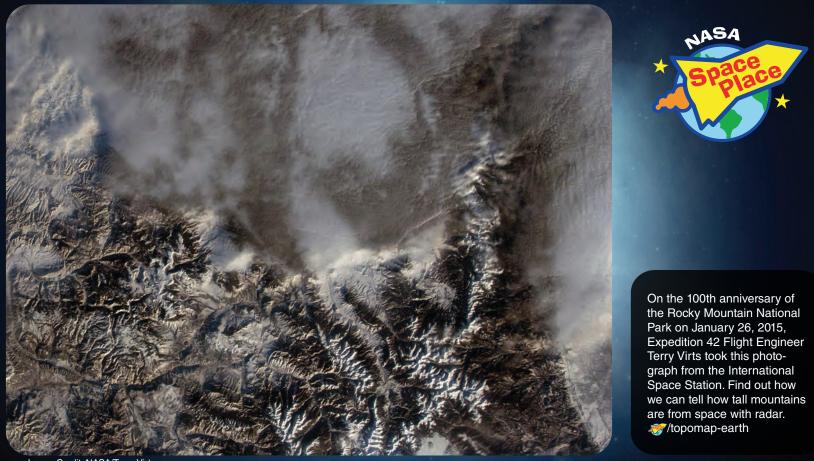


Image Credit: NASA/Terry Virts

#### JUNE 2015

## spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 FULL MOON On this calendar means spaceplace.nasa.gov/	з	4 Cheese Day. Don't let the cheese stand alone. Use it in "Asteroid Potatoes."	5 World Environment Day. Take a look at Earth's many environments. % / gallery-earth/#geogra- phy	<sup>6</sup>
7	8 Astronomer Gian Cassini born in 1625. Play "Cassini Commander" as part of the "Solar System Explorer" game! Solar-system-explorer	9 LAST QUARTER	10	" 11	12	13 The first roller coaster opened, 1884. How does a roller coaster work? Build a "Newtonian Physics Machine" and find out.
14 In 1983, Pioneer 10 passed by the orbit of Neptune—the farthest orbit in the solar system at the time. Now others are leaving the solar system!	15	16 NEW MOON	17	18 Sally Ride was the first U.S. woman in space, 1983. Find out about more women in NASA on Space Place Live! Space-place-live	19	20
21 This might be a good day to play "Beat the Heat"! "/beat-the-heat Summer Solstice (Summer begins)	22 <b>22</b>	23	24 FIRST QUARTER	25	<sup>26</sup>	27
28	29	30 A comet or asteroid exploded over Siberia this day in 1908. Was it an even bigger one that killed all the dinosaurs?				



Image Credit: X-ray: NASA/CXC/Caltech/P.Ogle et al.; Optical: NASA/STScI; IR: NASA/JPL-Caltech; Radio: NSF/NRAO/VLA

# JULY 2015

#### spaceplace.nasa.gov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Anti-boredom Fight boredom games at The S (menu/pla	Space Place.	On this calendar means spaceplace.nasa.gov/	PUL MOON 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	2	3 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?	4 Mars Pathfinder rover landed on Mars in 1997. What award will Mars win in a planet contest? ************************************
5 5	6	7	8 LAST QUARTER	<b>9</b> Voyager 2 flew by Jupiter and discovered three moons in 1979. Play "JunoQuest" and help unravel more Jupiter mysteries.	10	Dited Nations World Population Day. How can Earth space missions show humans' effect on Earth?
12	13 In 1995, the Galileo spacecraft released a probe destined for Jupiter's atmosphere. How else can we learn about Jupiter and other planets?	<sup>14</sup>	15 NEW MOON	16	17 17	18
19	20 Moon Day. Neil Armstrong was the first human to walk on the moon this day in 1969. What did the astronauts learn?	21	<sup>22</sup>	23 FIRST QUARTER	24 Amelia Earhart born, 1897. Read about the airplane that has flown higher than any other winged aircraft in horizontal flight— on Sun power no less!	25
26	27	28	29	30	31 FULL MOON	
26	27	28	NASA was established in 1958. The Space Place is just one example of NASA's commitment to education.	30	Apollo 15's rover was the first vehicle driven on the Moon, 1971. See a picture of the lunar rover.	
	NASA Space Place is the	e official children's website of	NASA's Science Mission Dire	ectorate. It can also be found	at science.nasa.gov/kids.	



