



THE UNIVERSE

SUNDAY
6 13 20 27

TUESDAY
1 8 15 22 29

SATURDAY
5 12 19 26

MONDAY
7 14 21 28

FRIDAY
4 11 18 25

THURSDAY
3 10 17 24 31

WEDNESDAY
2 9 16 23 30

20 Buzz Aldrin is born
31 first U.S. satellite launched, 1958

Saturn is a gas giant and is the second largest planet in our solar system. Galileo discovered the planet in 1610. Saturn is composed of 75 percent hydrogen and 25 percent helium with traces of water, methane and ammonia. The interior is rocky with a layer of metallic particles with icy coatings. They extend hundreds of thousands of kilometers from the center. Saturn can have winds in its upper atmosphere that reach 1,600 feet per second. Earth's fastest winds reach a maximum of 360 feet per second.

SATURN 01

VY CANIS MAJORIS

to scale, the sun is one pixel in scale when compared to VY Canis Majoris.

our sun

18 Stardust returns cometary samples
20 Ranger 8 leaves for the Moon

fr	sa	su	mo	tu	we	th
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

VY Canis Majoris is one of the largest stars known to date. It is approximately 4,900 light years away from the Earth which is equivalent to over a quadrillion miles.

It is thirty times more massive than the sun and releases more energy in six seconds than the sun does in an entire year. In the near future this star will hypernova.

02

Friday	1	8	15	22	29
Saturday	2	9	16	23	30
Sunday	3	10	17	24	31
Monday	4	11	18	25	
Tuesday	5	12	19	26	
Wednesday	6	13	20	27	
Thursday	7	14	21	28	

The moon is the only natural satellite of the Earth and the fifth largest satellite in the solar system. The moon is the brightest object in the night sky. Its gravitational influence causes the ocean tides and minute lengthening of days.

The moon makes a complete orbit around the Earth every 27.3 days.



The

M

03



The Big Dipper

04

24 Hubble Space Telescope launched
16 Apollo 16 launched

The big dipper is not a constellation but rather an asterism. An asterism is a grouping of stars easily recognized by non-professional astronomers. The big dipper consists of seven bright stars and is part of the constellation Ursa Major or Great Bear. It is associated with the underground railroad as it was easy for slaves to locate the North Star as they traveled North to find freedom.

Venus is the second largest planet from the sun and orbits the sun every 224.7 days. It has highly reflective clouds of sulfuric acid. Venus' surface can not be seen from space. It consists mostly of carbon.

VENUS

Venus is named after the Roman goddess of love and beauty. It is similar in terms of its size and gravity. Covered by an opaque layer of dioxide and is the hottest planet (863°F).

	wed	1	thu	2	fri	3	sat	4	sun	5			
mon	6	tue	7	wed	8	thu	9	fri	10	sat	11	sun	12
mon	13	tue	14	wed	15	thu	16	fri	17	sat	18	sun	19
mon	20	tue	21	wed	22	thu	23	fri	24	sat	25	sun	26
mon	27	tue	28	wed	29	thu	30	fri	31				

