

Science for Technology

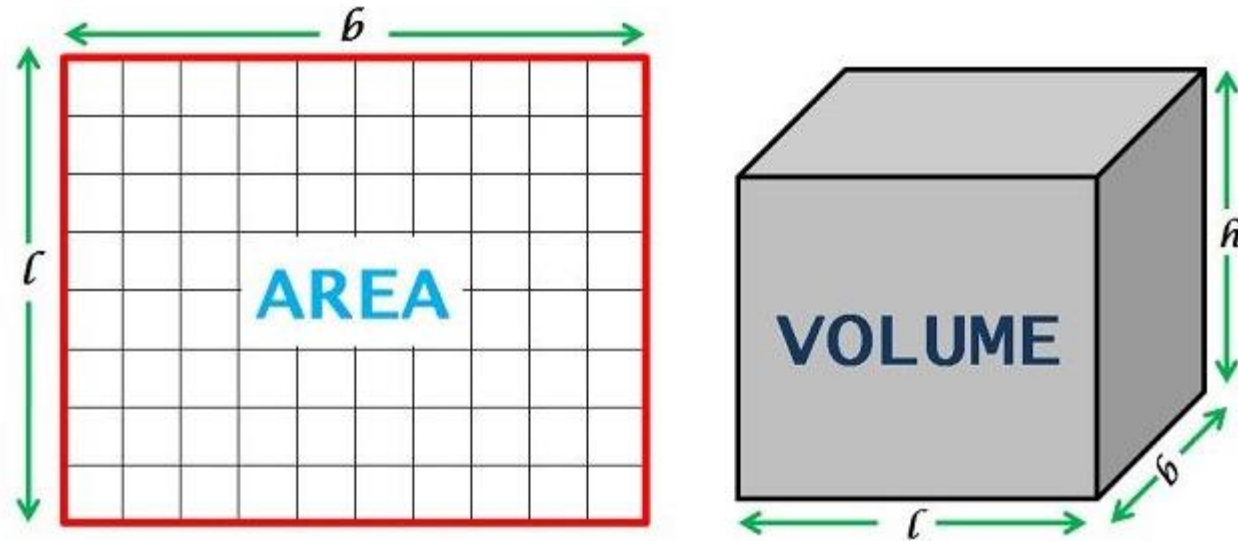
Prepared By Eng. Susantha Jayasinghe

Grade 12 Syllabus

Mathematics

Area & Volume

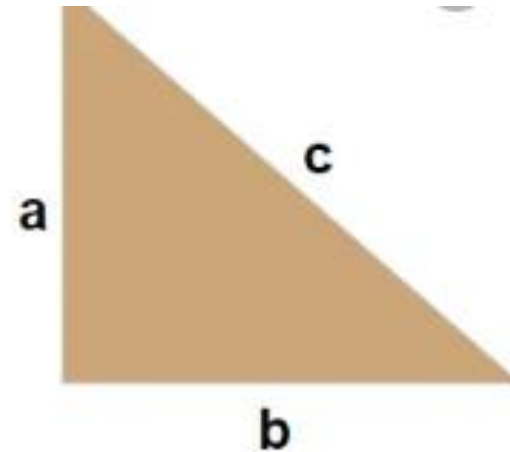
- Understand the limitation of the work environment and make optimize the available space.



Pythagoras Theorem

- Understand the requirement for Right Triangle.

a^2	b^2	c^2
9	16	25
25	144	169
36	64	100

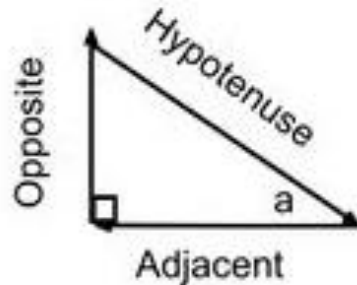


Pythagoras' Theorem $\longrightarrow a^2 + b^2 = c^2$

Trigonometry

- Introduce Trigonometric ratios and apply them for practical applications.

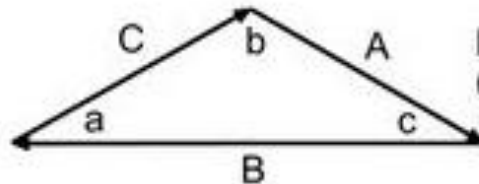
For a Right-Angled Triangle
(using Trigonometric ratios)



$$\text{Sine } a = \frac{\text{Opposite}}{\text{Hypotenuse}}$$

$$\text{Cosine } a = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

$$\text{Tangent } a = \frac{\text{Opposite}}{\text{Adjacent}}$$



For non-Right-Angled Triangles
(using the Sine Rule)

$$\frac{\text{Sine } a}{A} = \frac{\text{Sine } b}{B} = \frac{\text{Sine } c}{C}$$

Grade 12 syllabus

Physics

Measurements

- Identify different measuring instruments



Mechanical Force

- Understand Newton's laws and its applications.



Work , Energy & Power

- Understand mechanical power , work done and mechanical power principals and their applications.