Galaxy NGC 4258 is about 23 million light-years away, and it has a supermassive black hole at its center. This picture of NGC 4258 is a combination of several different images: X-rays from NASA's Chandra X-ray Observatory are blue, radio data from the NSF's Karl Jansky Very Large Array are purple, optical data from NASA's Hubble Space Telescope are yellow, and infrared data from NASA's Spitzer Space Telescope are red. Learn more about black holes and how they form.



Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

#### AUGUST 2015

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
On this calendar						Joseph Priestly's experiment isolated oxygen in 1774. Oxygen is great to breathe. It also makes up part of greenhouse gas molecules!
2	<b>Friendship Day.</b> Make star cookies with a friend.	4 U.S. Coast Guard established 1790. Play Wild Weather Adventure, and don't make the Coast Guard rescue you! %/wild-weather-adventure	5 5	6 LAST QUARTER	7	8
9	10	<sup>11</sup>	12	13	14 New MOON	15 National Relaxation Day. Lie under a tree and watch the pigeons fly by. Are they in a race home? Will they get lost?
16 Joke Day. Make a robot puzzle, give it to a friend, and test their sense of humor. S/space-robots	177 World's first CD manufactured by Philips in 1982. Use an unwanted CD to make a model of Saturn with rings.	18	19 National Aviation Day. Did you know some NASA missions use planes rather than rockets? //mission-chronicles/ #hansen	20	21 <b>21</b>	22 FIRST QUARTER
23 30	24 31	25 Why does the moon have phases at all? Get some Oreos and find out!	26 Voyager 2 flew by Saturn in 1981. Cassini is there now. Play the "Cassini commander" mini-game.	27	28	29 PULL MOON

The sun emits a solar flare in a picture captured by NASA's Solar Dynamics Observatory on December 19, 2014. Solar flares are powerful bursts of energy. At its heart, the sun is a huge nuclear bomb. Find out more about the sun's activity and what it's made of.

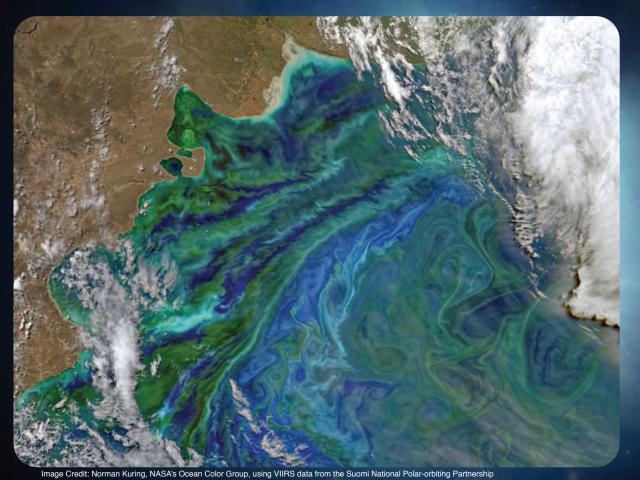
NASA

Image Credit: NASA/SDO

#### SEPTEMBER 2015

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
National Schoo Month. The Sp free resources be successful. //menu/pare tors	to help students	1	2	з З	4	5 LAST QUARTER National Cheese Pizza Day. Find out how GPS can help you in the quest for pizza! Jops-pizza
6	<b>Labor Day.</b> Get busy! It isn't "Goof-off Day"! There's lots to do on The Space Place.	8	9	10 Swap Ideas Day. Read some of Dr. Marc's amazing facts and swap some ideas with a friend.	<sup>11</sup>	12 NEW MOON
13 Positive Thinking Day. Make your positive ions outnumber your negative ions when you do the "lons in Action" experiment. //ion-balloons	14 Luna 2 crashed on the moon, 1959. Do you know what part the moon plays in a solar eclipse?	15	16 Collect Rocks Day. Asteroids are big rocks in space. But how are they different from comets? \$\$`posters/#solarsystem	17	18 Voyager I 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.	19
20	21 FIRST QUARTER	22 Autumnal Equinox (first day of fall). Learn what causes the seasons. %/seasons	<sup>23</sup>	24	25	26
27 OF THE ACAN DAY. Crush a Can Day. Crush a can without touching it in this experiment to test new spacecraft materials. State of the other o	28	<sup>29</sup>	30			On this calendar





