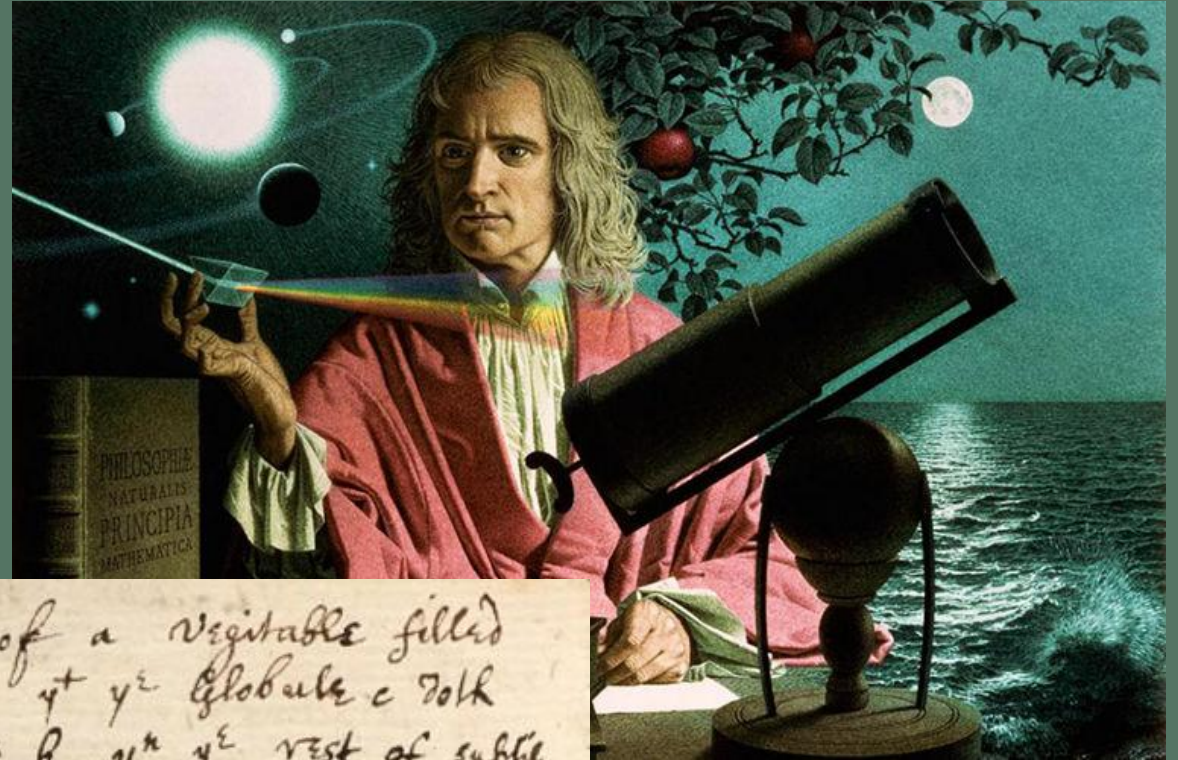


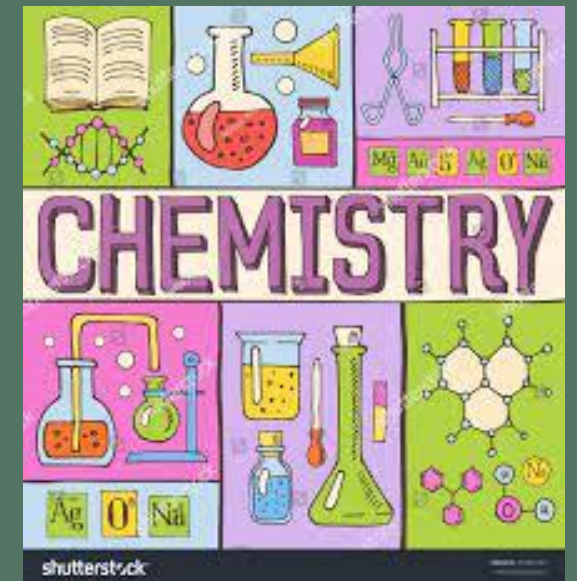
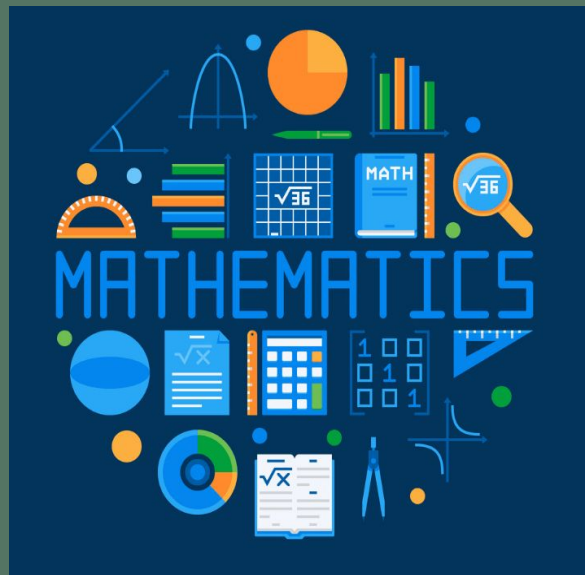
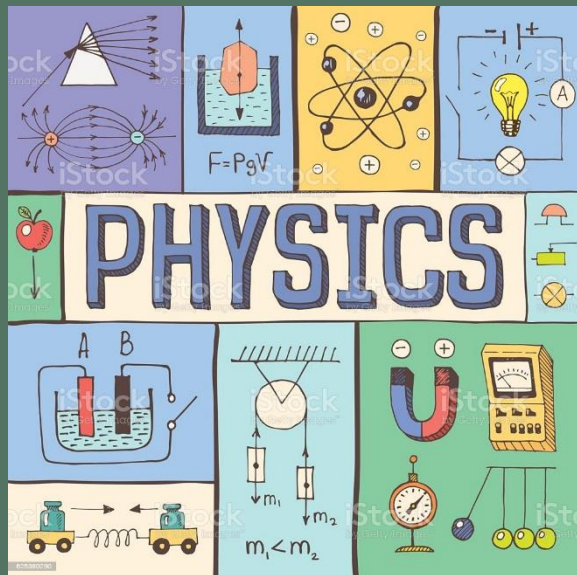
Isaac Newton's discoveries that changed the world