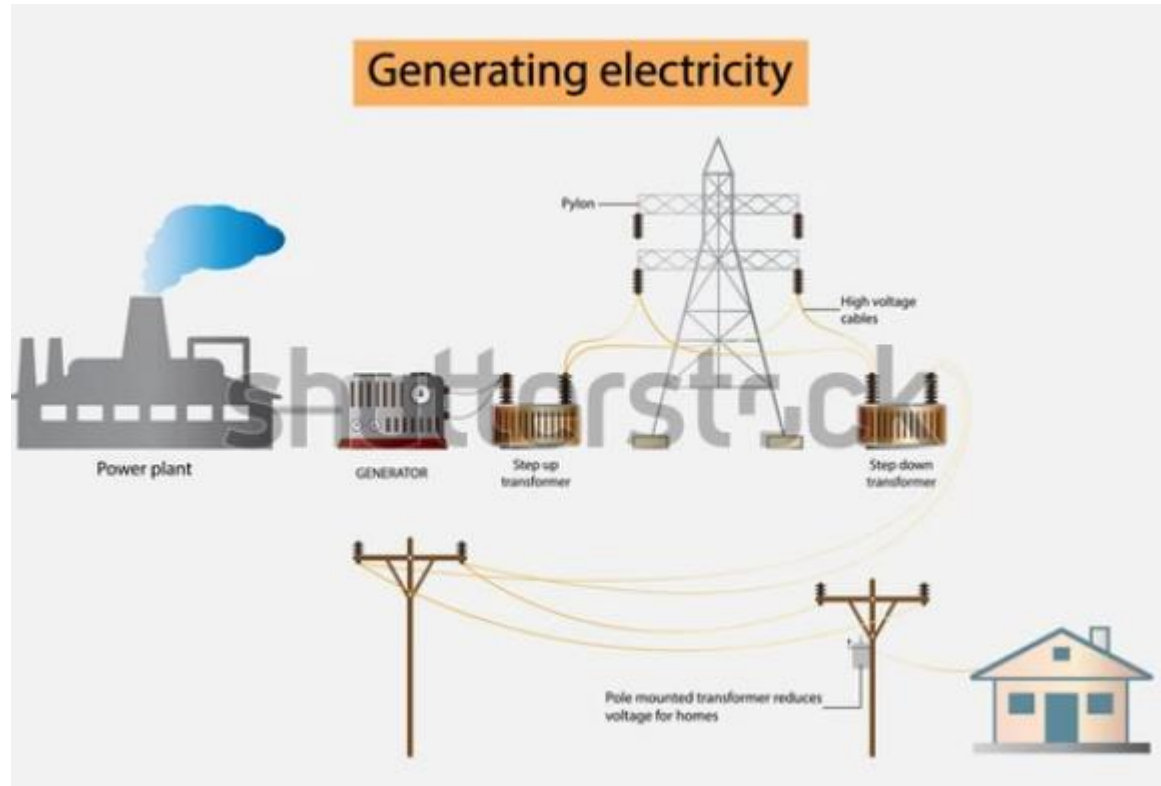
Angular Motion

- Identify the principles of angular motion and its applications.



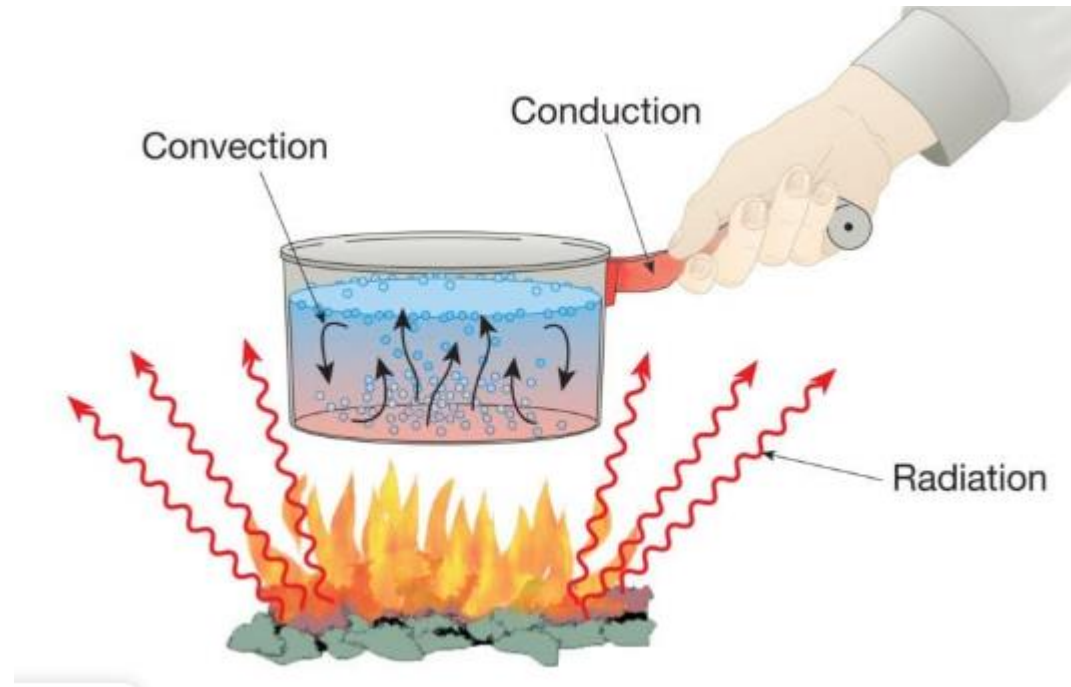
Electricity

- Understand electrical principles and its applications.



Heat

- Understand Heat ,applications and Heat transfer methods.