The Visible Infrared Imaging Radiometer Suite (VIIRS) on Suomi NPP captured this picture of the waters off Argentina on December 2, 2014. The green swirls are small organisms called phytoplankton. Use the "I See Ice" viewer to look at some of the places where we have found water in our solar system.

#### OCTOBER 2015

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Energy Award Month. Much we use make and greenhou What are tho greenhou	s pollution use gases. se?		On this calendar means spaceplace.nasa.gov/	1	2	з З
4 Destroyments of the second s	5	6	7 In 1959, Lunik 3 took the first photo of the far side of the moon. Why does the moon look different throughout the month?	8	9 First two-way telephone conversation in 1876. How do we communicate with faraway spacecraft? %/dsn-game	10
<sup>11</sup>	12 NEW MOON Columbus Day	13 Train Your Brain Day. The "Ozone Trap-n-Zap" game will help! "/ozone	14 Dessert Day. Make yummy "El Niño Pudding" for dessert today.	15	16 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	17
18 Sweetest Day. A day to give sweets to those in need and those you love. Make your sweets star shaped. Star-cookies	19	20 FIRST QUARTER	21 Thomas Edison conducted the first successful test of electric light in 1879. See what invisible light an electric light bulb puts out.	22	23	24
25	26	27 OF FULL MOON	28	29	30	31
25	26	27	International Animation Day. Check out our "snappy" animations about science. ""/menu-snap	Internet Day. Celebrate by downloading some Space Place wallpaper for your computer desktop.	30	Design a Halloween mask using the Emoticonstructor. (femoticonstructor) Halloween



Image Credit: ESA/Hubble & NASA Acknowledgement: Nick Rose

#### NOVEMBER 2015



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 Daylight Saving Time ends. How did time- keeping ever get started? /classroom-activities/ #time	3 LAST QUARTER	4	5 5	6	7 Marie Curie born in 1867. A physicist, she won a Nobel Prize for discovering two new elements. Find out about NASA women scientists.
8 X-rays were discovered in 1895. X-ray is one kind of photon you will play with in "Photon Pile-up." ""/photon-pileup	9	10	11 New Moon National Young Readers Day. Read and listen to Dr. Marc's answers to great questions about space. () / dr.marc Veterans Day	12	13	14
15 I love to write day. Want to get started? Write your own zany adventure!	16	17	18 FERST QUARTER	19	20	<sup>21</sup> 21
22	23	24	25 O	26	27 Thanksgiving Day. Did the pilgrims on the	28
44	23	24	20	20	Mayflower navigate by the stars? With our starfinders, they could have.	20
<sup>29</sup>	30			On this calendar	Try maki together	tional Creative nd Aduit Month. ing a Cloud Mobile rd-mobile



This glittery galaxy is a blue compact dwarf galaxy known as Markarian 209. This composite image was taken using Hubble's Wide Field Camera 3 and Advanced Camera for Surveys, and includes ultraviolet, visible, and infrared parts of the electromagnetic spectrum. Find out more about the waves of the electromagnetic spectrum by visiting the Land of Magic Windows.





In January and February 1979, NASA's Voyager 1 spacecraft zoomed toward Jupiter, capturing hundreds of images during its approach, including this close-up of swirling clouds around Jupiter's Great Red Spot. Find out more about Jupiter's spot and what it would be like inside Jupiter.

