Ptolomeo

- He lived in Rome around 100 AC, where he developed his model of the solar system which had a very important impact on the science because it could explain the motions of heavenly bodies and it helped for the understanding of the structure of the solar system.
- His model also assumed that the Earth was the center of the entire universe and that each planet was moved on a small sphere or circle, called an **epicycle**, that was moved on a larger sphere or circle, called a **deferent**. He also included in his hypothesis that the Earth didn't participate in any movement and that the Universe had a spherical form and a circular trajectory.

Nicolás Copérnico

By Ana and Carla

Biography

He was a Polish astronomer in the XV and XVI century. He was born in 1473 in Torun and he died in 1543 when he was 70 years old.

The beginning

In 1503 he settled in the Frombork's cathedral to better observe the night sky.

After a hard observation of the motion of terrestrial bodies, he concluded that the Earth turned on its axis and the Earth and the others should turn around the sun.

And also he discovered that the moon turned around the Earth and this is the difference between the day and the night.

Fundamental hypothesis of the Copernican theory

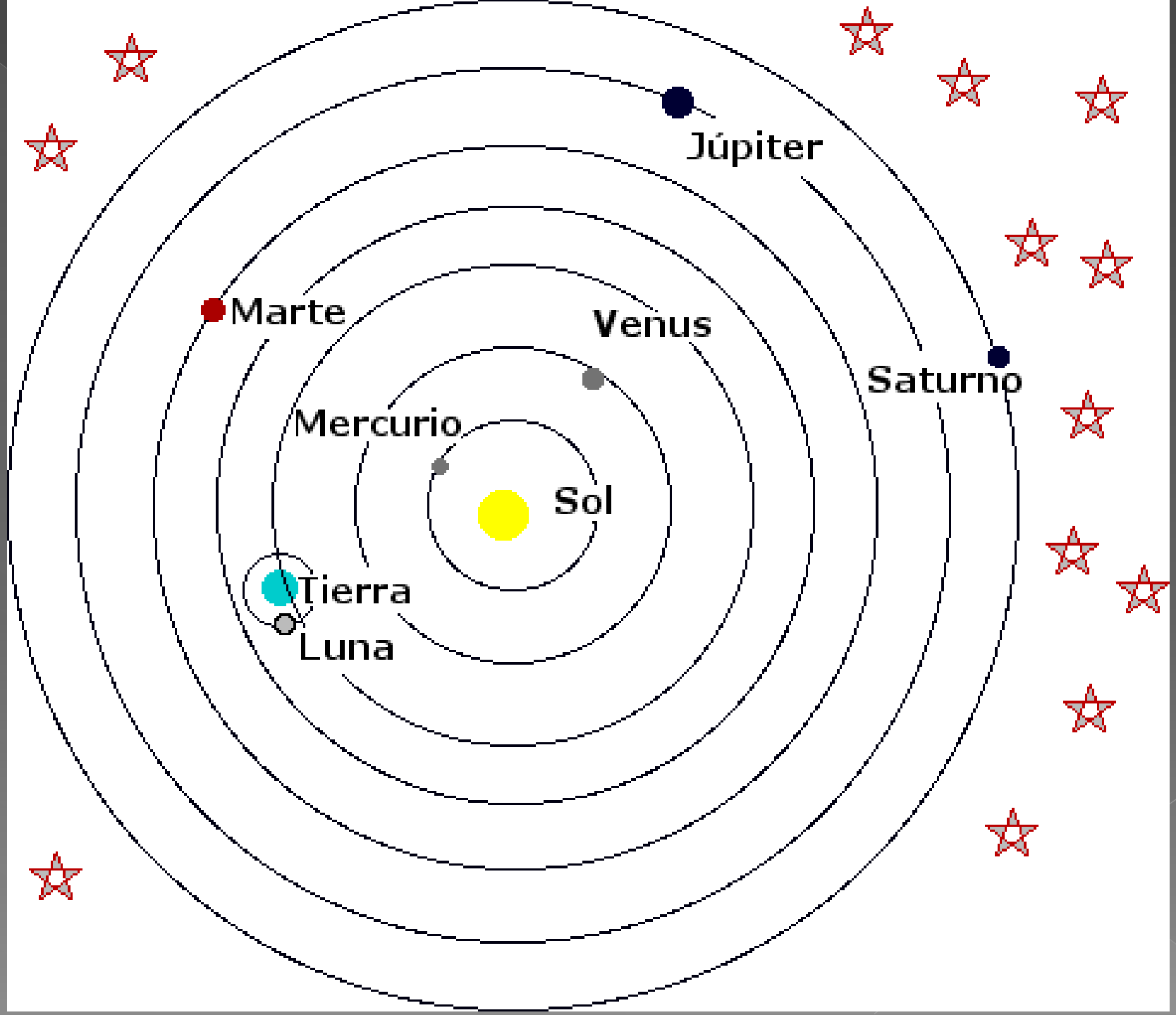
1. The world (universe) is spherical.
2. The Earth is also spherical.
3. The motion of the celestial bodies is regular, circular and perpetual or by circular movements.
4. Circuralr motion was caused by the rotation of the Earth in 24 hours instead of the whole universe.
5. Annual movement of the sun caused by the traslation of the Earth around the sun.
6. Monthly movement of the moon around the Earth.
7. Planetary motion caused by the composition of the movements of the planets. The retrograde motion of the planets is only apparent and not a real movement.
8. The sky is huge compared to the magnitude of the Earth.
9. The order of celestial orbits, after critizicing the Ptolemaic astronomy assigned the planets, it gives the correct order of their distance from the sun.

