



Erasmus+



“REACH THE SKY !”

ASTROCALENDAR 2018

Photo: “Galaxy NGC4501 – PETeR telescope, La Palma, Canary Islands”, by Katarzyna Zych, Poland



Erasmus+

This project has been funded with support from the European Commission. This site reflects the views only of the authors', and the Commission cannot be held responsible for any use which may be made of the information contained therein.



About “Reach the Sky”

“Reach the Sky” is an Erasmus+ schools partnership. The partnership will be developed in the period September 2015- September 2017. The partner schools are:

- I Liceum Ogólnokształcące im. Marcina Kromera from Gorlice, Poland
- Franjo Malgaj Primary School from Šentjur, Slovenia
- Liceul Teoretic “Gheorghe Lazăr” from Pecica, Romania
- Mustafa Gürbüz Necat Bayel Anadolu Lisesi from Gaziantep, Turkey
- IES Magallanes from Granadilla de Abona, Spain

The main **specific objectives** of our project are:

- Developing the ability to carry out simple observation and study of objects on the celestial sphere in different latitudes, skills analysis and independent thinking, and cooperation in the field of science with their peers in other European countries;
- Familiarize students with the relationships between human activities and the functioning of the natural environment in the region of partner schools;
- Shaping the needs saving and rational use of electricity – developing young people’s entrepreneurial attitudes and activities for the local community;
- Presenting opportunities to develop business in conjunction with the use of natural environment of their region (astrotourism);
- Familiarize the students with the life and achievements of prominent European astronomers;
- Developing sensitivity and artistic talents by presenting content astronomy in art.






Education will be held in extracurricular conditions in the natural environment of nature, in groups. Innovation program will involve broadening the curriculum with new content (students expand their knowledge of the content of astronomy, natural sciences, natural terminology in English, ICT skills). The organizational innovations will involve conducting workshops in the system of after-school activities in smaller groups than the teams of class, classes will be held in cooperation with the scientific staff and in cooperation with didactic and scientific institutions.

"REACH THE SKY!" ASTROCALENDAR



Photo: "Sirius and Orion in the winter sky" by Aleksandra Przybylowicz, Poland

January 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	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	29	30	31 			

New Moon



First Quarter



Full Moon



Last Quarter






Day	Astro - Event / Other Events
1	New Year's Day.
	Moon at Perigee: 356566 km.
	Mercury at Greatest Western Elongation.
	1801- Giuseppe Piazzi discovered the dwarf planet Ceres . Simon Marius , 1 st discovers the Jupiter moons, but does not officially report it.
2	Full Moon , Supermoon.
3	Earth at Perihelion: the closest point to the Sun in its yearly orbit (0.98329 AU).
	Quadrantids Meteors .
4	Quadrantids Meteors .
7	1610 - Galileo Galilei discovers first three satellites of Jupiter : Io, Europa & Ganymede.
8	1942 - Stephen Hawking , English theoretical physicist, cosmologist.
9	Venus at Superior Conjunction.
	Moon's Third Quarter.
11	1787- Titania & Oberon, moons of Uranus , discovered by William Herschel .
13	1610 - Galileo Galilei discovers Callisto, 4th satellite of Jupiter .
15	Moon at Apogee: 406461 km.
	2016 - Tim Peake becomes first British ESA astronaut to make a spacewalk from the International Space Station.
17	New Moon .
20	1930 - Buzz Aldrin , American engineer and former astronaut.
23	Venus at Aphelion.
25	Mercury at Aphelion.
	Moon's First Quarter.
30	Moon at Perigee: 358995 km.
31	Blue Moon : The 2nd Full Moon in January is a Blue Moon.
	1862 - Alvan Graham Clark discovered the dim companion of Sirius.
	Total Lunar Eclipse .