Image Credit: JPL

#### DECEMBER 2015

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Read a New F If you haven't "Lucy's Plane real page turr Softstory-lucy	read it yet, t Hunt" is a her.	] On this calendar The ans spaceplace.nasa.gov/	2 LAST QUARTER	з З	4 Pioneer 10 flew past Jupiter in 1973. Play "JunoQuest," about a new mission to Jupiter. %/junoquest	5 5
6	<b>7</b> <b>Galileo spacecraft</b> became first to orbit an outer planet (Jupiter) in 1995. Learn more about Dr. Marc's favorite planet. <i>marc</i> -solar-system	8	9	10	NEW MOON First recorded sighting of <b>Aurora Borealis</b> , from New England in 1719. Learn about an especially memorable aurora from 1859.	12 Radio signals first trans- mitted across the Atlantic, 1901. How do radio waves carry messages? %/classroom-activities/ #phases
<sup>13</sup>	14 Geminids meteor shower at maximum early this morning. What causes a meteor shower? %/meteor-shower	15	16	17 First powered flight by the Wright Brothers in 1903. Did their invention just come out of the blue? classroom-activities/ #history	18 FIRST QUARTER	19 Apollo 17, the last of the Apollo moon landing missions, returned to Earth, 1972. Did they find water ice on the moon?
20	21 Winter Solstice (first day of winter). What causes the seasons, anyway? Seasons	22	<sup>23</sup>	<sup>24</sup>	25 FULL MOON Christmas Day. If you get an iPad or iPhone for Christmas, we have some more gifts for you. Vios	26
27 <b>27</b>	28	<sup>29</sup>	30	31 Time magazine named Albert Einstein "Person of the Century," 1999. Einstein's theories predict gravitational waves. Huh? %/ligo-g-waves		



When the sun lets out bursts of charged particles, some of

NASA

when the sun lets out bursts of charged particles, some of them flow right down into Earth's atmosphere near the Poles. When these charged particles hit Earth's atmosphere, they cause the gases in the air to glow in beautiful shades of green and red. Play "Shields Up" and protect Earth satellites from space weather like this!

Photo Credit: Wikimedia commons Frank Olsen

JANUARY 2016

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
National Than To thank your t their wonderful have download of space and t posters	I work, we hable posters	On this calendar			1 Galileo saw Saturn's rings through a telescope in 1610. Could a spaceship land on Saturn's rings? %/dr-marc-solar-system New Years Day	2
з З	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?	5	6	7 Galileo first spots what become known as Jupiter's Galilean moons. How do these moons interact with each other and their massive parent?	8 Physicist Stephen J. Hawking born 1942. He writes about black holes. How does it "sound" when a big star is swallowed by a black hole? //igo-g-waves	9
10	11 Amelia Earhart is the first woman to fly solo across the Pacific in 1935. How did her airplane stay up? /dr-marc-technology	12	13	14	15	16 FERST QUARTER
17 Ben Franklin's birthday, 1706. Ben played the violin. Maybe he played one made during the "little ice age." Violins	18	19 Martin Luther King, Jr. Day	20 Penguin Awareness Day. Emperor penguins migrate each year to breed. What other animals migrate?	21 <b>21</b>	<sup>22</sup>	23 FULL MOON
24 Ferst quarter 31	25 Mars rover Opportunity landed on Mars in 2004. Get the inside story on the latest Mars rover, Curiosity. //mission-chronicles/ #milkovich	26 <b>26</b>	27	28 <b>28</b>	29 National Puzzle Day. Unscramble beautiful "Earth-as-Art" puzzles.	30