Heliocentric Theory

In his comments he stablished his theory on 6 axioms, and published under the name of "On the Revolutions of the Heavenly Spheres".

Heliocentric theory was expanded and quickly emerged their theologians detractors. In 1616, the Catholic Church placed the work of Copérnico on its list of banned books.

Copérnico's work was the basis for Galileo, Brahe and Kleper to put the foundation of modern astronomy.


Júpiter
Marte
Venus
Saturno
Mercurio
Sol
Tierra
Luna

El movimiento de la tierra sola basta, por tanto, para explicar tantas desigualdades aparentes en los cielos

(Nicolás Copérnico)

The End

GALILEO GALILEI

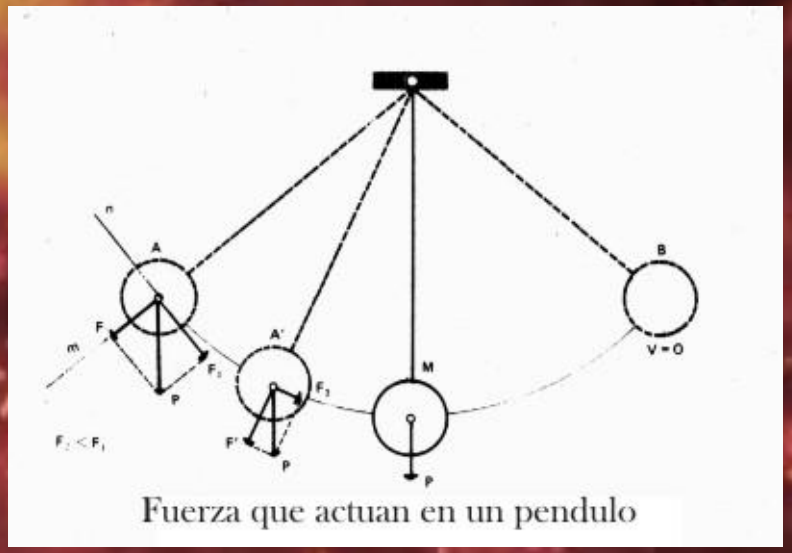
ALUMNO:

Cristina Martin
Alex Fombellida

Physicist and Italian astronomer. It was the first-born one of the Florentine Vincenzo Galilei, musician for vocation though obliged to devote itself to the trade to survive

In 1574 the family moved to Florence, and Galilean it was sent a time to the monastery of Holy Maria I gave Vallombrosa, until, in 1581, his father registered it as student of medicine in the University of Pisa. But in 1585, after having begun in the mathematics out of the classrooms, it left the university studies without obtaining any title, though yes he had acquired taste for the philosophy and the literature.