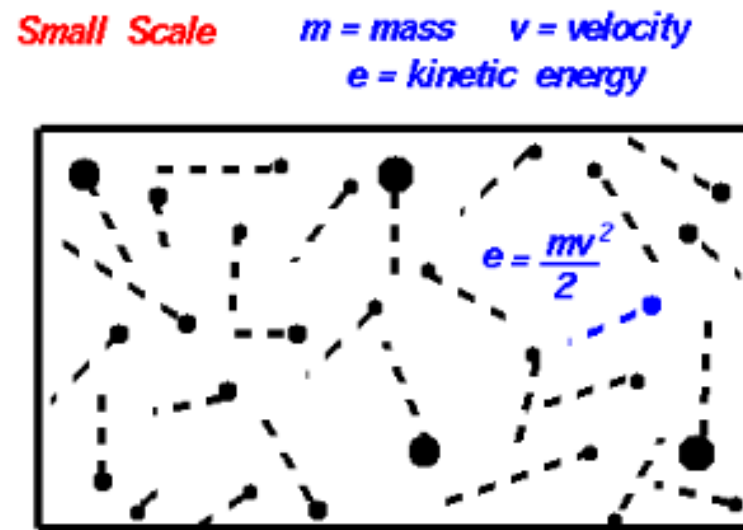


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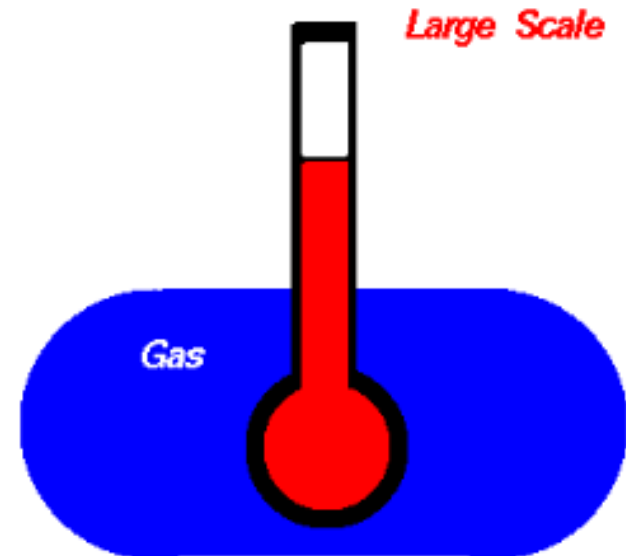
CHEMISTRY

Heat Chemistry

- Understand the molecular analysis about Heat and Heat Transfer.



Temperature is a measure of the average kinetic energy of translation of the gas molecules.

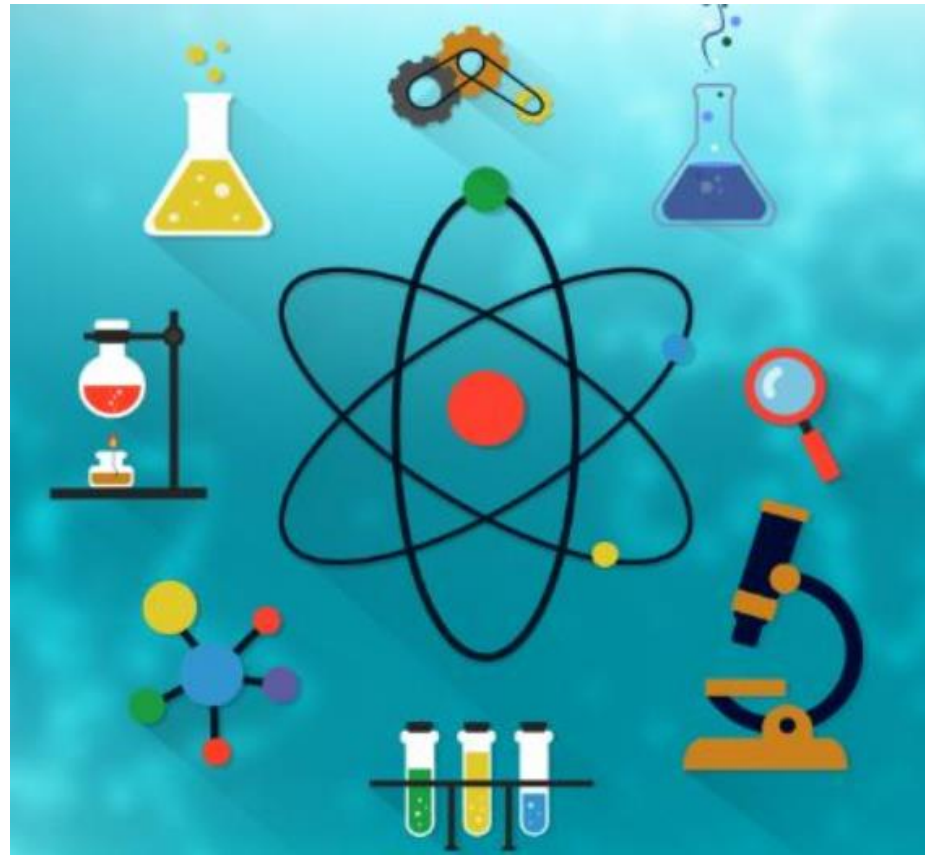


Objects in thermal equilibrium have the same temperature.