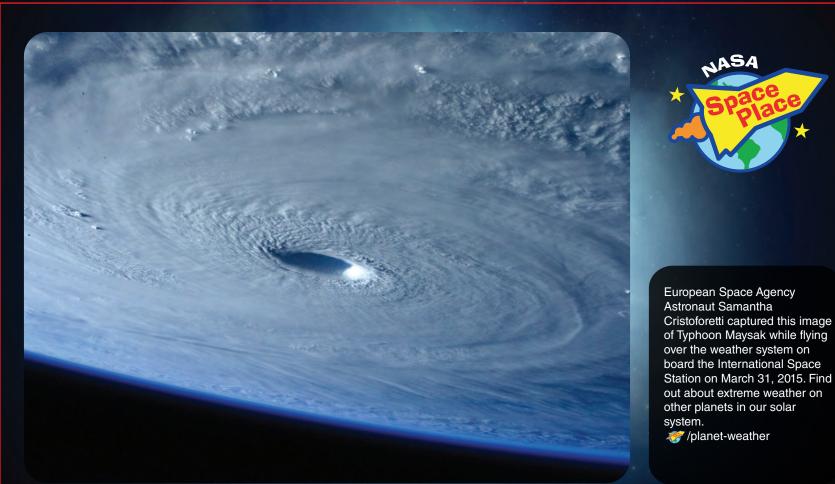


Image Credit: ESA/NASA/Samantha Cristoforetti

FEBRUARY 2016

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
	1	Groundhog Day. The groundhog should consult the GOES satellites, not his shadow!	3	4	National Weather- person's Day. Learn to read—and make—a real weather map! classroom-activities/ #wizard	Apolio 14 astronauts played golf on the Moon in 1971. See astronauts at work and play. /gallery-technology/ #astronauts
7	8 NEW MOON	9	10	11	12	13
7	8	9	10	11	Charles Darwin born this day in 1809. You will understand evolution of species after playing with the "Emoticonstructor."	The Great Backyard Bird Count begins. Learn about how NASA keeps track of some birds using radar.
14 DEFIRST QUARTER	15	16	17	18	19	20
Valentine's Day	Presidents' Day	16	17	18	Nicolaus Copernicus born in 1473. He thought the center of the universe was near the sun. Wrong! But where is it?	20
21	22 O	23	24	25	26	27
International Mother Language Day. If yours is Spanish, we have a website just for you.	World Thinking Day. Give your brain a workout and go "Vec—>Touring" today!	Engineers Week. Get started as an engineer with The Space Place activities! %/menu/do	24	25	Introduce a Girl to Engineering Day. Watch Space Place Live! and meet a "girl engineer." //space-place-live/ #douglas	NASA and JAXA launched the Global Precipitation Measurement satellite in 2014. How would you build your own satellite?
28	29				Plant #	
28	29		On this calendar means spaceplace.nasa.gov/		Space P	e Seeds of ss Month. Watch lace Live! s to find out how! e-place-live