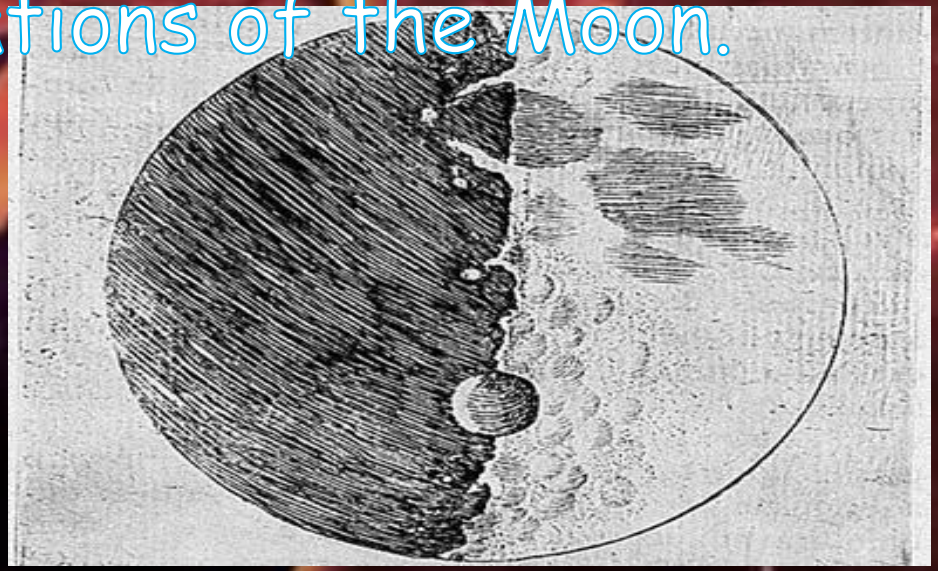
In 1592 it happened to occupy a chair of mathematics in Padua and initiated a fruitful period of his scientific life: it dealt with military architecture and with topography, realized diverse mechanical inventions, re-undertook his studies on the movement and discovered the isocronismo of the pendulum.



Fuerza que actuan en un pendulo

In 1599 it joined the Venetian [illegible]nan Marina G[illegible]hom it separa[illegible] after ha[illegible]th her two [illegible]and a son.

In July, 1609 he visited Venice and had news of the manufacture of the spectacles, to whose development devoted itself, and with which it realized the first observations of the Moon.



It discovered also four satellites of Jupiter and observed Venus's phases, phenomenon that only could explain if there was accepted Copernicus' heliocentric hypothesis. Galilean it published his discoveries in a brief text, The astral messenger, who gave to him reputation in the whole Europe and cost him the concession of an honorary chair in Pisa.


Ganímedes
Io
Calisto
Europa

In 1611 he travelled to Rome, where the prince Federico Cesi did it the first member of the Accademia dei Lincei, and then it supported the publication (1612) of Galileo's observations on the solar spots. But the profession of copernicanismo contained in the text provoked a denunciation before the Holy Trade.

His silence did not break until, in 1623 encouraged immediately after the choice of the new dad Urbano VIII, The assayer published, where it exposed his methodological and, criteria especially, his conception of the mathematics as language of the nature. The benevolent reception of the book on the part of the pontiff encouraged it to complete the great work with the one that was trying to put final point to the controversy on the astronomic systems, and in 1632 it appeared, finally, suDiálogo on both maximum systems of the world; theCriticize to the distinction aristotélica between terrestrial physics and celestial physics, the statement of the beginning of the relativity of the movement, as well as the argument of the flow and the reflux of the sea presented (erroneously in proof of the movement of the Earth, they did of the text really Copernican manifest.

The Holy Trade opened a process to Galilean that ended with his sentence to life imprisonment, a sorrow smoothed on him have be allow that to fulfill it in his Arcetri's villa. There they passed last years of his life, darkened by the death of his daughter Virginia, by the blindness and by a health increasingly broken. Everything managed, with, to end the last one of his works, the Speeches and mathematical demonstrations concerning two new sciences, where, from the discussion on the structure and The resistance of the materials, it demonstrated the laws of fall of the bodies in the emptiness and elaborated a complete theory on the movement of the missiles. The analysis galileano of the movement laid the foundations physical and mathematical on that the scientists of the following generation built the physical mechanics.

Surrounded with his disciples, old man, tired and blind, died the teacher in 1642, stopping besides yes an exciting history, riddled with big followers and detractors, and removing I achieve the herald that few ones can, as co-founder of the experimental modern science.

By: Alex & Cris

JOHANNES KEPLER

WHO WAS HE?

