

HOW DID YOU SOLVE THE RIDDLE? THE SCIENTIFIC METHOD

ASK A
QUESTION

DO
RESEARCH

FORM A
HYPOTHESIS



TEST
HYPOTHESIS

ANALYZE DATA, DRAW
CONCLUSIONS

ACCEPT/REJECT
HYPOTHESIS



LIST OF PEOPLE
WHO PLAYED A
ROLE IN CREATING
THE MODERN
SCIENTIFIC METHOD:

- ARISTOTLE 350 BCE
- PTOLEMY 150 CE
- AL HAZEN 1000 CE
- GROSSETESTE 1250 CE
- ROG BACON 1260 CE
- SANCHEZ 1581 CE (SEE NEXT SLIDE)
- F. BACON 1620 CE
- DESCARTES 1637 CE

“THAT NOTHING IS KNOWN”

-SKEPTIC FRANCISCO SANCHEZ, 1581 (HUMANS CAN NEVER KNOW EVERYTHING, BUT SHOULD USE THE SCIENTIFIC METHOD (PHRASE HE COINED) TO COME AS CLOSE AS POSSIBLE)

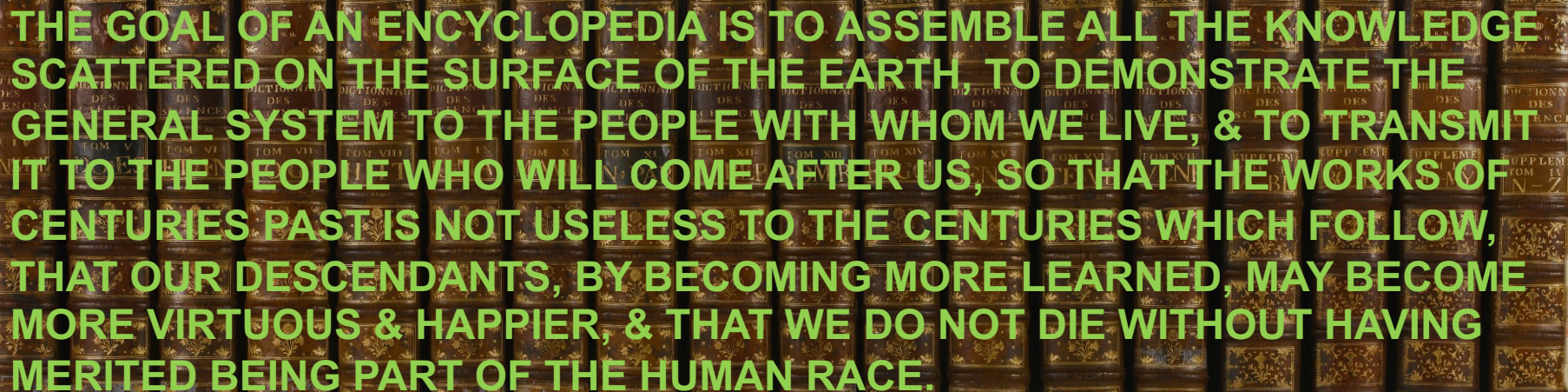
- DENIS DIDEROT (ET AL) DECIDED TO COMPILE ALL *KNOWN* HUMAN KNOWLEDGE IN THE...
 - GOAL: “TO CHANGE THE WAY PEOPLE THINK...”
 - 28 VOLUMES OVER 20+ YEARS
 - 18,000 ARTICLES, 20M WORDS
- CONTRIBUTORS:
 - DIDEROT, MONTESQUIEU, ROUSSEAU, VOLTAIRE

ENCYCLOPÉDIE,
O U
DICTIONNAIRE RAISONNÉ
DES SCIENCES,
DES ARTS ET DES MÉTIERS,
PAR UNE SOCIÉTÉ DE GENS DE LETTRES.

Mis en ordre & publié par M. *DIDEROT*, de l'Académie Royale des Sciences & des Belles-Lettres de Prusse; & quant à la PARTIE MATHÉMATIQUE, par M. *D'ALEMBERT*, de l'Académie Royale des Sciences de Paris, de celle de Prusse, & de la Société Royale de Londres.

*Tantum series juncturaque pollet,
Tantum de medio sumptis accedit honoris!* HORAT.

TOME PREMIER.