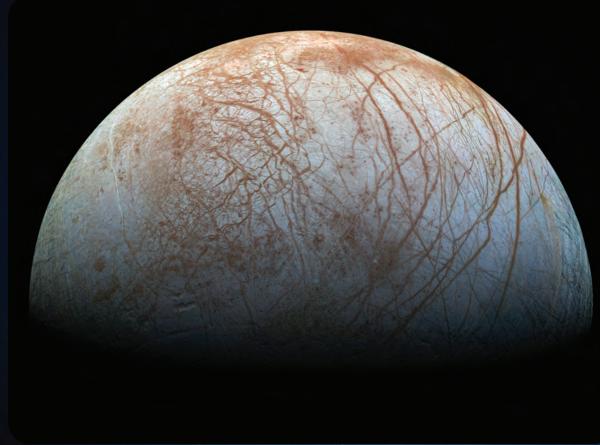


Image Credit: ESA/Hubble & NASA, Acknowledgement: Flickr user Det58

#### MARCH 2016

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
International Li Awareness Mo Listening maker a better place. I our podcasts.	s the world Practice with	1 LAST QUARTER	2 Dr. Seuss was born this day in 1904. If you like Dr. Seuss stories, you might like "Ode to Aerogel."	з З	4	5 5
6	7	8 NEW MOON Daylight Saving Time begins	9	10 First telephone call, 1876. How do we talk to spacecraft way out in space? /x-ponder	<sup>11</sup>	12 12
13	<sup>14</sup> <b>14</b>	15 FIRST QUARTER	16	177 St. Patrick's Day. Leprechauns are Irish folklore fairies in green. If we meet other green beings in space, what would we say about us?	18	19 Absolutely Incredible Kid Day. Adults write letters telling kids how incredible they are. If you visit The Space Place, you deserve one!
20 World Storytelling Day. Create your own zany story to tell today! Iloopy-legends Vernal Equinox (first day of spring)	21 International Ask a Question Day. Visitors to Space Place partner museums have asked a lot of good questions, and Dr. Marc has answers.	22 International Goof-off Day. Download the iPad and iPhone games made by The Space Place. You might learn something while goofing off!	23 OF	24	25	26
27 227 Easter Sunday	<sup>28</sup>	29 29	30	31 LAST QUARTER	On this calendar रूग means spaceplace.nasa.gov/	





You can clearly see the surface of Jupiter's icy moon Europa in this newly reprocessed color view, made from images taken by NASA's Galileo spacecraft in the late 1990s. You can see long cracks that crisscross the surface, interrupted by areas where the surface ice crust has been broken up and re-frozen into new patterns. Read more about Europa and why it might be able to support life.

🥳/europa

Image Credit: NASA/JPL-Caltech/SETI Institute

#### APRIL 2016

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Annual Plane Planets can	be pretty funny		On this calendar रूग means spaceplace.nasa.gov/		April Fool's Day. At least teach your nose not to be fooled!	2
3 National Find a Rainbow Day. Go to the "Cosmic Colors" viewer and see the universe in far more colors than in a rainbow! //cosmic-colors	4 National Reading a Road Map Day. How do homing pigeons find their way home? Do they read a map? %/pigeons	5 5	6	7 New MOON	8	9
D Encourage a Young Writer Day. Suggest they write a poem about the future and exploring space.	" 11	12 First Space Shuttle was launched, 1981. See pictures of Space Shuttle launches and landings. gallery-technology/ #rockets	13 FIRST QUARTER	14	15 Leonardo da Vinci was born this day in 1452. Ever wonder how most inventors do their work? /classroom-activities/ #history	16
17 17	18	19 Humorous Day. You will truly test your friends' sense of humor when you give them the "Robot Puzzle" to solve. #Vacation of the sense.	20	21 FULL MOON	22 Earth Day. Make a stained glass Earth and see our planet in a whole new light! fstained-glass-earth	23
24	25	26	27	28	29	30
24	25	26	Tell a Story Day. Read a couple of the storybooks on The Space Place, then make up your own story about space!	28	29	30
	NASA Space Place is the	e official children's website of	NASA's Science Mission Dire	ectorate. It can also be found	at science.nasa.gov/kids.	

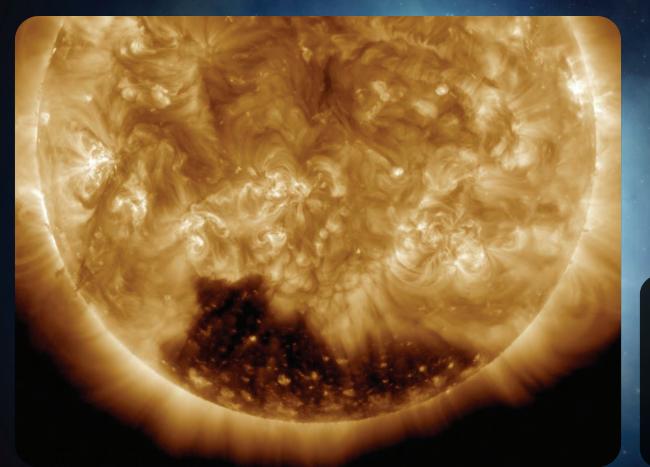


Image Credit: NASA/SDO

#### MAY 2016

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weather.