Temperature is a scalar quantity.
(magnitude, no direction)

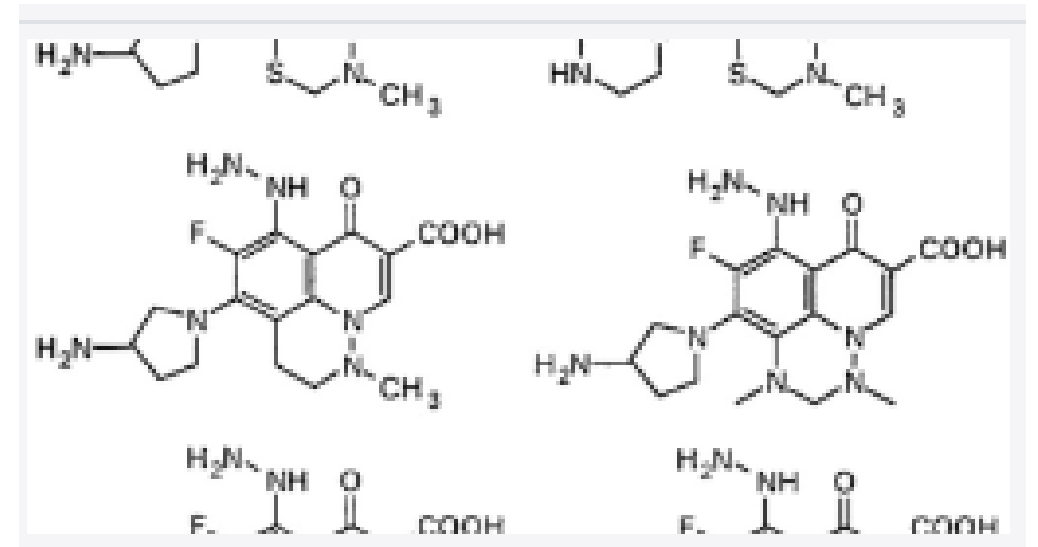
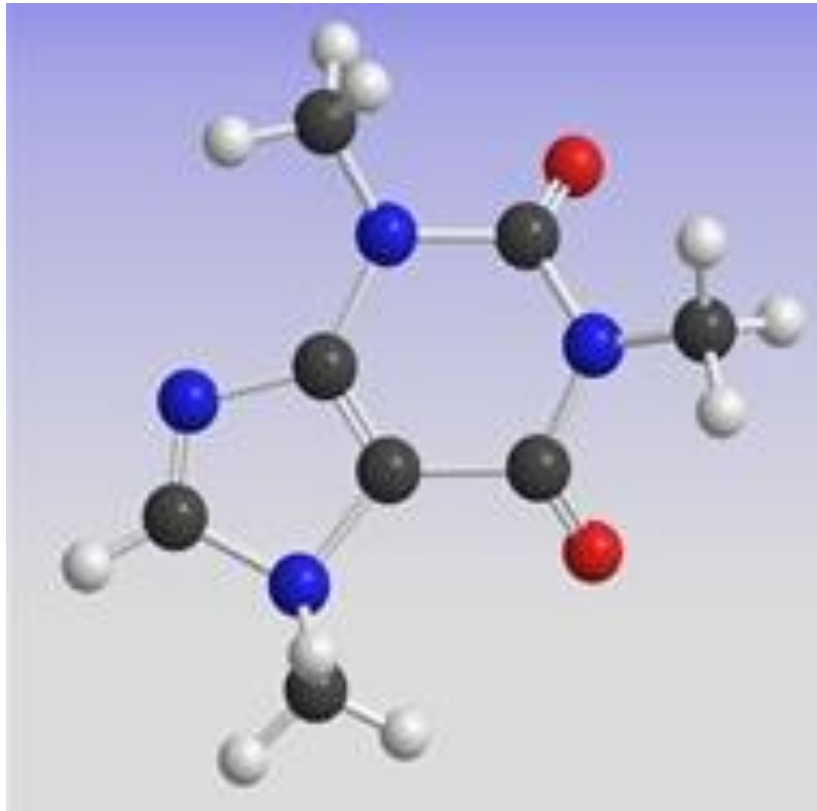
Basic Concepts of Physical Chemistry

- Applying the concepts of Physical Chemistry to analyze the rate of Chemical reaction.



Organic Chemistry

- Study of the bonding structure of molecules of compound.