"REACH THE SKY!" ASTROCALENDAR



Photo: "Mercury crossing the Sun's face, Gorlice 9th May 2016" by Malgorzata Kurcab, Poland

February 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				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			

New Moon



Full Moon



First Quarter



Last Quarter








Day	Astro-Events / Other Events
6	2018 European Safer Internet Day.
7	e-Day (Eulerian constant Day). Moon's Third Quarter.
8	Slovenian Prešeren Day.
11	Moon at Apogee: 405701 km.
14	Valentine's Day.
15	Mercury at Greatest Eastern Elongation.
15	Partial Solar Eclipse.
15	New Moon .
17	Mercury at Superior Conjunction.
19	Constantin Brâncuși Day.
19	1473: Nicolaus Copernicus , Polish Astronomer, mathematician and physician, well known for the Heliocentric theory.
20	1962 - John H. Glen first American astronaut in space.
23	Moon's First Quarter.
24	Romanian Dragobete Day.
27	Moon at Perigee: 363938 km.
*	There is no New Moon in February 2018 making it a Black Moon .

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Photo: "Venus and the Teide Shadow", by Carlos Rodríguez, Spain

March 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				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	29	30	31
						

New Moon



Full Moon



First Quarter



Last Quarter



Day	Astro-Events/ Other Events
1	Romanian Spring Fest Mărțișor.
2	Full Moon.
4	Neptune in conjunction with Sun. 1774 - First sighting of Orion nebula (William Herschel).
8	International Women's Day
9	1934 - Yuri Gagarin, Soviet pilot and cosmonaut.
	Moon's Third Quarter.
10	Mercury at Perihelion.
11	Moon at Apogee: 404682 km.
13	1781 - Sir Wilhelm Friedrich Herschel discovered Uranus.
14	Pi's Day. 1879 - Albert Einstein, German-born theoretical physicist.
17	New Moon.
20	March Equinox: The March equinox is the first day of spring in the Northern Hemisphere.
24	Moon's First Quarter.
26	Moon at Perigee: 369104 km.
31	Earth Hour. Full Moon, Blue Moon.

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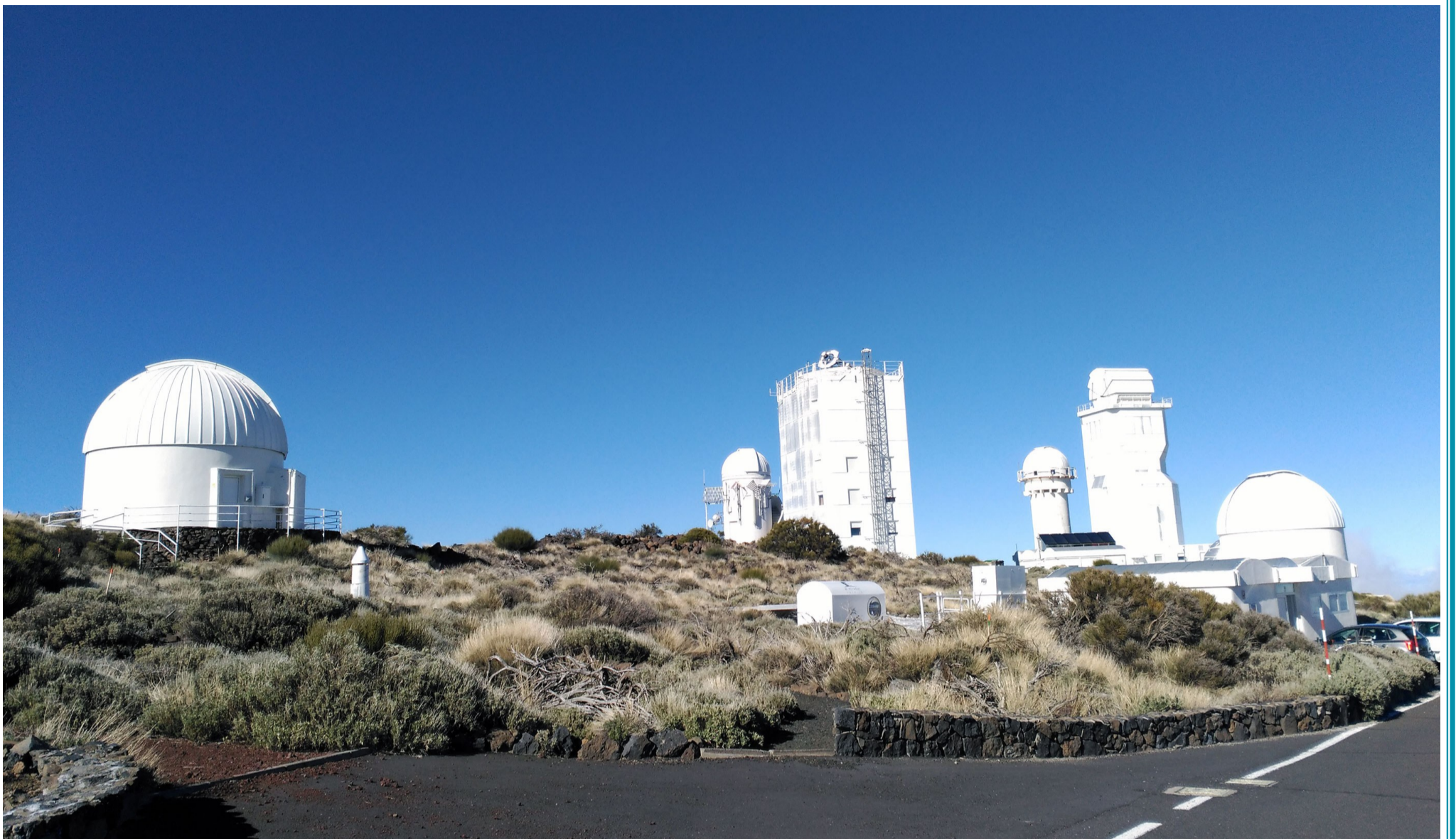