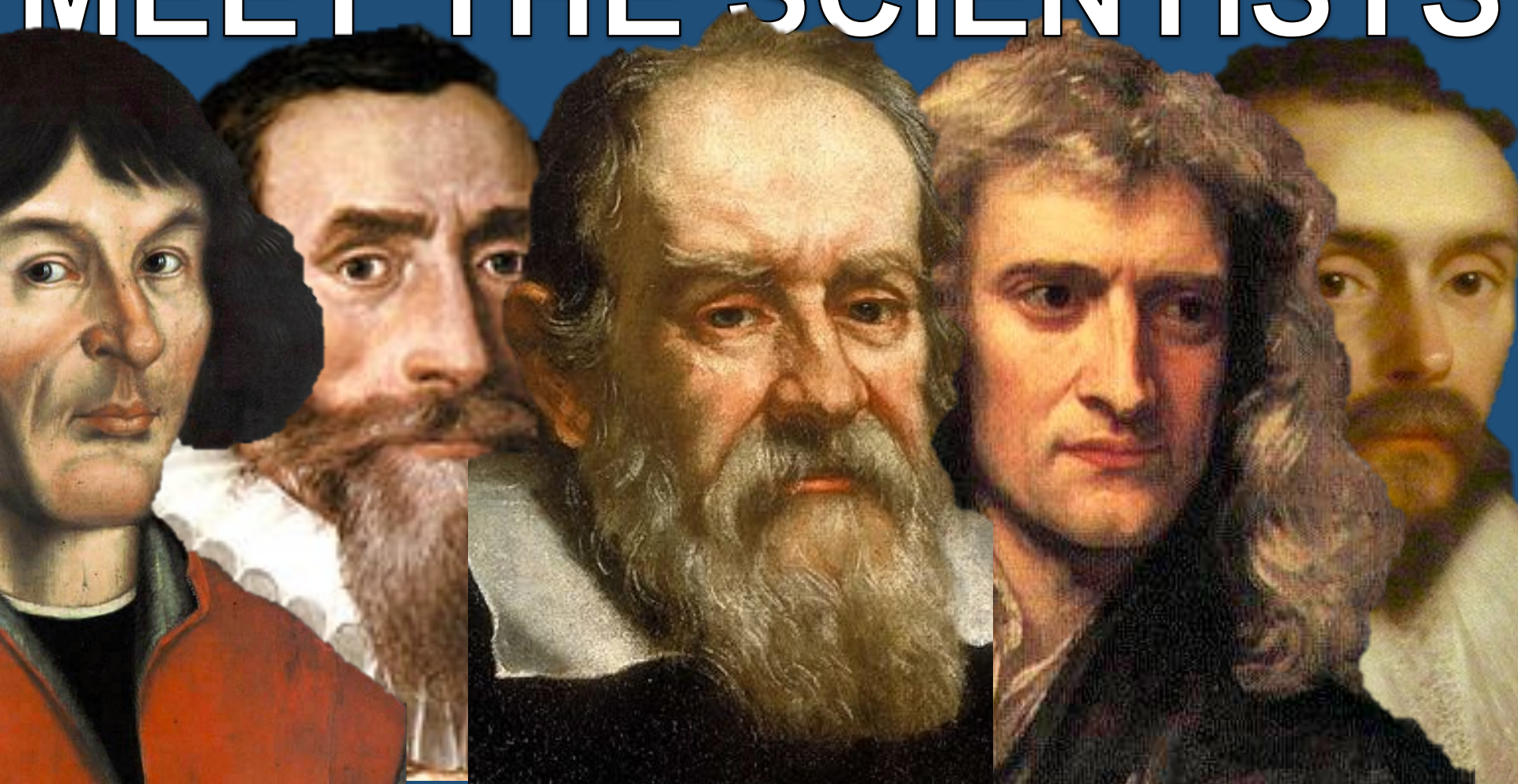


THE GOAL OF AN ENCYCLOPEDIA IS TO ASSEMBLE ALL THE KNOWLEDGE SCATTERED ON THE SURFACE OF THE EARTH, TO DEMONSTRATE THE GENERAL SYSTEM TO THE PEOPLE WITH WHOM WE LIVE, & TO TRANSMIT IT TO THE PEOPLE WHO WILL COME AFTER US, SO THAT THE WORKS OF CENTURIES PAST IS NOT USELESS TO THE CENTURIES WHICH FOLLOW, THAT OUR DESCENDANTS, BY BECOMING MORE LEARNED, MAY BECOME MORE VIRTUOUS & HAPPIER, & THAT WE DO NOT DIE WITHOUT HAVING MERITED BEING PART OF THE HUMAN RACE.