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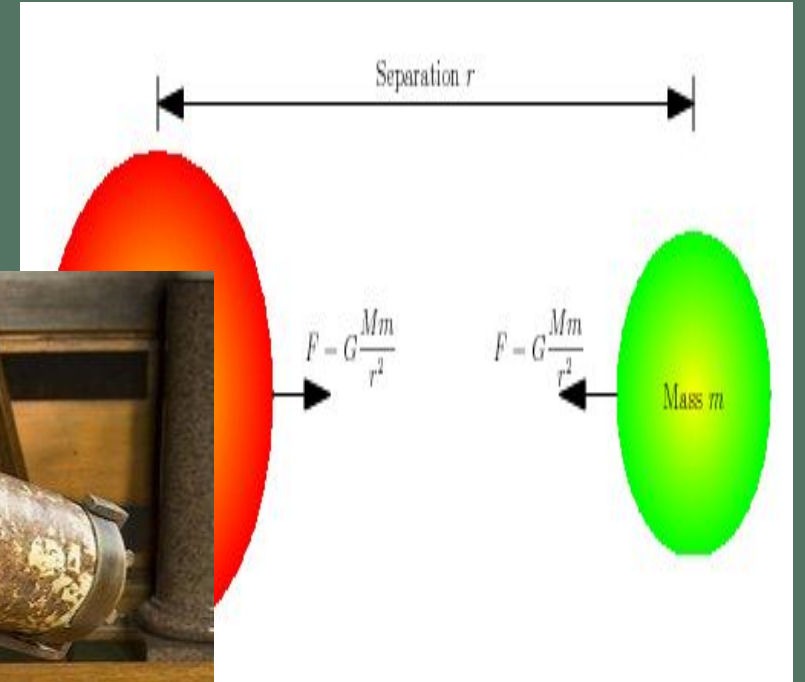
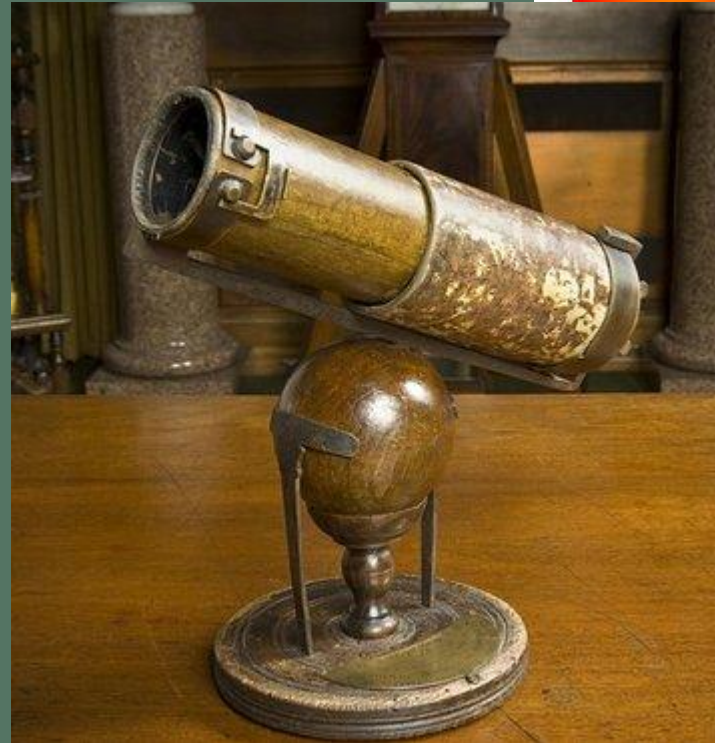
308^c *Vegetabiles.*
 Suppose at y^e pore of a vegetable filled
 wth fluid mater & y^t y^e Globule c doth
 hit away y^e particle b, yⁿ y^e rest of subtile
 matter in y^e pore riseth from a towards b. & by
 his meanes juices continually arise from y^e roots
 of trees upward: w^{ch} juices leaving druggs in y^e
 pores & yⁿ wanting passage stretch y^e pores to
 make y^m as wide as before they were clogged. w^{ch}
 makes y^e plant bigger untill y^e pores are too
 narrow for y^e juice to arise through y^e pores &
 yⁿ y^e plant ceaseth to grow any more.

Newton made huge contributions to the 3 sciences: Physics, Mathematics and Chemistry



PHYSICS

Isaac Newton formulated the basic laws of classical mechanics, discovered the law of universal gravitation, developed the theory of motion of celestial bodies, created the foundations of celestial mechanics, built a mirror telescope.



MATHEMATICS

Newton devoted three works to mathematical analysis, written by him respectively in 1669, 1671 and 1676. In addition, in his major work "Mathematical Beginnings of Natural Philosophy" (1687), Newton rejected "indivisible in the limit quantities" in favour of "vanishing divisible quantities", i.e., quantities infinitely divisible.



48 PHILOSOPHIÆ NATURALIS

De Motu
Corporum

Corol. 4. Effert potentia, cui vis centripeta ut velocitas hinc dicitur, & chorda illa inveniunt. Nam velocitas est reciproce ut perpendicularitas ST per corol. 1. prop. 1.