Photo: "Izaña Observatory (IAC)" by Samuel Vera, Spain

April 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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
29	30 					

New Moon



First Quarter



Full Moon



Last Quarter







Day	Astro-Events/ Other Events
1	Mercury at Inferior Conjunction. Catholic Easter Day.
3	Saturn at Aphelion.
8	Orthodox Easter Day. Moon at Apogee: 404145 km. Moon's Third Quarter.
12	Yuri's Night, an unofficial annual holiday that honors and celebrates human space exploration.
14	Look up the Sky Day - step out of your home or office and take a few minutes to look up at the sky.
15	1629 - Christiaan Huygens - Dutch astronomer, who discover Titan , a Moon of Saturn .
16	New Moon .
18	Uranus in Conjunction with Sun .
19	1971 - The Soviet Union launches the world's first manned space station . Salyut 1 was 23 meters long and offered 100 cubic meters of pressurized space.
20	Moon at Perigee: 368713 km.
21	2018 - Spring Astronomy Day .
22	Earth Day . Lyrid Meteor Shower .
23	Lyrid Meteor Shower . Turkish National Sovereignty and Children's Day. Moon's First Quarter.
26	1514 - Copernicus makes his 1st observations of Saturn . Polish Mother's Day.
29	Mercury at Greatest Western Elongation.
30	Full Moon .

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Photo: "The Sun and the Clouds Sea" by Carlos Rodríguez, Spain

May 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		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	29 	30	31		

New Moon



Full Moon



First Quarter



Last Quarter







Day	Astro-Events / Other Events
1	Labor Day.
2	1780 - William Herschel discovers 1st binary star, Xi Ursae Majoris .
5	Eta Aquarids Meteors Shower .
6	Eta Aquarid Meteors Shower .
	Moon at Apogee: 404458 km. Spanish Mothers' Day.
8	Moon's Third Quarter.
9	Jupiter at Opposition.
	Europe Day.
15	New Moon .
16	Venus at Perihelion.
17	Moon at Perigee: 363777 km.
22	Moon's First Quarter.
29	Full Moon .