5 Eta Aquariids Meteor Shower
26 Sally Ride born 1951

05

06

Transit of MERCURY

A TRANSIT OF MERCURY OCCURS WHEN

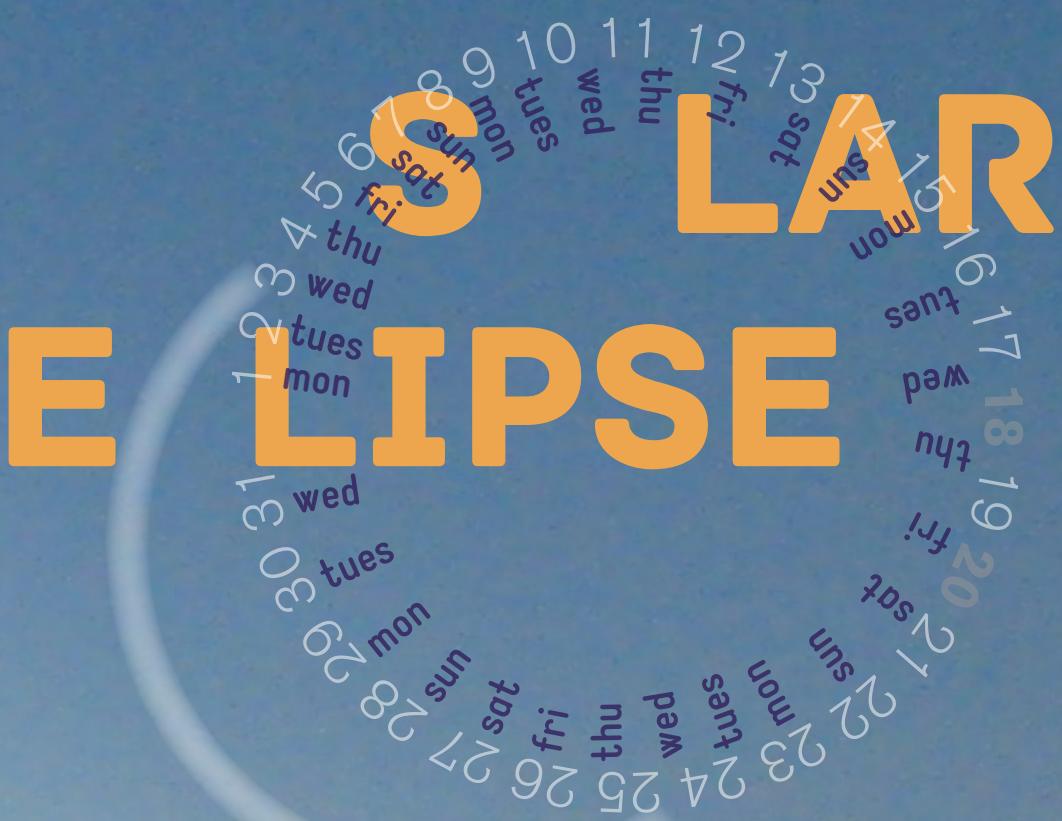
MERCURY COMES BETWEEN THE SUN
AND THE EARTH.

sat	sun	mon	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

MERCURY IS SEEN AS A SMALL BLACK DOT TRAVELING ACROSS THE FACE OF THE SUN. TRANSITS OF MERCURY OCCUR MORE FREQUENTLY THAN TRANSITS OF VENUS BECAUSE MERCURY IS CLOSER TO THE SUN AND ORBITS MORE RAPIDLY. THESE TRANSITS ARE MOST LIKELY TO OCCUR IN MAY OR NOVEMBER.

10 James McDivitt born
21 June Solstice

18 John Glenn Born 1921
20 Apollo landed on Moon 1969



A solar eclipse occurs when the moon passes between the sun and the Earth and the moon fully or partially blocks the sun. This can happen only with a new moon. A total eclipse occurs when the dark silhouette of the moon completely covers the bright light of the sun, which allows the solar corona to become visible.

07

BLACK HOLES

08

A black hole's gravitational pull is so strong that it prevents anything, even light, from escaping. Surrounding a blackhole is a event horizon. Once an object passes through the event horizon, it can never escape.

surface called sa17 su18 .
or pass back through. ~ tu27

th22 **fr23** **sa24** **su25** **mo26**
this, it can no longer
... bears all light

It is called a black hole ...

that hits its horizon and reflects nothing back.

A typical massive stars die out and collapse.

