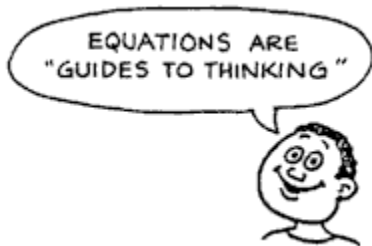


- **C.E. Physics 1010: Outline & Lesson Plans**



Key

(1.5 Hours Each)

E = Exploration or Lab..... D = Demonstrations

C = Concept.....H = Homework

T = Test.....P = Project

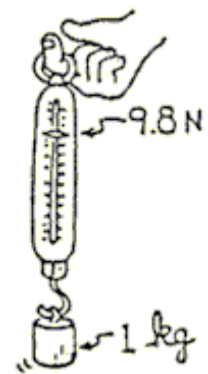
V = video.....O = Objective

Quarter #1

Day 1:

C: Seating Chart, Disclosure, Algebra Intro.

H: Algebra Review W.S.: (Signed #s, Powers of 10, Linear & quadratic equations). Bring calculator next time.



Day 2:

C: Algebra Review, Significant Digits, Measurements & Calculator Manipulation.

E: Calculator Manipulation

H: Measurement, Precision, & Accuracy W.S. (Measuring Standards, Scientific Notation, & Accuracy)

D: Overhead Calculator

Day 3:

C: Length, Areas, Volumes & Problem Solving.

H: Formula and Conversion Factor W.S.

E: Measuring lengths to get areas & volumes (Use of calipers, rulers & tapes)

Day 4:

C: Mass, volume, and density

H: Problem Solving W.S.

E: Measuring masses & volumes to calculate density. (Use of mass balances, graduated cylinders & rulers)

Day 5:

C: Weight vs. Mass: Force introduction

H: Conversion Factor W.S.

E: Measuring weights and mass. (Use of mass balances and spring scales)

Day 6:

C: Displacement, Scalars, Vectors, & Graphing Vectors

H: Navigation W.S. with the use of a protractor.

E: Mapping your treasure. (Use of measuring tape)

Day 7:

C: Vector addition

H: Vector Resultant W.S.

E: Navigating for treasure (Use of measuring tape)

T: Measurement and math test

Day 8:

C: Force vs. Pressure

H: Pressure W.S.

E: Force table (Use of spring scales & protractor)

D: Bed-of-nails

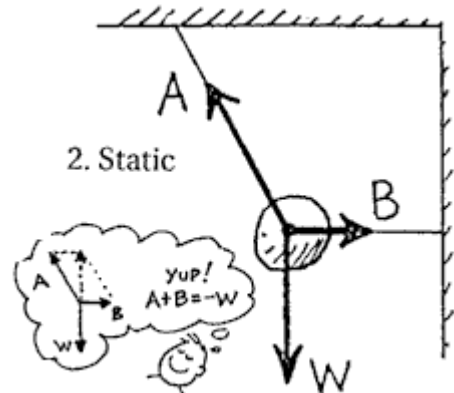
Day 9:

C: Average speed vs. instantaneous speed

H: Displacement vs. time graphs: Slope & velocity

E: Team relays

D: CBL graphs



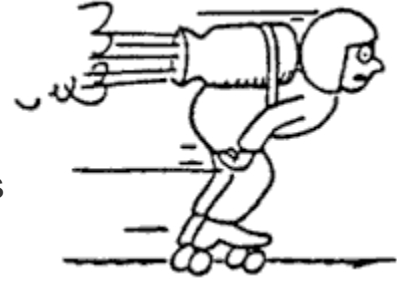
Day 10:

C: Angular speed, frequency & period

H: Rotational speed

E: Swing frequency in the park (Use of meter tapes and stopwatches)

D: Srobe timing



Day 11:

C: Archimedes Law & Hydrostatic Pressure

H: Hydrostatic Pressure W.S.