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Photo: "Heavens' Roots" by Níkolett Ivan, Romania

June 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					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 	29	30

New Moon



Full Moon



First Quarter



Last Quarter







Day	Astro-Events/ Other Events
1	Children's Day.
2	Moon at Apogee: 405316 km.
6	Mercury at Superior Conjunction.
	Mercury at Perihelion. Moon's Third Quarter.
13	New Moon .
14	Moon at Perigee: 359507 km.
16	1963 - Valentina Tereshkova , Russian cosmonaut, the first woman to have flown in space.
20	Moon's First Quarter.
21	Summer Solstice .
26	Romanian Flag Day.
27	Saturn at Opposition.
28	Full Moon .
30	International Asteroid Day .
	Moon at Apogee: 406061 km.

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Photo: "Make a wish" by Csaba Brezan, Romania

July 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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
29	30	31				

New Moon



First Quarter



Full Moon



Last Quarter







Day	Astro-Events/ Other Events
6	Earth at Aphelion: 1.01670 AU.
	Moon's Third Quarter.
8	Math 2.0 Day.
12	Mercury at Greatest Eastern Elongation.
13	Partial Solar Eclipse.
	Moon at Perigee: 357432 km. New Moon.
19	1595 - Johannes Kepler develops his theory of the geometrical basis of the Universe.
	Moon's First Quarter.
20	Mercury at Aphelion.
	Space Exploration Day.
27	Total Lunar Eclipse.
	Full Moon.
	Moon at Apogee: 406223 km. Mars at Opposition.
28	Delta Aquarids Meteor Shower.
29	Delta Aquarids Meteor Shower.

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Photo: "Solar Autograph" by Bianca Nagy, Romania

August 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			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	29	30	31	

New Moon



Full Moon



First Quarter



Last Quarter







Day	Astro-Events / Other Events
4	Moon's Third Quarter.
5	1930 - Neil Armstrong , American astronaut and the first person to walk on the Moon .
8	1609 - Galileo Galilei invented telescope .
	1625 - Giovanni Domenico Cassini , Italian mathematician, astronomer, astrologer and engineer.
9	Mercury at Inferior Conjunction.
10	Moon at Perigee: 358083 km.
11	Partial Solar Eclipse.
	New Moon .
12	Perseids Meteor Shower .
13	Perseids Meteor Shower .
15	St Mary's Day.
17	Venus at Greatest Eastern Elongation.
18	Moon's First Quarter.
23	Moon at Apogee: 405744 km.
24	2006 - Pluto Demoted Day.
26	Mercury at Greatest Western Elongation.
	Full Moon .
28	1789 - William Herschel discovers Saturn's moon Enceladus .

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Photo: "Moon. Full Moon." by Ozan Göçmen, Turkey

September 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						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	29
30						

New Moon



Full Moon



First Quarter



Last Quarter








Day	Astro-Events / Other Events
2	Mercury at Perihelion.
3	Aldebaran 1.2°S of Moon .
	Moon's Third Quarter.
4	1682 - English astronomer Edmond Halley observes the comet named after him.
7	Neptune at Opposition.
	Beehive 1.4°N of Moon .
8	Moon at Perigee: 361355 km.
9	New Moon .
14	Jupiter 4.4°S of Moon .
16	Mars at Perihelion.
17	1789 - William Herschel discovers Mimas , satellite of Saturn .
	Moon's First Quarter.
20	Moon at Apogee: 404875 km.
21	Mercury at Superior Conjunction.
23	Autumn Equinox .
25	Full Moon .
26	European Day of Languages.