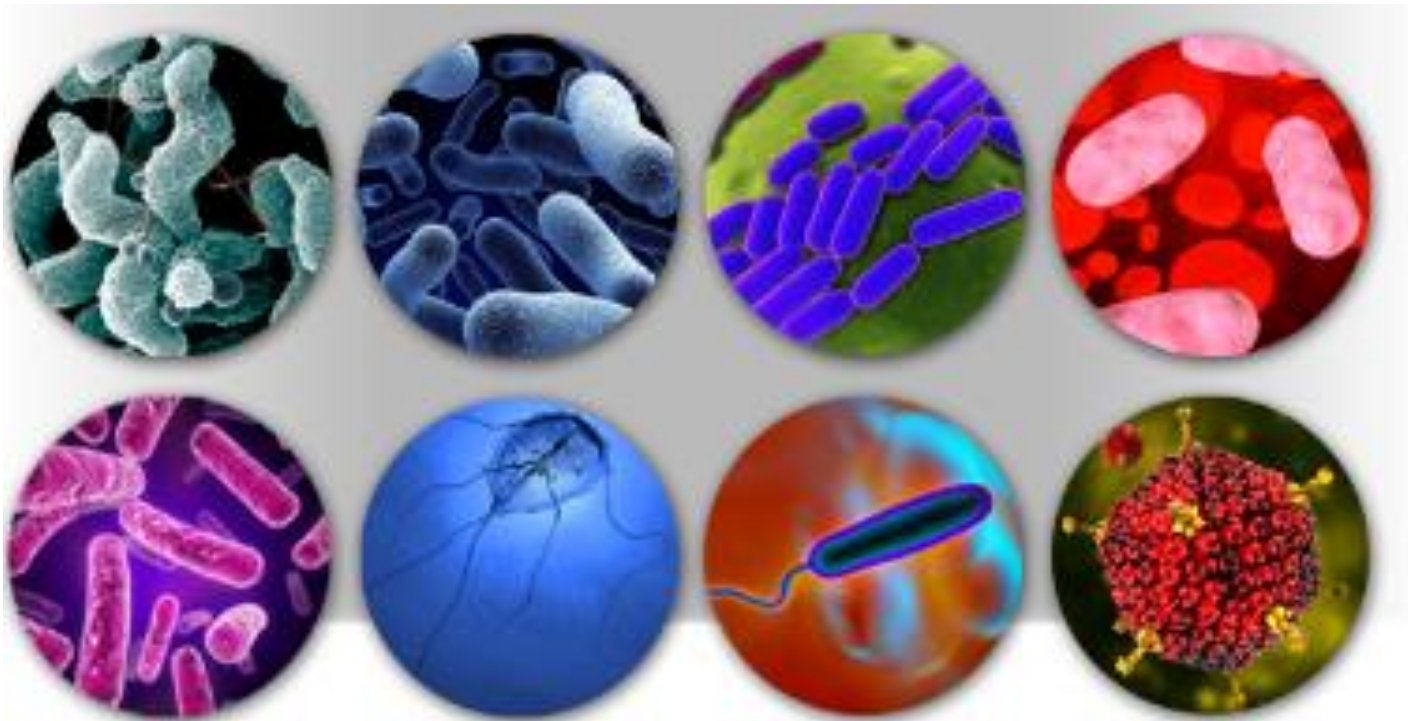


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Biology

Microbiology

- Study about the cellular structure of Living Beings.