*It is approximately 10³¹ kilograms.
A stellar black hole would*

black hole at the center of our galaxy has been proven, that

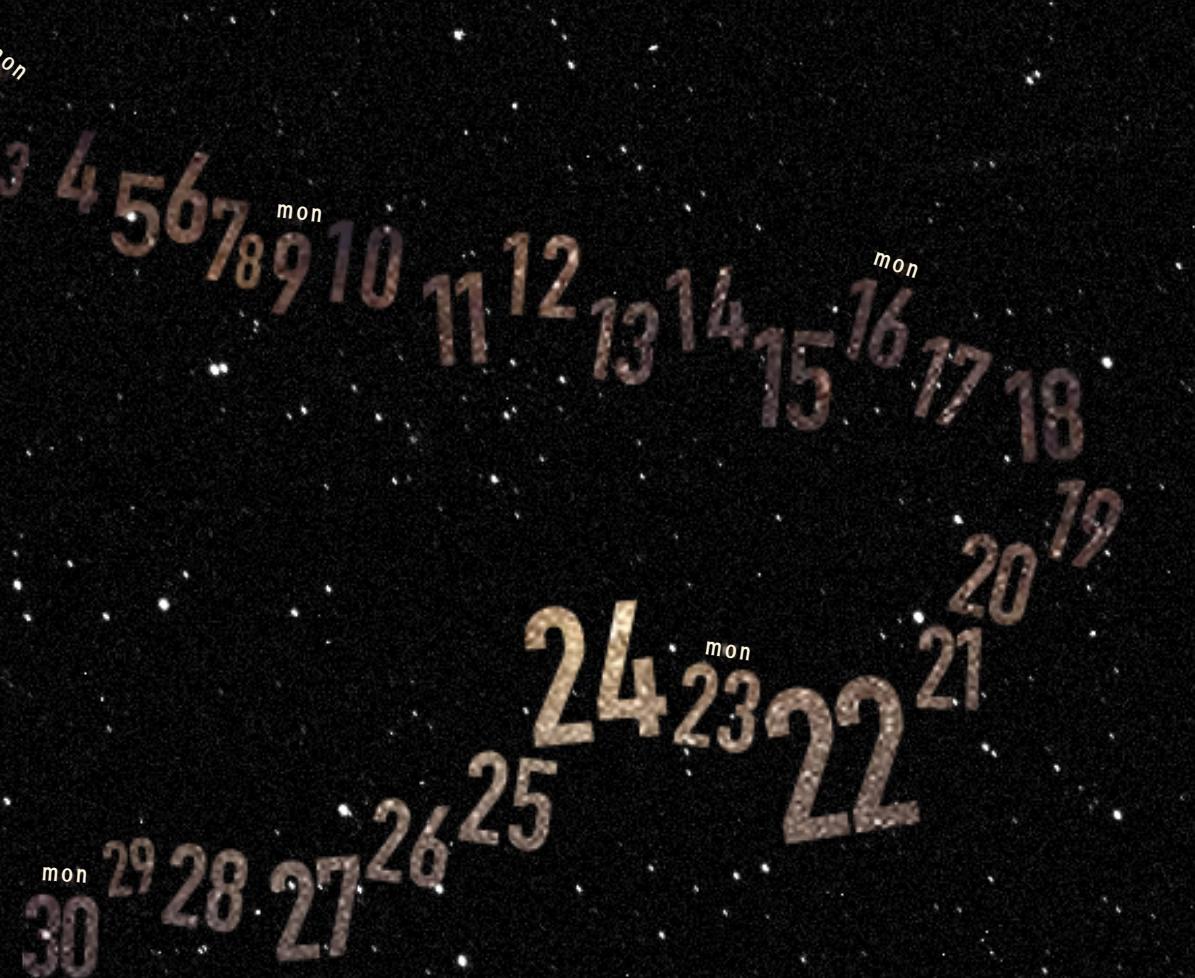
Curiosity lands at the center of every galaxy.