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Photo: "Indigo" by Baris Utangaç, Turkey

October 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	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	29	30	31 			

New Moon



Full Moon



First Quarter



Last Quarter







Day	Astro-Events / Other Events
2	Moon's Third Quarter.
5	Regulus 1.8°S of Moon.
	Moon at Perigee: 366396 km. 1923 - Edwin Hubble identifies Cepheid variable star.
8	8.10.2018 - The Palindrome Day (A palindrom date that can be read the same way backward and forwards.)
	Draconids Meteor Shower. Polish Pierogi Day.
9	New Moon.
11	Jupiter 4.1°S of Moon.
12	Hispanic Day.
13	2018 - Autumn Astronomy Day.
15	Saturn 1.8°S of Moon.
16	Mercury 6.2° of Venus.
	Moon's First Quarter.
17	Moon at Apogee: 404227 km.
21	Orionids Meteor Shower.
22	Orionids Meteor Shower.
23	Uranus at Opposition.
24	Full Moon.
29	Mercury 3.1° of Jupiter.
	International Internet Day.
31	Moon at Perigee: 370201 km.
	Halloween.
	Moon's Third Quarter.

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Photo: "Stars of the Princes of the Holy Roman Empire from Celje seal", by Niko Koželj, Slovenia

November 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				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	29	30 	

New Moon



Full Moon



First Quarter



Last Quarter



Day	Astro-Events / Other Events
2	2000 - starting date of the continuous human presence at the ISS's board. Regulus 2.1°S of Moon.
3	1957 - Laika , a Soviet space dog who became one of the first animals in space, and the first animal to orbit the Earth.
5	Taurids Meteor Shower.
6	Taurids Meteor Shower. Mercury at Greatest Eastern Elongation.
7	New Moon.
8	1656 - Edmond Halley , English astronomer.
9	Mercury 1.8°N of Antares.
10	Turkish Ataturk Memorial Day.
11	Polish Independence Day.
14	Moon at Apogee: 404341 km. Venus 0.2°S of Spica.
15	1738 - William Herschel - British astronomer. Moon's First Quarter.
16	Mars 1.0°N of Moon: Occultation.
17	Leonids Meteor Shower.
18	Leonids Meteor Shower.
20	1889 - Edwin Hubble American astronomer.
23	Aldebaran 1.7°S of Moon. Fibonacci Day. Full Moon.
26	Jupiter in Conjunction with Sun. Moon at Perigee: 366623 km.
27	Mercury at Inferior Conjunction. Beehive 0.8°N of Moon.
29	Mercury at Perihelion.
30	1609 - Galileo pointed his telescope to the Moon for the first time. Moon's Third Quarter. St Andrew's Day - the Protector of Romanians.