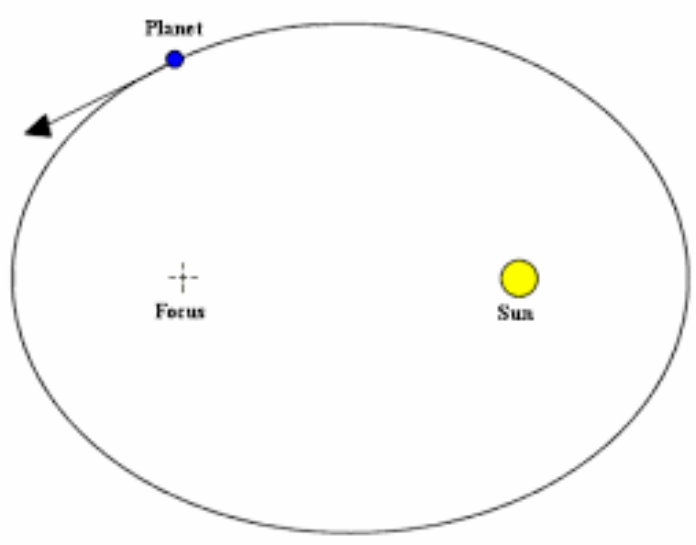
- He was a German astronomer that developed some theories about how the planets rotate.

HIS THEORIES

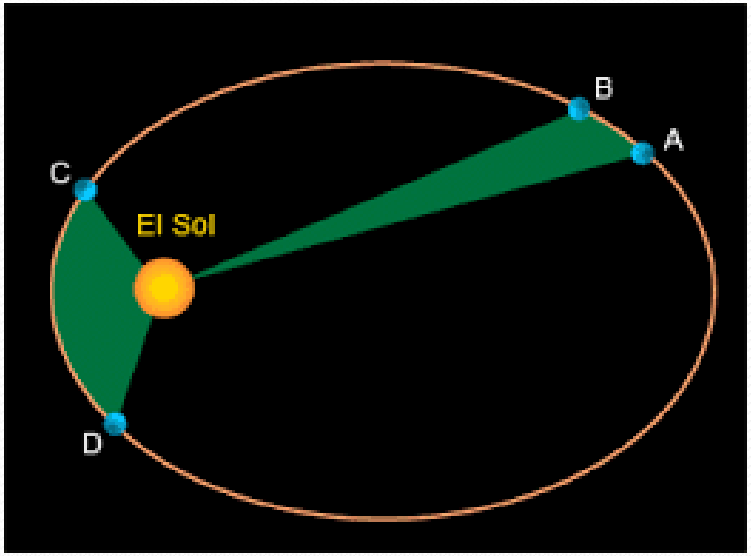
- Kepler developed some laws about the rotation of planets , the Copernico's systems were based on that God couldn't create an imperfect thing.
- Kepler broke with this dogma when he proposed that orbits of the planets were eliptic.

KEPLER´S LAWS

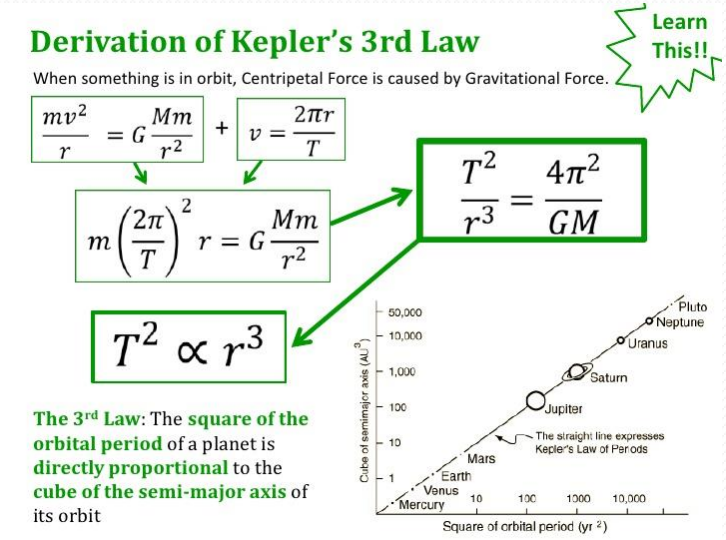
- FIRST LAW:
- Planets move in an eliptic trajectory and the Sun is in the focus of the elypse.



- SECOND LAW:
- One line was drawn from the Sun to a planet. It covers equal areas and equal intervals of time(the closer to the Sun, the lower the speed.)



- THIRD LAW
- The square of the orbital period of a planet is proportional to the cube of the semi major axis of its orbit.



Thank you for your attention

- If you have any question you can ask us.

- BY VICTOR AND MARIO