1930 Mars 2012

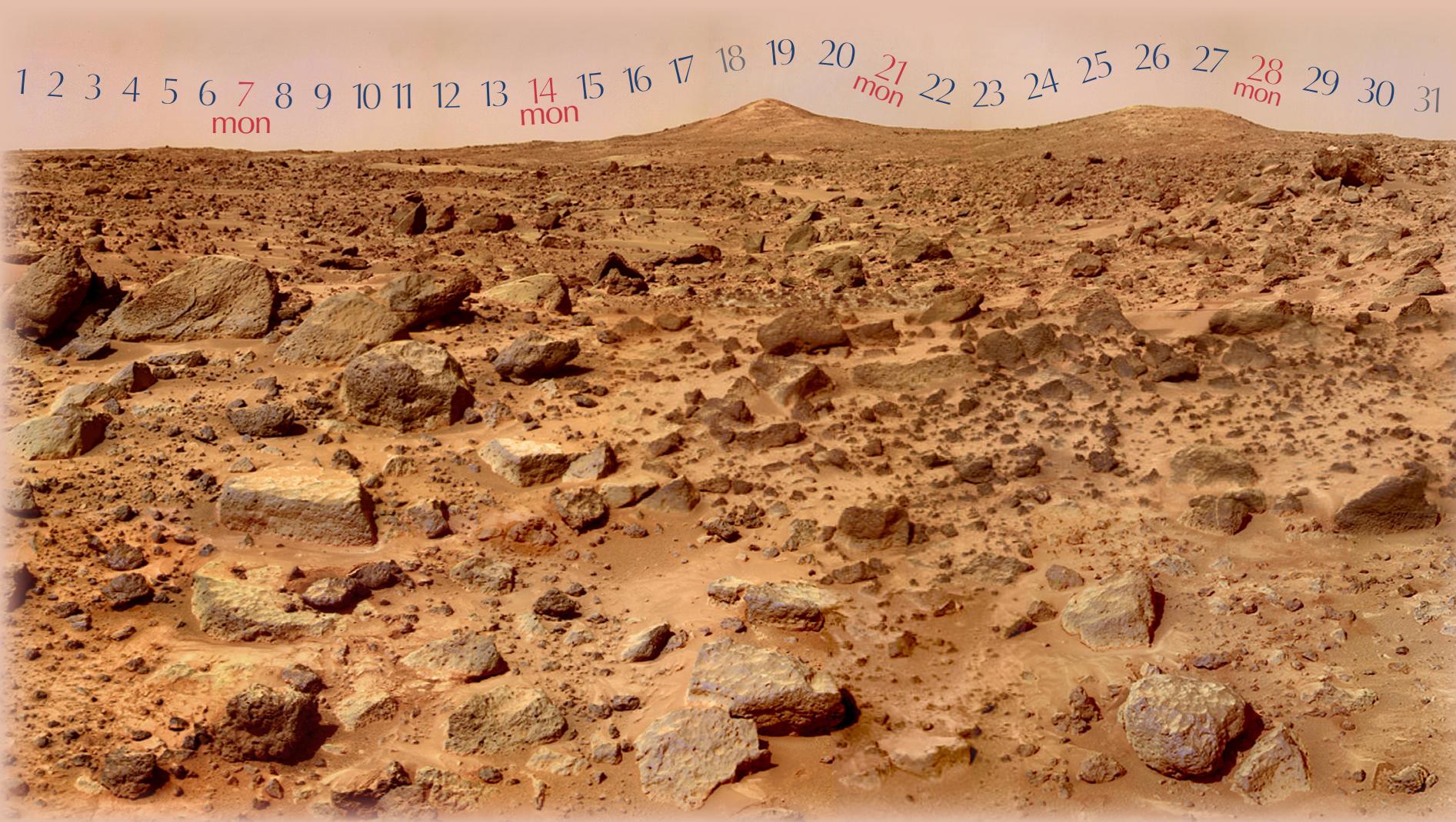
The Milky Way

Astronomers estimate that there are 200-400 billion stars in the Milky Way

The Milky Way is the galaxy that contains our solar system and is approximately 100,000 to 120,000 light years in diameter. It is a barred spiral galaxy but appears as a band from the Earth because we are viewing it from the inside.



09



Mars

Mars is home to the largest known mountain in our Solar System, Olympus Mons, which is nearly 14 miles high. Mt. Everest is five and a half miles high.

Mars is the fourth planet from the sun and the second smallest planet in our Solar System. It is often referred to as the "Red Planet" because the iron oxide on its surface gives it a reddish appearance. There are currently five functioning spacecrafts (three in orbit) that have studied or are studying the planet. Mars Science Laboratory Curiosity is the most recent addition.

10



friday 1 saturday 2 sunday 3
monday 4 tuesday 5 wednesday 6 thursday 7 friday 8 saturday 9 sunday 10
monday 11 tuesday 12 wednesday 13 thursday 14 friday 15 saturday 16 sunday 17
monday 18 tuesday 19 wednesday 20 thursday 21 friday 22 saturday 23 sunday 24
monday 25 tuesday 26 wednesday 27 thursday 28 friday 29 saturday 30

6 Moon reaches perigee
28 Mariner 4 launched

COMETS

{ We are able to see comets from Earth because sunlight reflects off the dust and the sun excites the molecules. Comets are celestial objects that are made up of ice, dust and gas.

11

sunday 1
monday 2
tuesday 3
wednesday 4
thursday 5 16 monday
friday 6 17 tuesday
saturday 7 18 wednesday
sunday 8 19 thursday
monday 9 20 friday
tuesday 10 21 saturday
wednesday 11 22 sunday
thursday 12 23 monday
friday 13 24 tuesday
saturday 14 25 wednesday
sunday 15 26 thursday
 27 friday
 28 saturday
 29 sunday
 30 monday
 31 tuesday

If a meteoroid reaches the ground and stays in tact, it is then called a meteorite. Every year around 15,000 tons of meteoroids, space dust and debris enter the Earth's atmosphere.

meteors

The root word meteor comes from the Greek, meteoros, meaning "high in the air"

23 Rhea discovered 1672
13 Geminids Meteor Shower

meteors can range in size from a grain of sand to a boulder. The visible path is called a meteor.

12

The background of the image is a dark, textured surface that looks like a star-filled night sky. It is filled with numerous small, glowing points of light of varying intensities, primarily in shades of blue, white, and yellow. There are no discernible patterns or constellations.

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