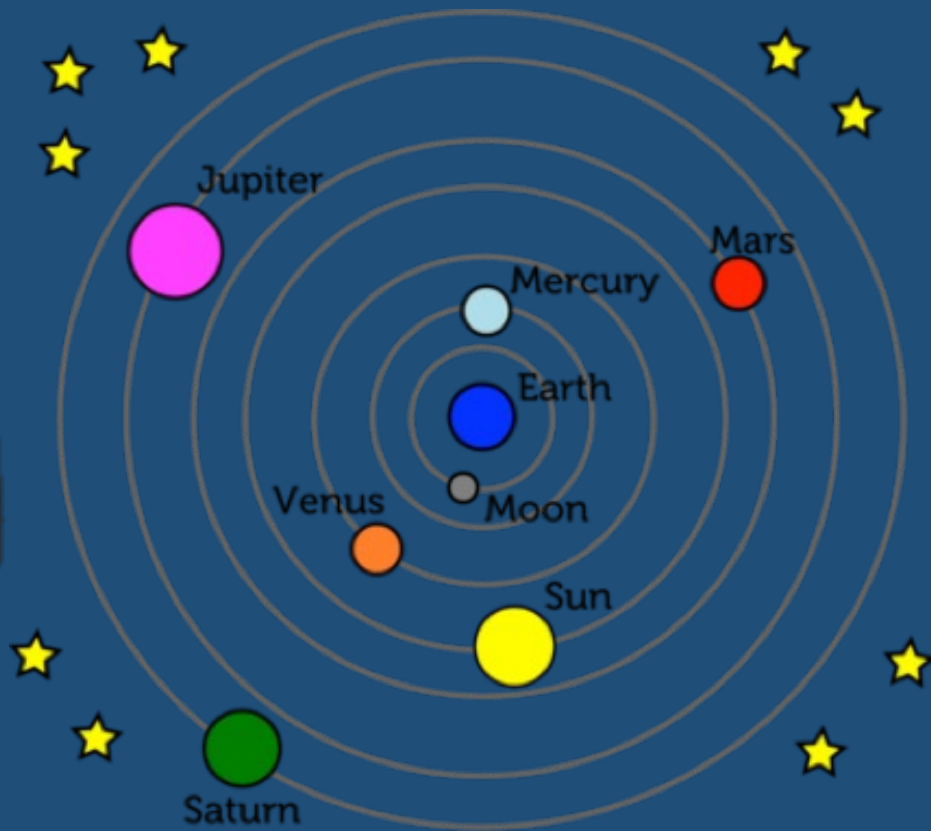
SCIENTIFIC REVOLUTION



MEET THE SCIENTISTS



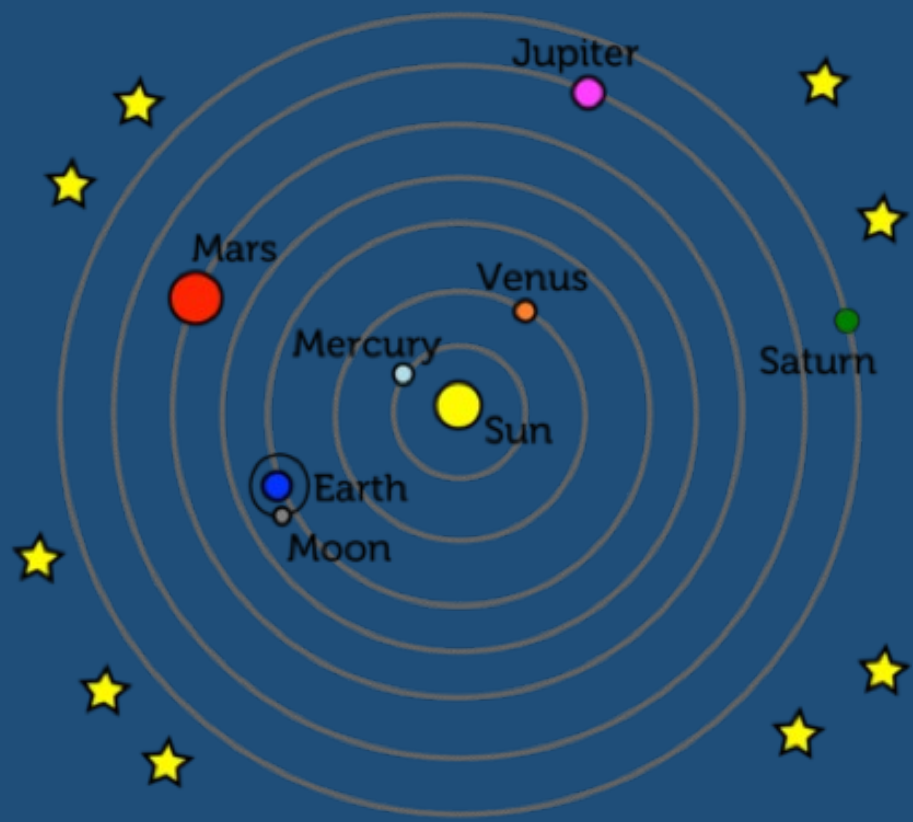