Corol. 5. Hinc si datus fuerit quavis curvilinea APQ , & in ea datus sit punctum S , ad quod vis centripeta perpetuo dirigatur, inveniri poterit lex vis centripetae, quae corpus quodvis P a quavis rectilinea perpetuo retrahatur in figuram illam perenniore describitur, tempore revolutione describit. Numerum comparandum est uti solentur $\frac{ST^2 \times QT^2}{QR}$ vel solidum $STP \times TP^2$ hinc ut recipere proportionale. Ejus rei dabimus exempla in problematis sequentibus.

PROPOSITIO VII. PROBLEMA II.
Cyclois corpora in circumferentia circuli, requiruntur lex vis centripeta tendentis ad quoslibet quoscunque datum.

Est circuli circumferentia $PQP A$; punctum datum, ad quod vis erit ad centrum factum tendit, S ; corpus in circumferentia locum P ; locum positum, in quem movetur Q ; & circuli tangens ad locum primum $P R Z$. Per punctum S ducatur chorda PP ; & sita circuli diametro $N A$, jungatur AP ; & ad SP demittatur perpendicularitas QT , quod productum occurrat tangenti PR in Z ; ac demoque per punctum Q agatur $L R$, quae ipsi SP parallela sit, & occurrat tunc circulo in L , cum tangenti $P Z$ in R . Et ob similitudinem triangulorum ZQR , ZTP , PTA ; erit RP quod hoc est QRL ad QT quod

PHILOSOPHIÆ
NATURALIS
PRINCIPIA
MATHEMATICA.

Autore J. S. NEWTON, Trin. Coll. Cantab. Soc. Matheseos
Professore Lucasiano, & Societatis Regalis Sodali.

IMPRIMATUR.
S. PEPYS, Reg. Soc. PRÆSES.
Julii 5. 1686.

LONDINI,

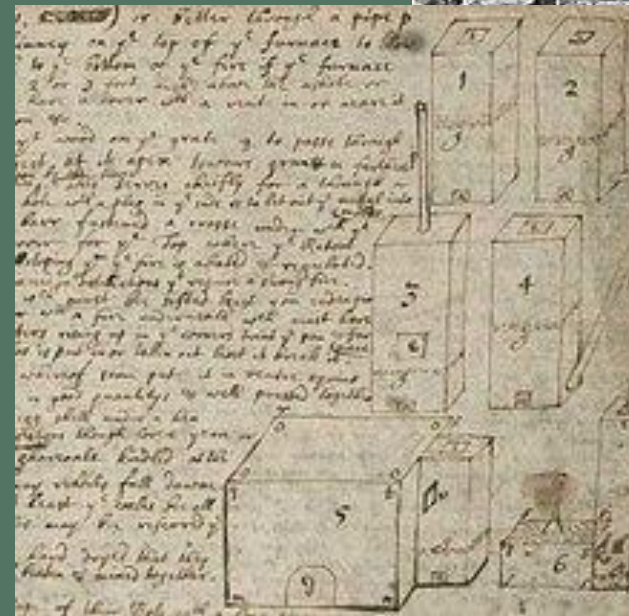
Jussu Societatis Regiæ ac Typis Josephi Streater. Prostat apud
plures Bibliopolas. Anno MDCLXXXVII.

CHEMISTRY

“The Emerald Tablet”

The scientist never published his alchemical works and little was known about his research during his lifetime. In 1936, it became known that there were vast archives of Newton's manuscripts of alchemical content.

Newton's experimental work with alloys began around 1666, when he was searching for the best coating for a reflector telescope. But the main aim of his quest was the transmutation of elements (converting base metals into noble ones), a task that has been popular since ancient times.



Information sources:

<https://www.britannica.com> The Mathematical Principles of Natural Philosophy

<https://en.wikipedia.org> Isaac Newton

<https://www.kb.se/in-english.html> National Library of Sweden