"REACH THE SKY!" ASTROCALENDAR

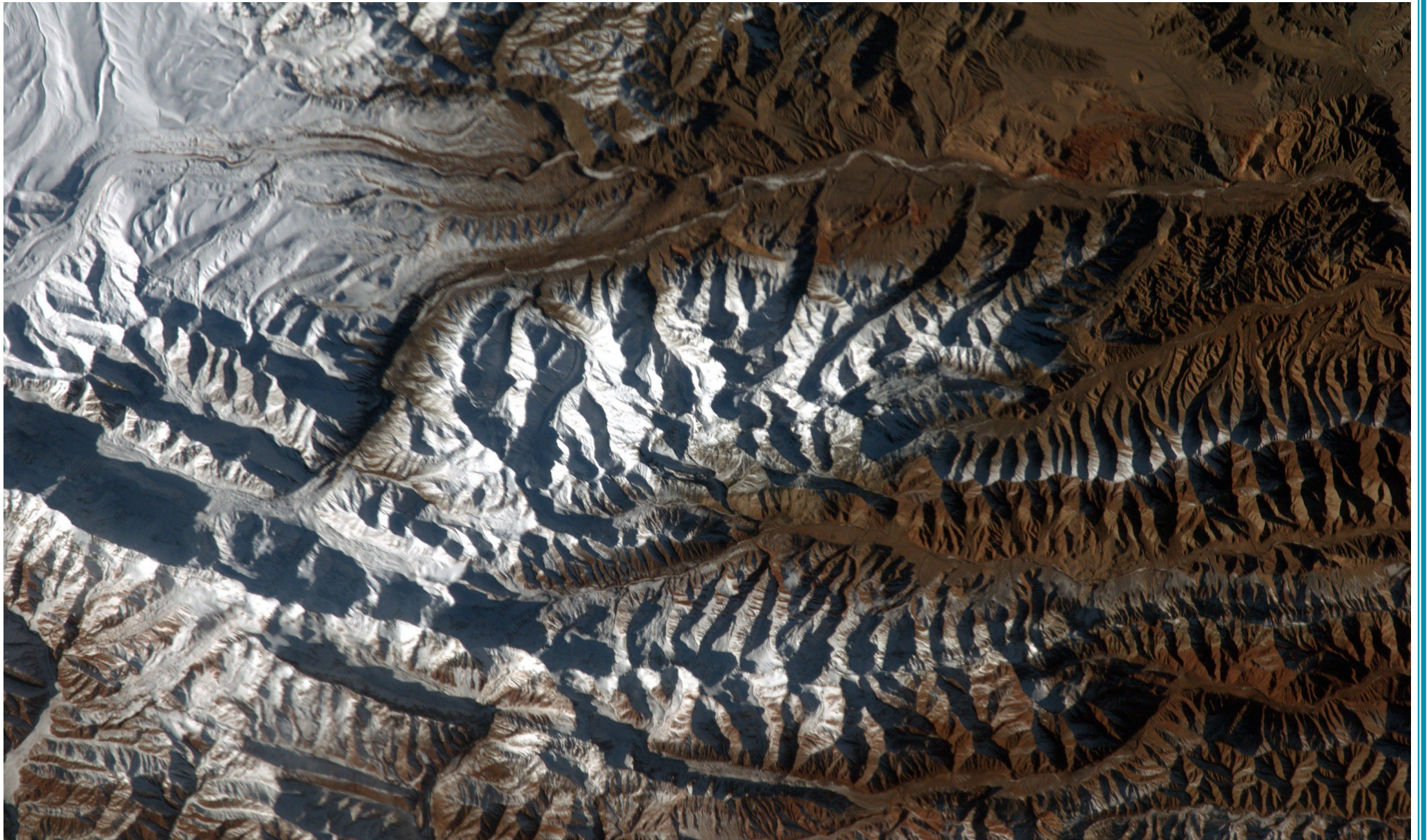






Photo: "Pamir Mountains, Tajikistan, Sally Ride EarthKAM" by Nejc Mackovsek, Slovenia

December 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						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	29 
30	31					