BEFORE COPERNICUS:



Earth at the Center

Nicolaus Copernicus

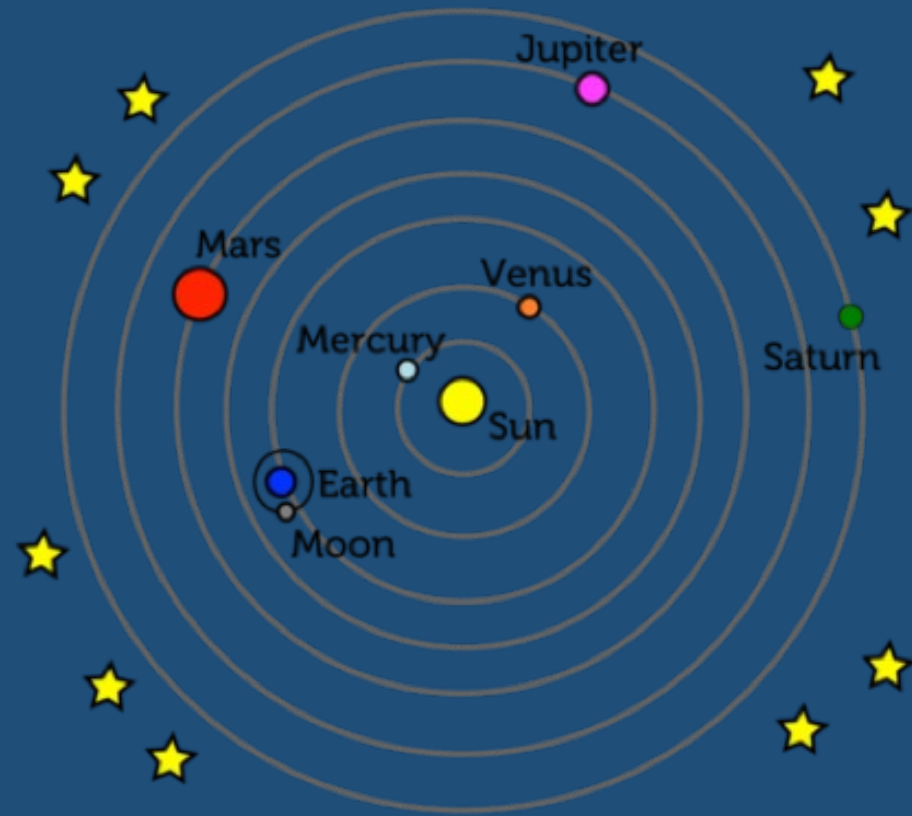
AFTER COPERNICUS:



Sun at the Center

Nicolaus Copernicus

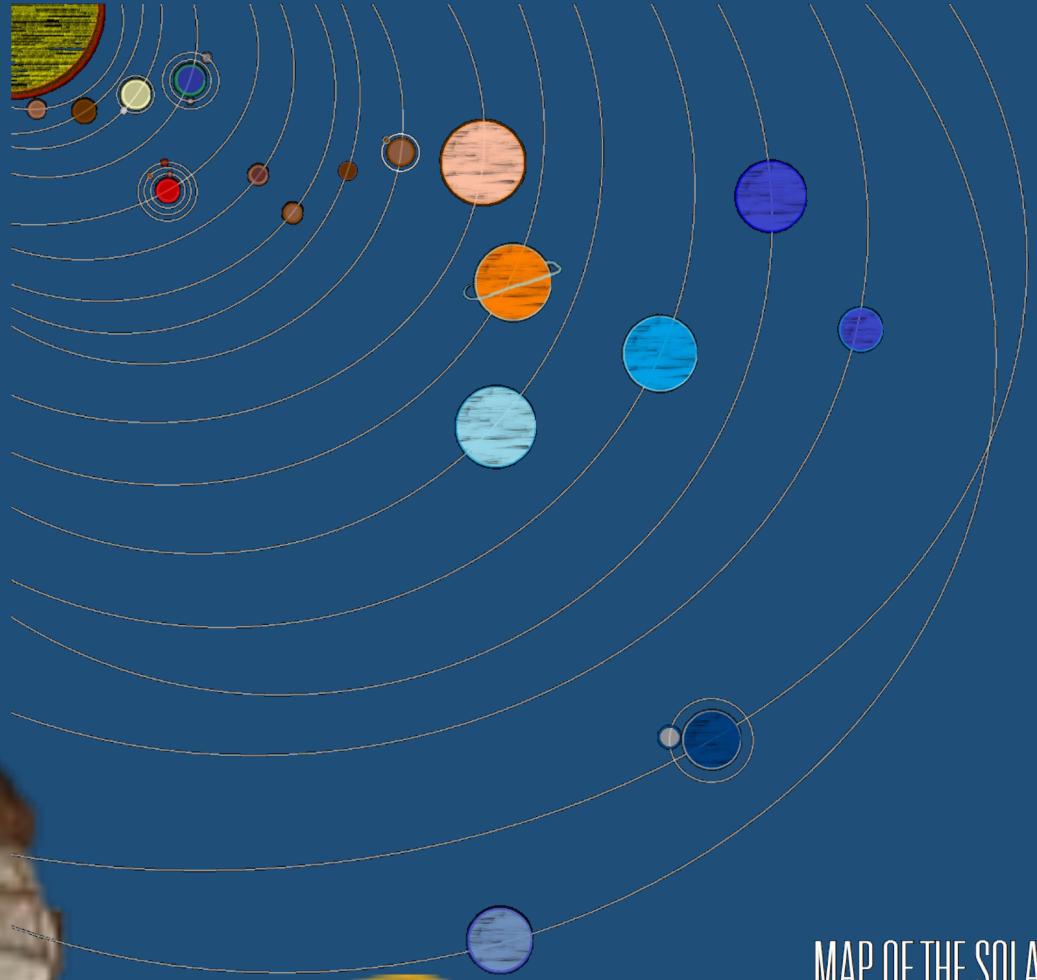
BEFORE KEPLER:



Sun at the Center

Jo: Keplerus

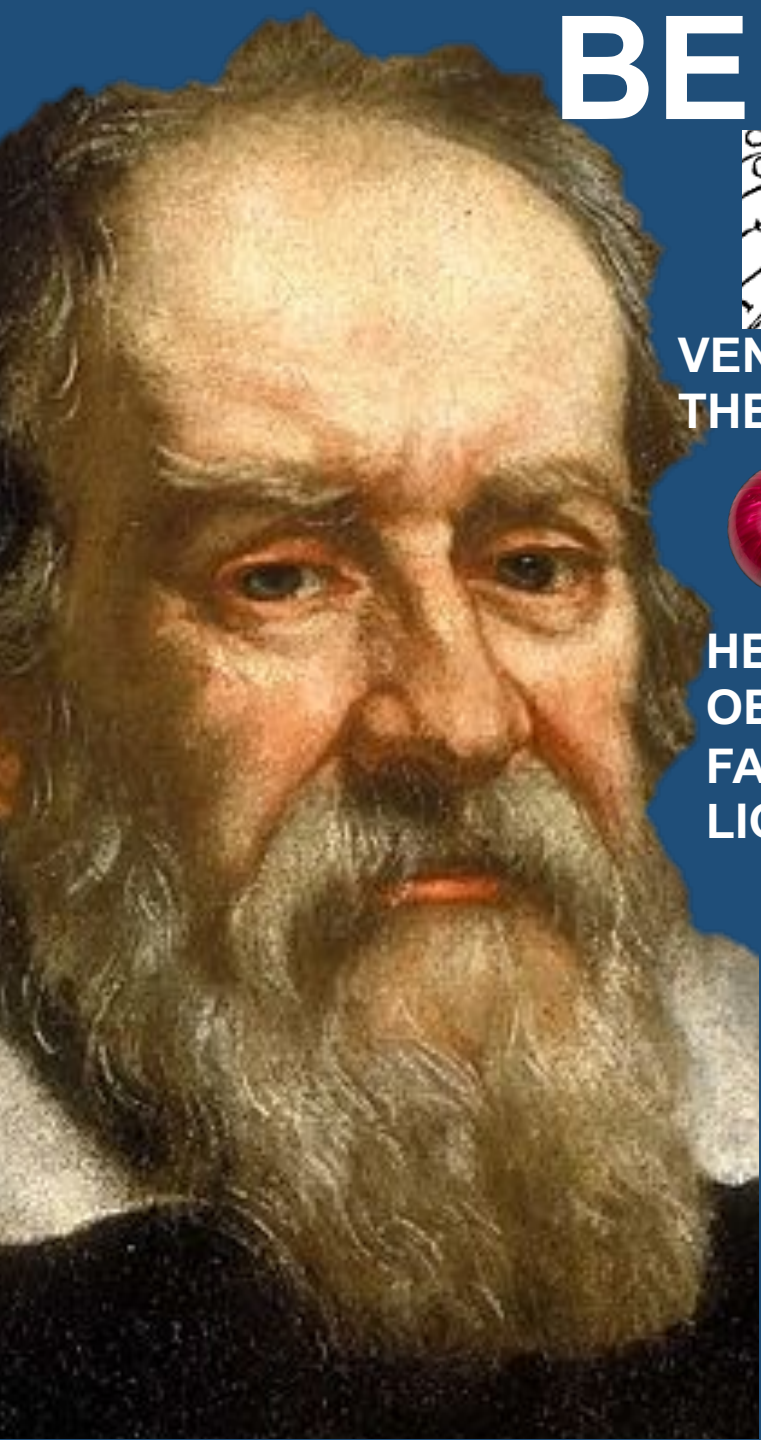
AFTER KEPLER:



Johannes Kepler

MAP OF THE SOLAR
SYSTEM
MAXIMUM SYSTEMA
NORMALENDUNG SCHRIBLISCHALE

BEFORE GALILEO:



VENUS CIRCLED
THE EARTH



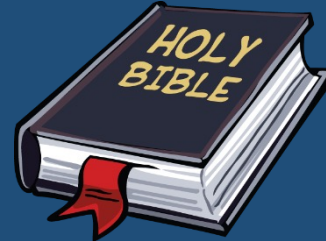
JUPITER HAD
NO MOONS



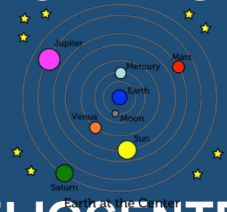
SUN WAS A
BRIGHT LIGHT



HEAVY
OBJECTS FALL
FASTER THAN
LIGHT OBJECTS



BIBLE WAS THE
AUTHORITY ON
SCIENCE



HELIOCENTRISM
WAS "FOOLISH
& ABSURD"
(INQUISITION)



MOON IS A
PERFECT
SPHERE



SATURN HAD
NO RINGS

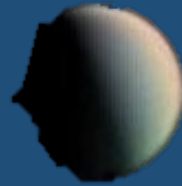


THERMOMETERS
DIDN'T EXIST



Galileo Galilei

AFTER GALILEO:



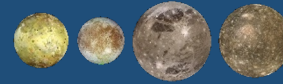
VENUS HAS PHASES



ALL OBJECTS FALL AT THE SAME SPEED



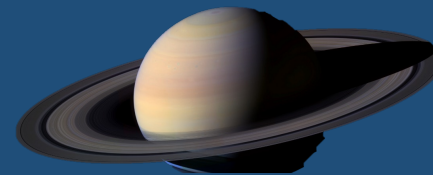
MOON HAS CRATERS, MOUNTAINS



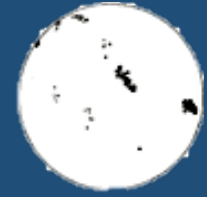
JUPITER HAD FOUR MOONS



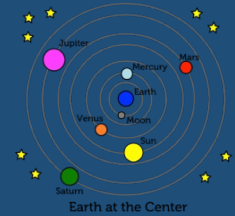
BIBLE WAS THE AUTHORITY ON MORALITY



SATURN HAS MASSIVE RINGS



SUN HAS SPOTS



HELIOCENTRISM WAS ACCEPTED



THERMOMETERS DO EXIST



Galileo Galilei

IN TERMS OF SCIENTISTS, THERE IS

J. Newton

& THEN EVERYONE ELSE

SOME OF HIS ACCOMPLISHMENTS:

- INVENTED CLASSICAL MECHANICS (PHYSICS)
 - AKA *NEWTONIAN MECHANICS*
- WROTE *PRINCIPIA*
- LAWS OF MOTION
- GRAVITY
- REMOVED ANY DOUBT ABOUT HELIOCENTRIC
- CALCULATED THE SHAPE OF THE EARTH
 - *OBLATE SPHEROID*
- CALCULATED SPEED OF SOUND
- 2X MEMBER OF PARLIAMENT
- 2ND SCIENTIST TO BE KNIGHTED
- INVENTED:
 - CALCULUS
 - SPECTROSCOPY
 - NEWTONIAN FLUID
 - I'M OUT OF ROOM...

MOST INFLUENTIAL PEOPLE OF ALL TIME:

1. MUHAMMAD (PBUH)
2. **NEWTON**
3. JESUS
4. BUDDHA
5. CONFUCIUS
6. ST. PAUL
7. TS'AI LUN
8. GUTENBERG
9. COLUMBUS
10. EINSTEIN
11. PASTEUR
12. GALILEO
13. ARISTOTLE
14. EUCLID
15. MOSES
16. DARWIN
17. QIN SHIHUANGDI
18. AUGUSTUS C.
19. COPERNICUS
20. LAVOISIER
21. CONSTANTINE
22. JAMES WATT

(MICHAEL K HART'S *THE 100*)

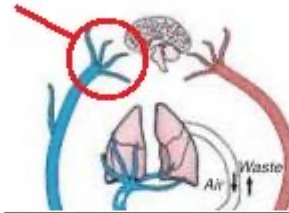


Is. Newton

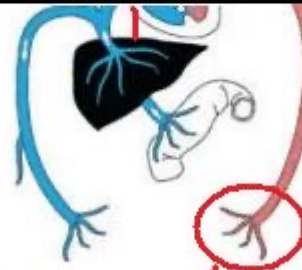
BEFORE HARVEY:



Open-ended veins transport blood around the body providing nourishment to the tissues