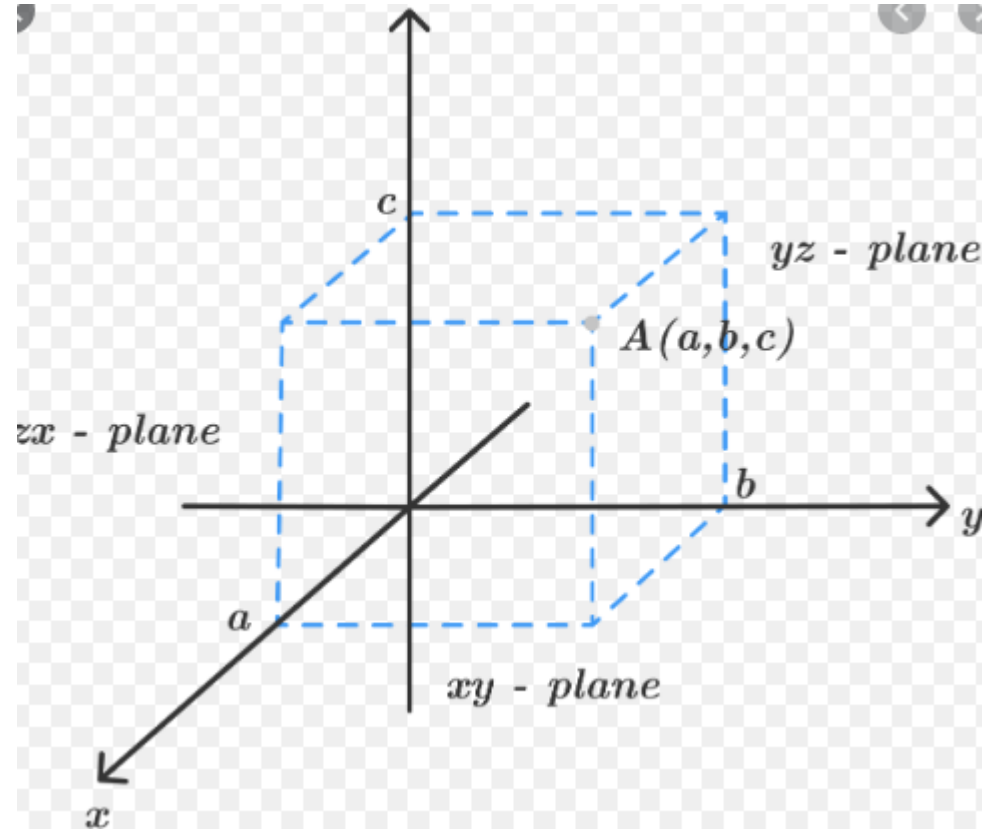


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Mathematics

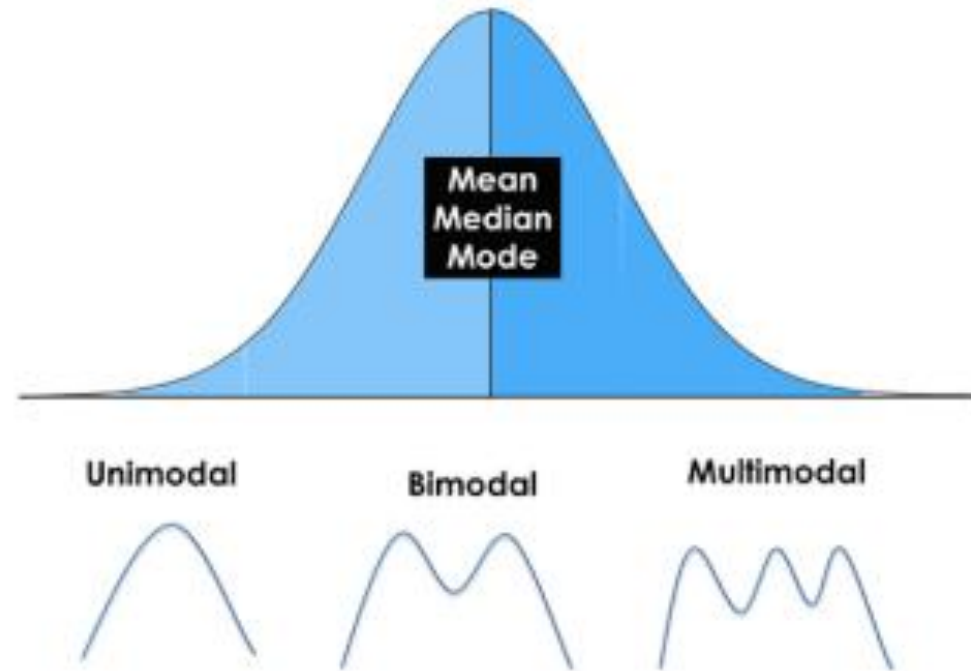
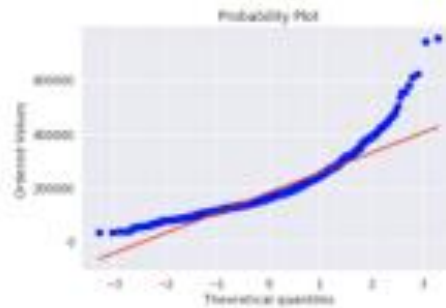
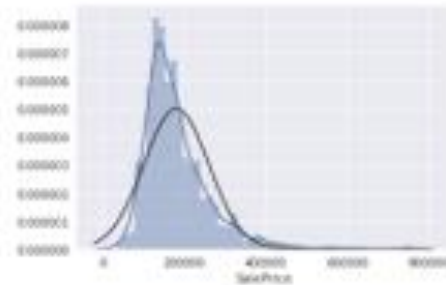
Coordinate Geometry

- Analyze the Straight line and Quadratic functions.



Descriptive Statistics

- Analyze the data population with statistical formulas.