E: Archimedes Lab (Use of overflows & Captures)

T: Speed & vector test

Day 12:

C: Fluid Flow & Bernoulli Principle

E: Trough or River flow measurements, (Use of meter tapes & stopwatches)

D: Manometer and Air-flow measurements

D: Bernoulli Demos

H: Archimedes W.S.

Day 13:

C: Electrostatics I

E: Will That be Cash or Charge? How many types of electrical charge exist, and how do they interact with each other? (Trans. tape, comb, small pieces of wool, sheet of colored & white paper, scissors, salt & pepper)

D: Hovercraft

T: Liquids test

H: Hand books out, assign #s and read electrostatics chapter.

P: Assign. Motor Proposal



Day 14:

C: Electrostatics II

E: Charging Has Hidden Effects: How do charges move in conductors and

insulators? (polystyrene plate, acrylic plate, soft drink cans, metallic embroidery floss, metal can, insulated cups, & wool cloth scraps.)

H: Electrostatics Conceptual W.S.

Day 15:

C: Electrostatics III and Coulomb's Law

E: There's More Than One Way to Charge a Cat: How can you put different charges on an object using the same charged device? (Polystyrene plate, plastic straw, tape, aluminum foil, thread, aluminum pie pan, comb, fur, glass rod, silk cloth, electroscope, transparent tape, pith ball & ring stand)

H: Textbook assignment: R.Q.

D: Van de Graff Demo's; Flamingo & Demo

V: Mech. Universe: Electrostatics

Day 16:

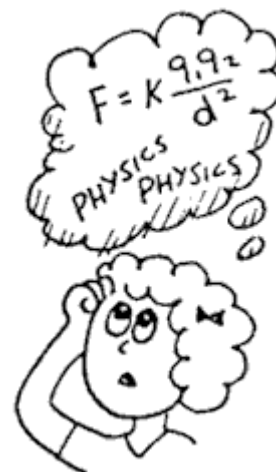
C: Electric Fields I

E: A Forceful Charge: What factors affect the force between charge objects? (Pendulum, electroscope, golf club tube & wool cloth)

H: Textbook: Read chapter on E-fields

D: Lightning Demos

P: Motor Proposal Due



Day 17:

C: Electric Fields II

E: Charges on a Hill: How can you determine the electric field from a plot of equal potential energy lines. (Clear plastic tray, voltmeter, connecting wires with alligator clips, two electrical conductors, two D batteries, graph paper, salt, aluminum foil, small round metal cups, wire mesh, water).

H: Textbook: T.E. assignment

V: Mech. Universe; Electric Fields

Day 18:

C: Electric Circuits I

E: Sparky the Electrician: What are the ways you can make lightbulbs light? (2D batteries, several wires, small lightbulbs, bulb holders, household incandescent lightbulb, paper stack, cardboard scraps, paper clips, brads, and tape).

T: Static Electricity Test

V: Lightning

H: Magnetic Field Outline: Assign motor project w/groups.

Day 19:

C: Electric Circuits II

E: Short Circuits and Leaky Pipes: What different ways can you connect bulbs and batteries and still have a working circuit? (Small lightbulbs, bulb holders, D batteries, wire)

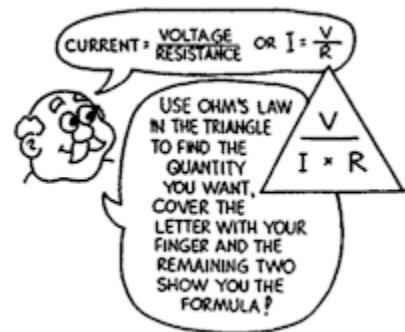
H: Textbook: Read Electric Circuit Chapter

Day 20:

C: Electric Circuits III

E: Ohm, Ohm On The Range: What is the relationship between current, voltage, and resistance in a complete circuit? (Ammeter, voltmeter, power supply, various resistors, connecting wires & switch).

H: Textbook: Electric Circuits R.Q.



Day #21

C: Motors and Magnetism

P: Electric Motors Show (Homemade)