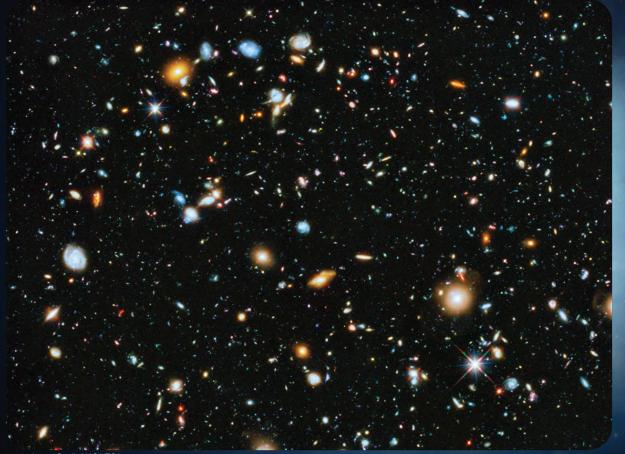
😻 /spaceweather

NASA

On January 1, 2015, NASA's Solar Dynamics Observatory took this image of the sun.

The dark patch on the bottom is a coronal hole, an area where the sun's atmosphere is colder and less dense than the rest of the sun. Find out how the sun causes space

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 The first commercial jet flight took place this day, 1953. Why do we need rockets? Can't an airplane just keep going into space?	з З	4 National Weather Observers Day. To celebrate, go on a "Wild Weather Adventure!" Vwild-weather-adven- ture	5 National Teacher's Day. Check out the interesting classroom activity articles and images on the Parents & Educators page. //menu/ parents-and-educators	6 New Micros Build a cool model of a spacecraft such as the Hubble Space Telescope. /build-a-spacecraft	7
8 Mother's Day. Play "Photon Pile-up" with mom. %/photon-pileup	9	10	<sup>11</sup>	12	13 FIRST QUARTER	14 14
15 National Chocolate Chip Day. There are all kinds of chips, including tiny ones for tiny spacecraft. Guide the tiny ship through a printable space maze.	16	17 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	18 volcano Mt. St. Helens blew its top this day in 1980. Learn more about volcanoes on Earth and elsewhere in the solar system. /gallery-earth/volcanoes and /volcanoes2	19	20	21 FULL MOON
22	23 Benjamin Franklin, in 1785, announces his invention of bifocals. Why do we even need two eyes? /stereo-vision	24	25 President Kennedy announces in 1961 that the U.S. will land a person on the moon by the end of the decade. Build your own "Moon Habitat."	26 Birthday in 1951 of <b>Dr.</b> Sally Ride, the first American woman in space. Find out about other women in NASA. Syspace-place-live	27	28 In 1959, the U.S. launches two monkeys into space and returns them safely to Earth. Monkey around in space by trying our Games.
29 Last quarter	30 Memorial Day	31	On this calendar		National Rac What are radi how can they and voices? Classroom, #phases.	carry music





This is one of the most colorful deep space images ever captured by NASA's Hubble Space Telescope in its 24 years. This image is a composite of separate exposures taken from 2003 to 2012 with Hubble's Advanced Camera for Surveys and Wide Field Camera 3. Make your own collection of galaxies on a galactic mobile!

Image Credit: NASA/ESA

#### JUNE 2016

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
National Zoo a Month. Maybe some endange like these:	VOU WIII SEE	On this calendar means spaceplace.nasa.gov/	1	2	Birst U.S. spacewalk in 1965. How did Apollo astronauts survive the harsh environment of space? <sup>™</sup> /dr-marc-earth	4 New MOON
5	6	7 Trial Technology Day. Try out our make-believe "Ozone Trap-n-Zapper." "ozone	8	9	10	Fermi Gamma-ray Space Telescope launched 2008. What is it like to work on this mission that observes the high-energy universe? //mission-chronicles/ #thompson
12 FIRST QUARTER	13	14	15	16	17	18
19 10 Father's Day	20 O FULL MOON	21 Summer Solstice, first day of summer. What causes Earth to have seasons? Seasons	22	23	24 Celebration of the Senses Day. Here are some super- sensing machines that astronomers use to explore the universe.	<sup>25</sup>
26	27 LIST QUARTER Helen Keller Day. Born in 1880 with no hearing or sight, she seemed to have a sixth sense, like this mission. #/lisa-g-waves	28 28	29	30		