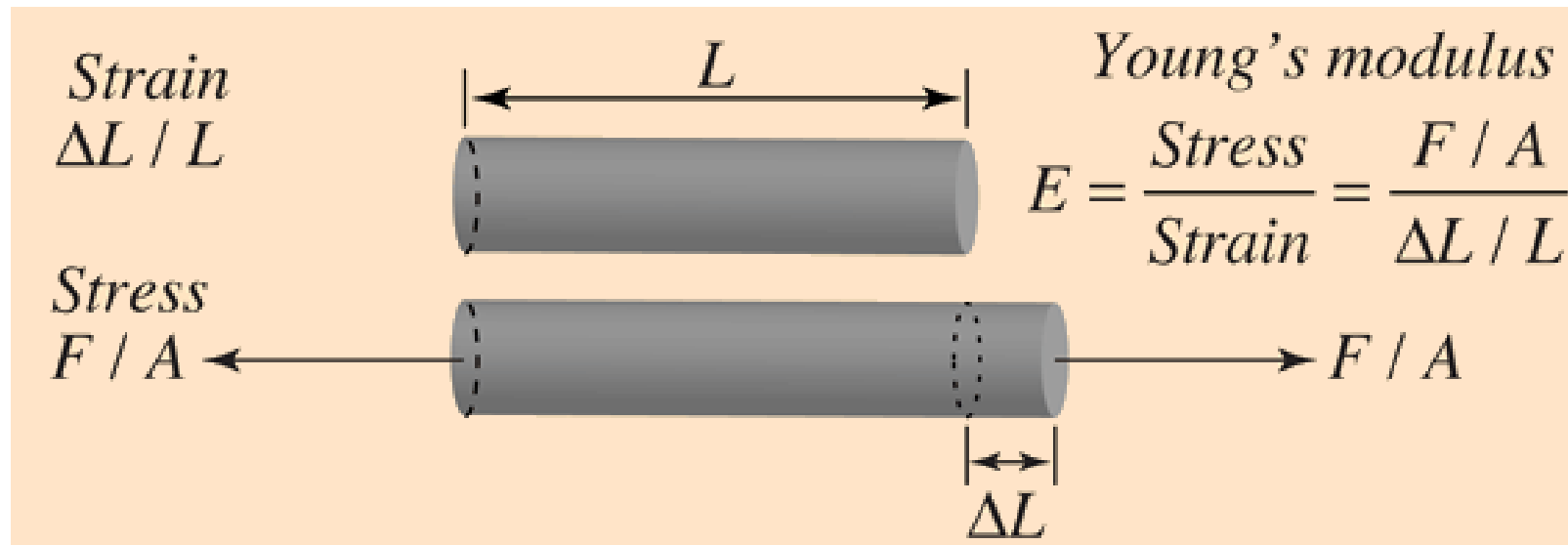


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Physics

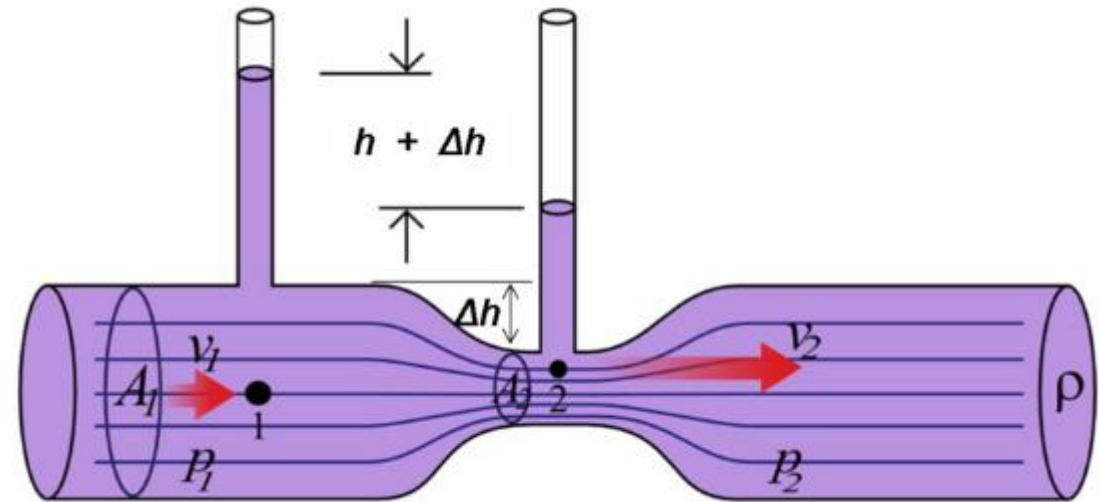
Elasticity

- Discuss the mechanical properties about Elasticity and its applications.



Fluid Statics & Dynamics

- Study about the principles of Fluid Statics and Fluid Dynamics and its applications.



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Chemistry

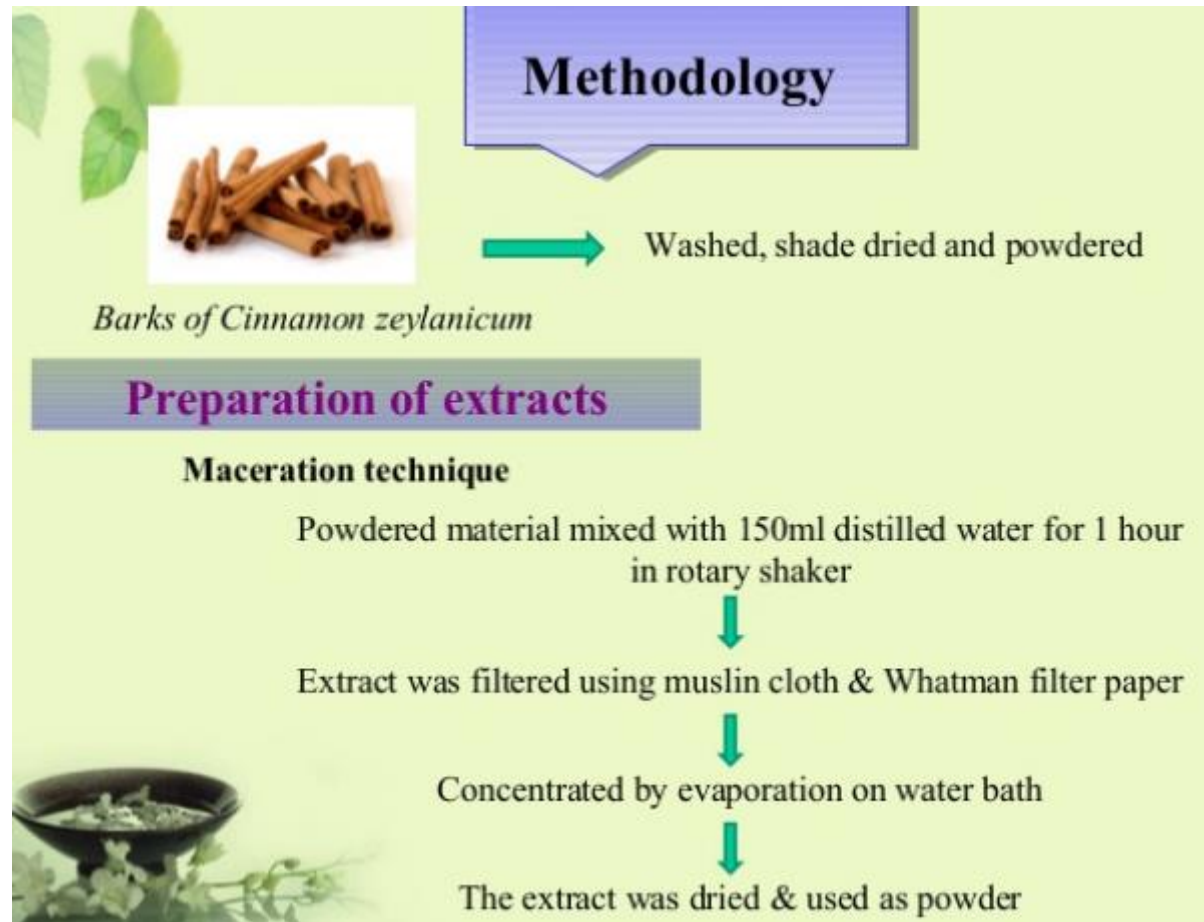
In-Organic Chemistry

- Study of the Polymers used in Industries.



Natural Products and its Extractions

- Study about Metabolites and different Extraction methods.



Industrial Chemistry

- Study about the Chemical process of Chemical Industries in Sri Lanka.

