

## Science Skills

Observing

Measuring

Organizing

Classifying

Hypothesizing

Predicting

Analyzing

Inferring

Modeling

## Specialized Fields in Science

Biochemistry

Biology+chemistry

Organic Chemistry

Most substances that contain carbon

Inorganic Chemistry

Most substances that don't contain carbon

Mechanics

Study of Motion of Objects

Thermodynamics

Heat + its properties

Nuclear Physics

Processes in the nucleus of an atom

Astrophysics

Celestial bodies

Acoustics

Sound + its properties

Optics

Light + its properties

## Physical Science

Physical Science

Study of non-living things. Matter+Energy

Chemistry

Matter + its changes

Physics

Study of all forms of energy, changes among forms

## Physical Science (cont)

Specialist

Person studying a specific field of a subject

Specialization

Work in one part of a subject

## Formulas

Area (cm<sup>2</sup>)

L x W

Volume (cm<sup>3</sup>)

L x W x H or B x H

Volume(Irregular shape) (cm<sup>3</sup>)

V(displaced liquid, mL)= V(object, cm<sup>3</sup>)

Density

g / cm<sup>3</sup>

## Measurements

Volume

Amount of space in an object

Density

Arrangement of particles in a substance, how closely packed they are in a specific amount of space. Heavy/Light have to do with density

Mass

Amount of matter in an object

Temperature

Average amount of kinetic energy of the particles in a substance, Hot/Cold

## Metric / SI

English system

Used in USA

S.I - International System of Units

Standard used worldwide

Metric Staircase

K-h-da-UNIT-d-c-m

## Scientific Experiments

Constant

Factor that remains unchanged

Independent Variable

You control; adjustable

Dependent Variable

Stimulus that we don't change but is changed by other variables

Control

Part of experiment that remains unchanged to compare the results

Scientific Method

Series of steps used to investigate a scientific question; steps can be skipped or repeated

## Scientific Method

State the Problem

Ask a question about the problem to learn about/solve

Background Research

Textbooks, internet, scientific journals, encyclopedias, newspapers

Formulate a Hypothesis

Suggest a solution to the problem

Design an experiment

Organized process designed to test hypothesis. List all materials and procedure in correct step-by-step order

Collect + Organize Data

Detailed charts, graphs, models, drawings

Analyze Data

Study data carefully

Draw a Conclusion

Is the hypothesis right or wrong? Restate it. Based on analysis of data.