New Moon



Full Moon



First Quarter



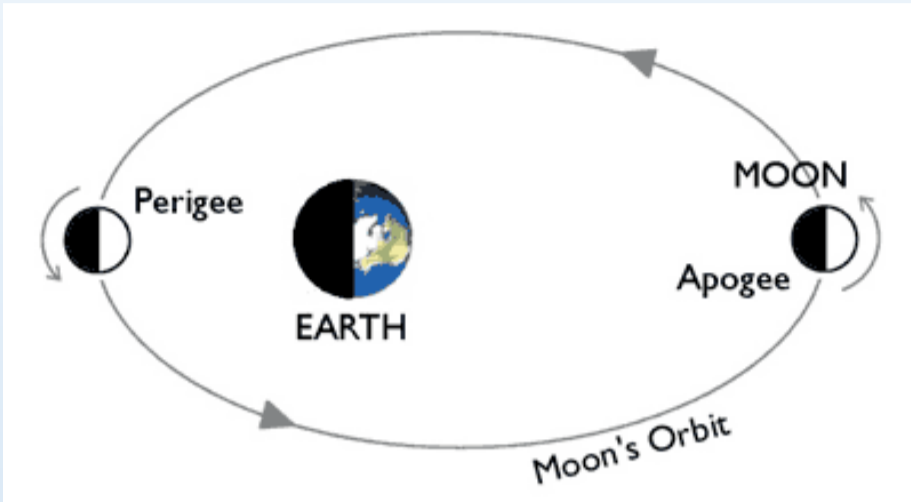
Last Quarter



Day	Astro-Events / Other Events
1	Romanian National Day.
6	Saint Nicolas Day.
7	New Moon.
9	Saturn 1.1°S of Moon : Occultation.
12	Moon at Apogee: 405177 km.
13	Geminids Meteor Shower .
14	Geminids Meteor Shower . 1546 - Tycho Brahe , Danish astronomer.
15	Mercury at Greatest Western Elongation. Moon's First Quarter.
21	Winter Solstice . Mercury 0.8° of Jupiter . Ursids Meteor Shower .
22	Ursids Meteor Shower . 2012 - Romania joined ESA . Full Moon .
23	1672 - Giovanni Domenico Cassini discovered Rhea , the 2nd largest moon of Saturn .
24	Moon at Perigee: 361060 km. Christmas Eve.
25	Christmas Day. 1642 - Isaac Newton .
26	Venus at Perihelion. Slovenian Independence and Unity Day.
27	1571 - Johannes Kepler , German Astronomer.
28	1612 - Galileo Galilei first observation of Nep-tune .
29	Moon's Third Quarter.
31	New Year's Eve.

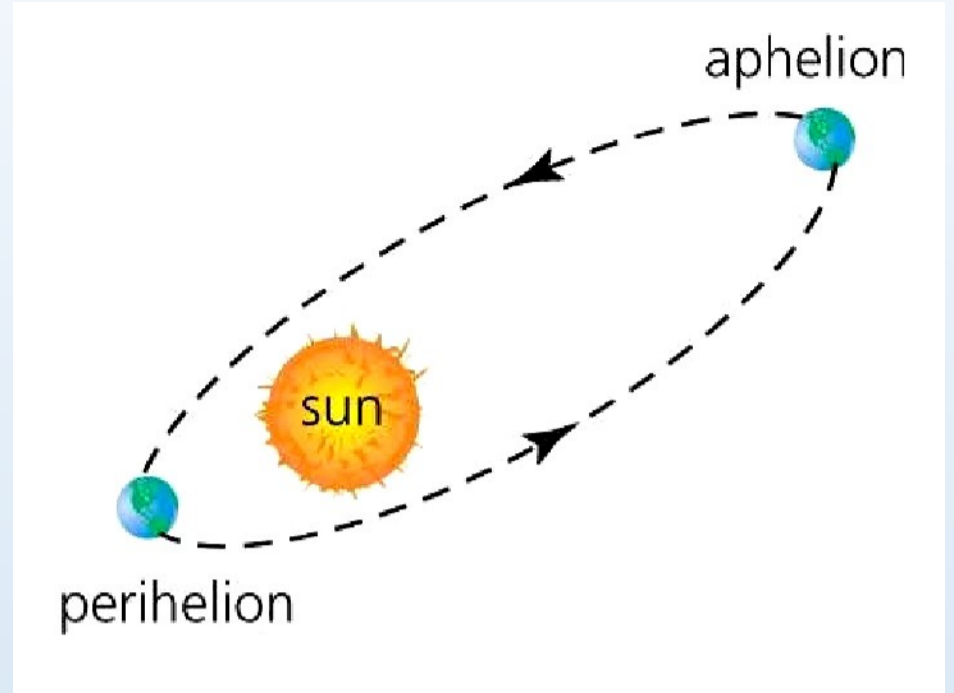


Mini-Astrodictionary



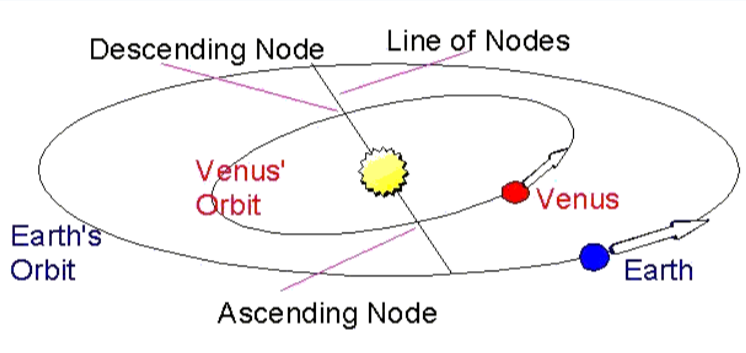
Perigee - the instant when the Moon is closest to Earth.