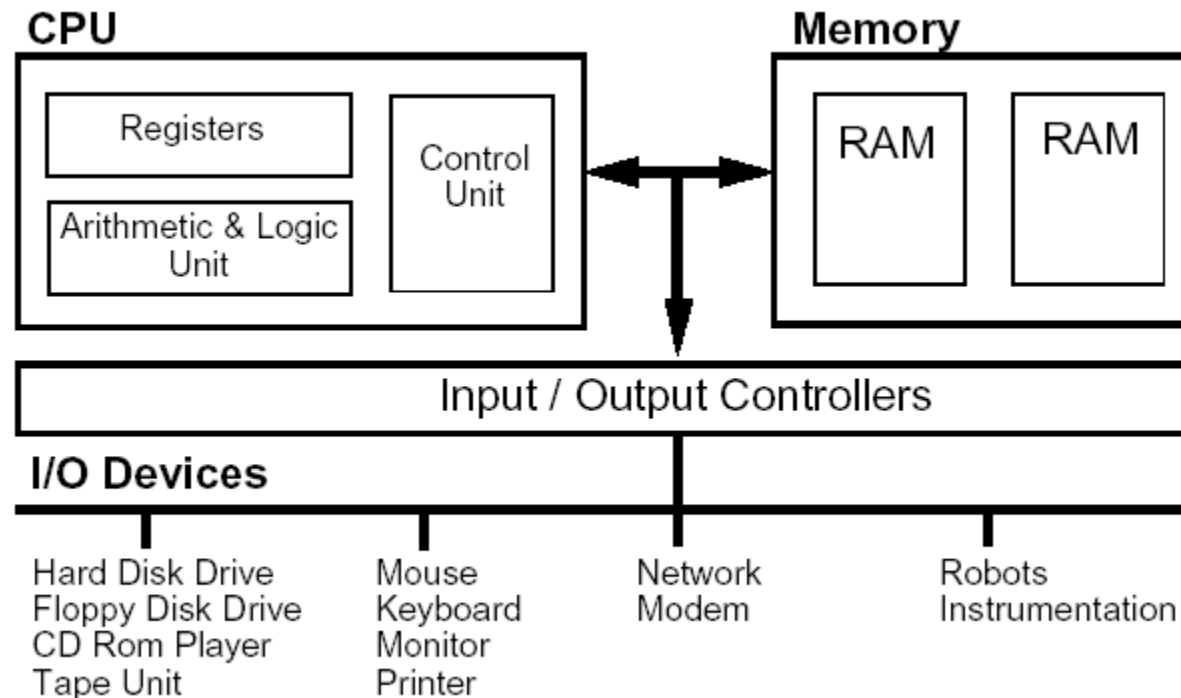


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ICT

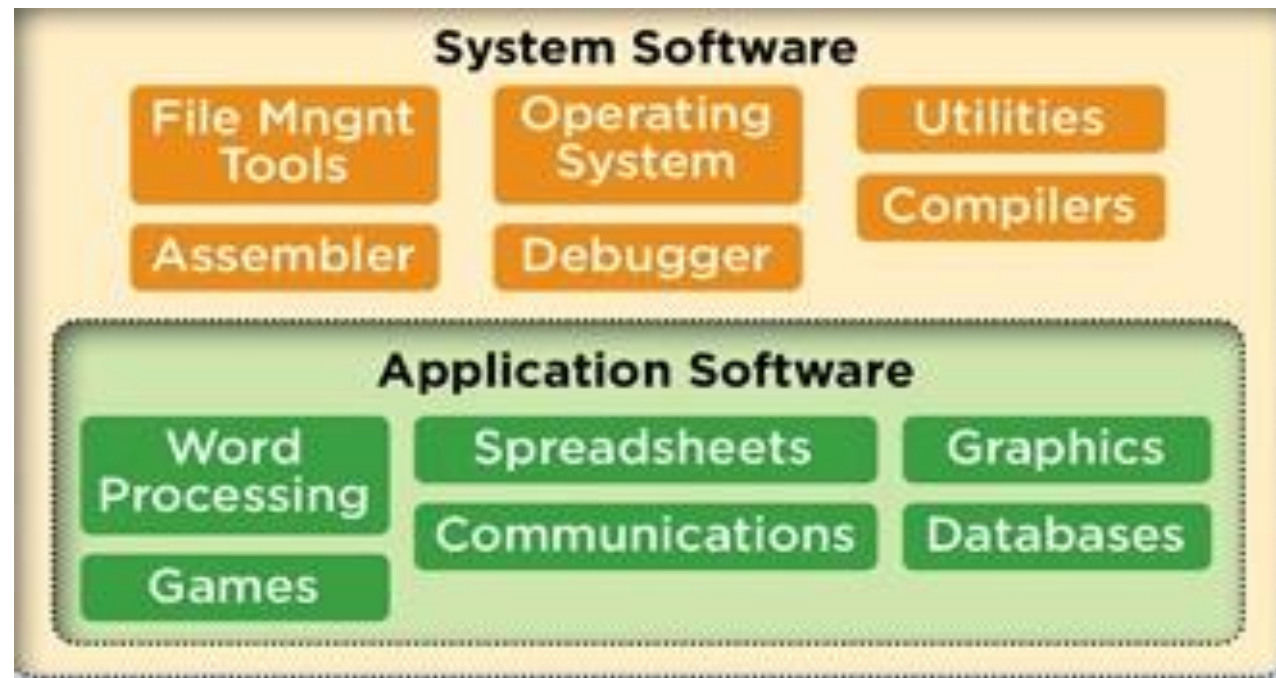
Computer Architecture

- Study about different accessories and component of Desktop computer.



Different Software and Applications

- Study about various software and their applications'



Internet & Email

- Study about Internet and Email.



Grade 13 Syllabus

Miscellaneous

Technological Development and Environment

- Study about the issues of Environment due to development of Technology.

