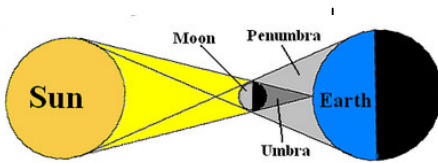
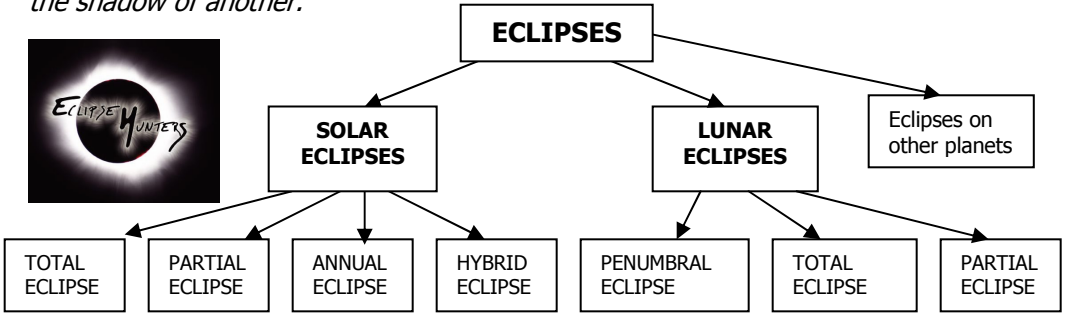


ECLIPSES




An eclipse is an astronomical event that occurs when one celestial object moves into the shadow of another.



Credit: Wikipedia, the free encyclopedia <http://en.wikipedia.org>

SOLAR ECLIPSES:

The Moon occults the Sun from the Earth's point of view. The Moon casts a shadow that touches the surface of the Earth. Due to the movements of the Moon and Earth there appears a belt on the Earth's surface from which the eclipse can be seen. The solar eclipse can only take place during the new moon, but not every month, as the Moon's orbit does not lie exactly in the same surface that the Earth's orbit around the Sun.

- **TOTAL SOLAR ECLIPSE** – when the Moon's shadow completely obscures the Sun (its angular size seen from the Earth is exactly the same as Sun's). Total solar eclipse is the only opportunity to see the Sun's corona without any specialised equipment; 
- **ANNULAR SOLAR ECLIPSE** – when the Moon's angular diameter is smaller than the Sun's (due to the fact that Moon's orbit is not a perfect circle, consequently the satellite is sometimes farther from the Earth and seems smaller), therefore not the whole photosphere can be obscured by the Moon and the corona usually can't be seen; 
- **HYBRID SOLAR ECLIPSE** – it starts as an annual one, then turns into a total one (for a very short amount of time) and finally comes back to the annual phase. It is a very rare kind of eclipse;
- **PARTIAL SOLAR ECLIPSE** – when the Sun is only partially overlapped by the Moon. 

A solar eclipse can only be seen in a band across Earth as the Moon's shadow moves across its surface. A total or annular eclipse is actually total or ring-formed in only a small band within this band (called the eclipse path) and partial elsewhere. The full band is around 100 km in width.

ATTENTION!!! Never look at the Sun during the partial phases of solar eclipse without using proper safety equipment, as it may seriously affect your eyesight by causing permanent retinal damage!

The annular solar eclipse, 29th March 2006 for Asia Minor

CENTRAL LINE

U.T.	Longitude	Latitude	Altitude over the horizon	Width of the eclipse path	Time
hh:mm	° ′	° ′	°	km	m:ss
10:23	+20 00	+26 39,3	66	180	4:05
10:53	+30 00	+35 46,3	56	171	3:48
11:13	+40 00	+42 03,2	44	163	3:25

Credit: Philip S. Harrington "Zaćmienie! Co, gdzie, kiedy, dlaczego i jak? Poradnik obserwatora zaćmień Słońca i Księżyca", Wyd. Prószyński i S-ka, Warszawa 1999

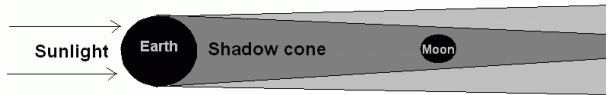
LOCAL MOMENTS OF CONTACT

City	P1	U1	maximum	U2	P2	Time
Kayseri, Turkey	09:47	11:03	11:04	11:05	12:19	1:55
Sivas, Turkey	09:50	11:06	11:07	11:09	12:21	2:23

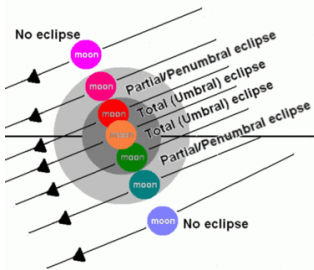
Credit: Philip S. Harrington "Zaćmienie! Co, gdzie, kiedy, dlaczego i jak? Poradnik obserwatora zaćmień Słońca i Księżyca", Wyd. Prószyński i S-ka, Warszawa 1999

LUNAR ECLIPSES:

The Earth obscures the Sun from the Moon's point of view. The Moon moves through the shadow that touches the surface of the Earth. This can only happen at full moon.



Credit: Wikipedia, the free encyclopedia <http://en.wikipedia.org>



Descending node lunar eclipse paths

Credit: Wikipedia, the free encyclopedia <http://en.wikipedia.org>

- **PENUMBRAL ECLIPSE** – when the Moon passes through the Earth's penumbra, which does not cause a noticeable darkening on the Moon's surface
- **TOTAL LUNAR ECLIPSE** – when the Moon travels completely into the Earth's umbra. Total eclipse may last up to 102 minutes.
- **PARTIAL LUNAR ECLIPSE** – when only a part of the Moon enters the umbra.

Due to the refraction of sunlight by the Earth's atmosphere, the Moon is still seen while passing through the umbra. Depending on the amount of clouds and dust in the atmosphere, it glows in a red colour varying from almost invisible dark brown to copper-red or orange.

While the solar eclipse can be only seen in a certain, rather small area in the world, the lunar one can be seen from anywhere on the night side of our planet.