Blood manufactured in the liver



Arteries provide fresh air, remove waste products and cool the body

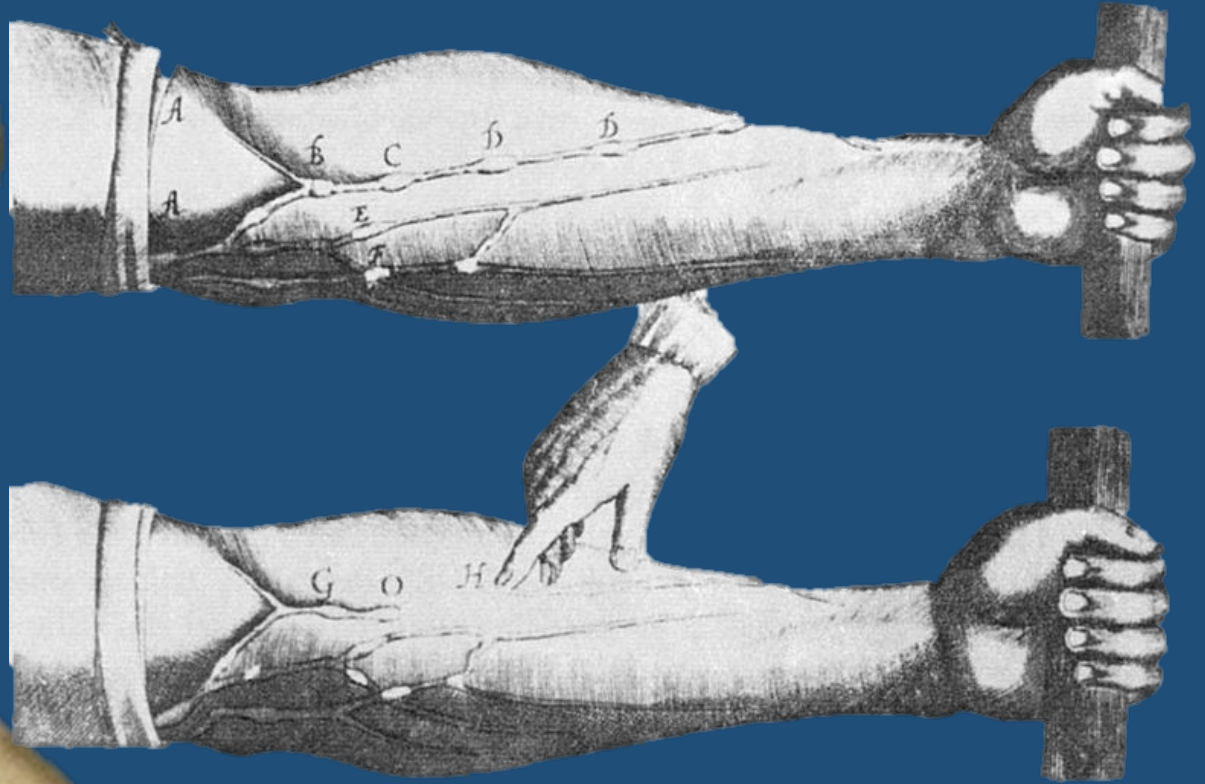
GALEN (129-216 CE) STATED THAT THE HEART WAS THE HEAT CENTER OF THE BODY THAT WAS COOLED BY THE LUNGS...

THIS WAS ACCEPTED AS FACT FOR 1,500 YEARS...

DOCTORS PROCLAIMED THEY'D "*RATHER ERR WITH GALEN THAN PROCLAIM THE TRUTH WITH HARVEY*"

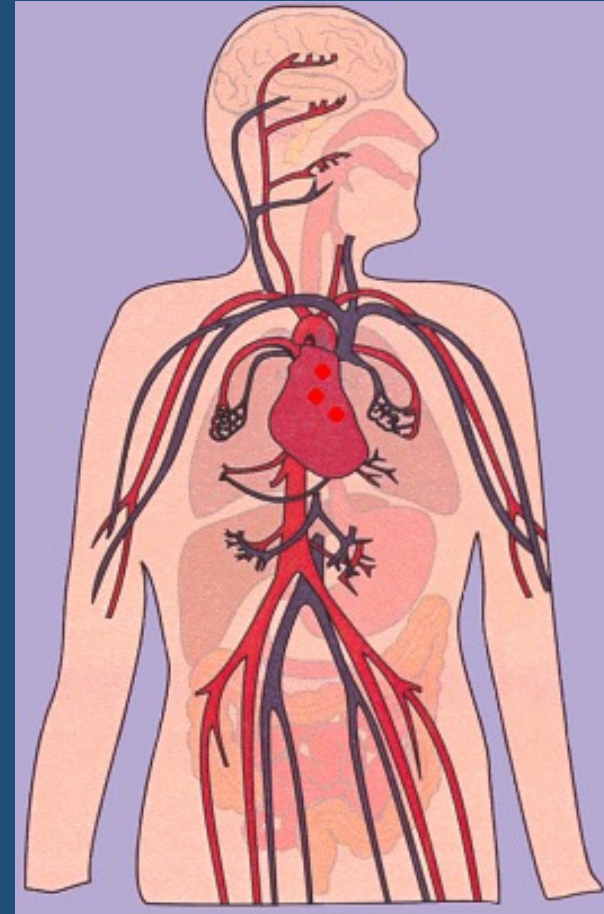
Will Harvey

AFTER HARVEY:



Willo Harvey

AFTER HARVEY:



William Harvey