Apogee - the instant when the Moon is furthest from Earth.



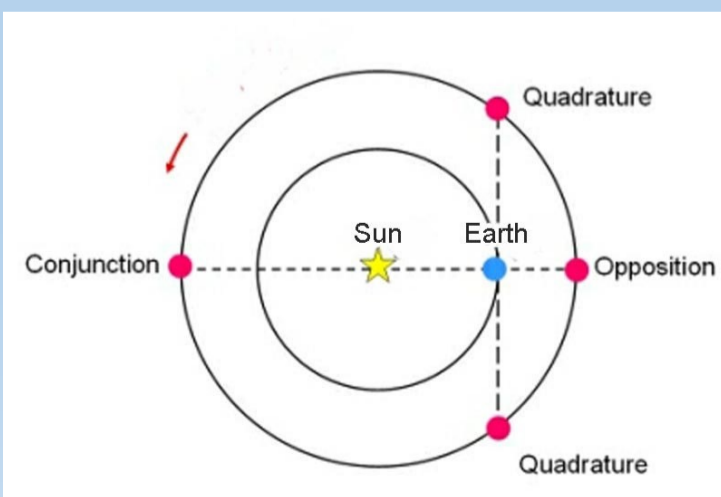
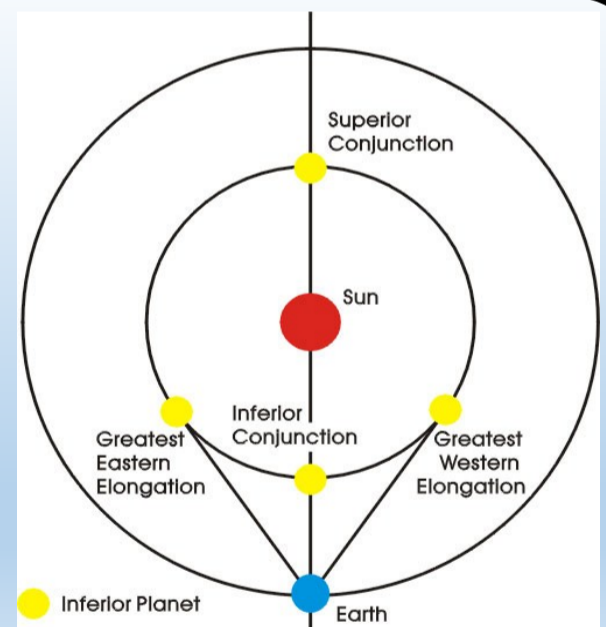
Perihelion - the instant when a planet is closest to the Sun.

Aphelion - the instant when a planet is furthest from the Sun.



- **Ascending Node** - the point where a planet crosses from the southern to northern portion of its orbit.
- **Descending Node** - the point where a planet crosses from the northern to the southern portion of its orbit.

- **Inferior Conjunction** - the instant when a planet passes between Earth and the Sun (Mercury or Venus).
- **Superior Conjunction** - the instant when a planet passes on the opposite side of the Sun from Earth (Mercury or Venus).
- **Greatest Elongation** - elongation is the apparent angle between a planet and the Sun as seen from Earth; during eastern elongation (E), the planet appears as an evening star; during western elongation (W), the planet appears as a morning star.



Opposition - the instant when a planet appears opposite the Sun as seen from Earth.

Conjunction - the instant when a planet appears closest the Sun as seen from Earth.

Occlusion - the Moon occults or eclipses a star or planet.



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