جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة الانبار

شعبة ابن سينا للتعليم الالكتروني

تقدم

Virtual Labs

Virtual labs VPL
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المختبرات الافتراضية VPL
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قائمة التجارب المتاحة

Please find below a collection of links to selected interactive virtual physics labs found on the web, thanks to the hard work and generosity of a number of "friends" of physics. These virtual labs are great for use before labs and also as a review of some of the general concepts learnt in class and in the lab. Virtual Physics labs are now readily available for sale as supplements to textbook to provide a visual and interactive component. One such package can be obtained at http://www.virtualdynamicssoft.com. Please make full use of these valuable resources. Additional labs will be added as I come across good ones on the web. Have fun!

اختر التجربة المطلوبة للبدء بالعمل

Mechanics

- The Micrometer :This is a virtual micrometer that allows you to learn and practice using a micrometer (Ron Blond 1955 -2015)
- The Vernier Caliper :This is a virtual vernier caliper for learning and practicing the use of the vernier caliper (Ron Blond 1955 -2015)
- Motion with constant acceleration:
- Vector addition: This applet is a simulation of the Vector Addition lab at CCSU
- Vector addition: this site has a feature for adding up vectors and other advanced vector operations
- Resultant force (vector addition)
- Projectile motion: This is great for both lab and class
- Projectile motion: This is another very nice simulation from PhET. Excellent for both class and lab
- Energy Conservation: Another nice PhET simulation
- Conservation of Linear Momentum: you can experiment with linear momentum conservation here (elastic and inelastic collisions)
- Buoyant forces (Archimedes Principle): experiment with forces acting on a body partially or completely submerged in a fluid. You can vary liquid density etc.
- PhET Site:This site from which the Energy Conservation link is from, contains a number of useful interactive simulations for Physics, Chemistry, Math etc.
- Uniform Circular motion: This applet shows relationship between a harmonic oscillator and uniform circular motion
- Simple Pendulum (SHM)
- Motion of a Spring (SHM)
- Standing Waves: This applet shows reflected waves forming standing waves (Walter Fendt's collection)
- Longitudinal Waves:Applet that show reflected waves with options for open and closed ends (Walter Fendt's collection)
- Resonance: a nice interactive simulation from PhET

Electricity & Magnetism, Light

- Electric Fields: This is a nice interactive site that allows you to simulate electric field lines, equipotential lines etc for various charge distributions.
- Charges and Fields (PhET): interactive charges, fields, potentials etc
- Balloons and Electrostatics (PhET): simulation of and example of the electrostatic charging process.
- Millikan Oil Drop Experiment: Simulation of Millikan's experiment that showed that charge is quantized
- Circuits (PhET): Circuit building applet - Ohm's Law, Kirchoff's rules etc
- Circuits 2: A nice simulation for learning series, parallel circuits etc
- Capacitors: This applet is for addition of capacitors in series and in parallel
- RC Circuit: an applet by Pearson Publishing
- Potentiometer: This applet simulates the potentiometer, great for both lab and class
- Wheatstone bridge: A nice applet, may be used in both class and lab
- Magnetic field of a bar magnet: interactive animation of magnetic fields of a bar magnet using a compass.
- Magnetic field of a straight current carrying wire: interactive animation of the magnetic fields due to a straight current carrying wire.
- D.C. motor: a simulation of a DC motor.
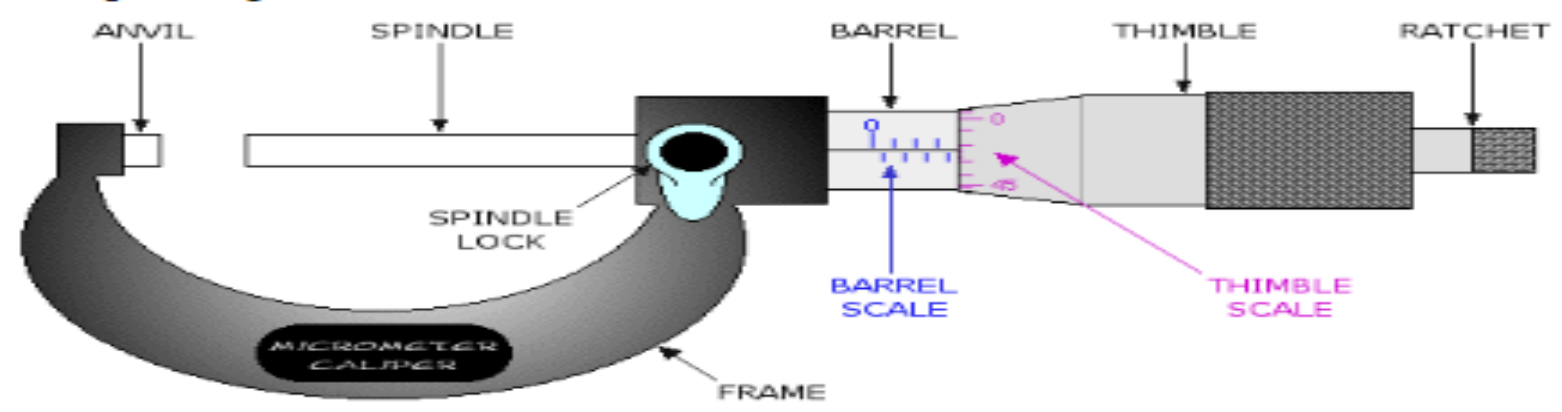
An object to be measured is placed between the anvil and the spindle. The thimble is adjusted until the object is almost gripped between the anvil and spindle. Turning the ratchet then adjusts the grip of the micrometre to the same tightness each time.

Example (Reading a Measurement)
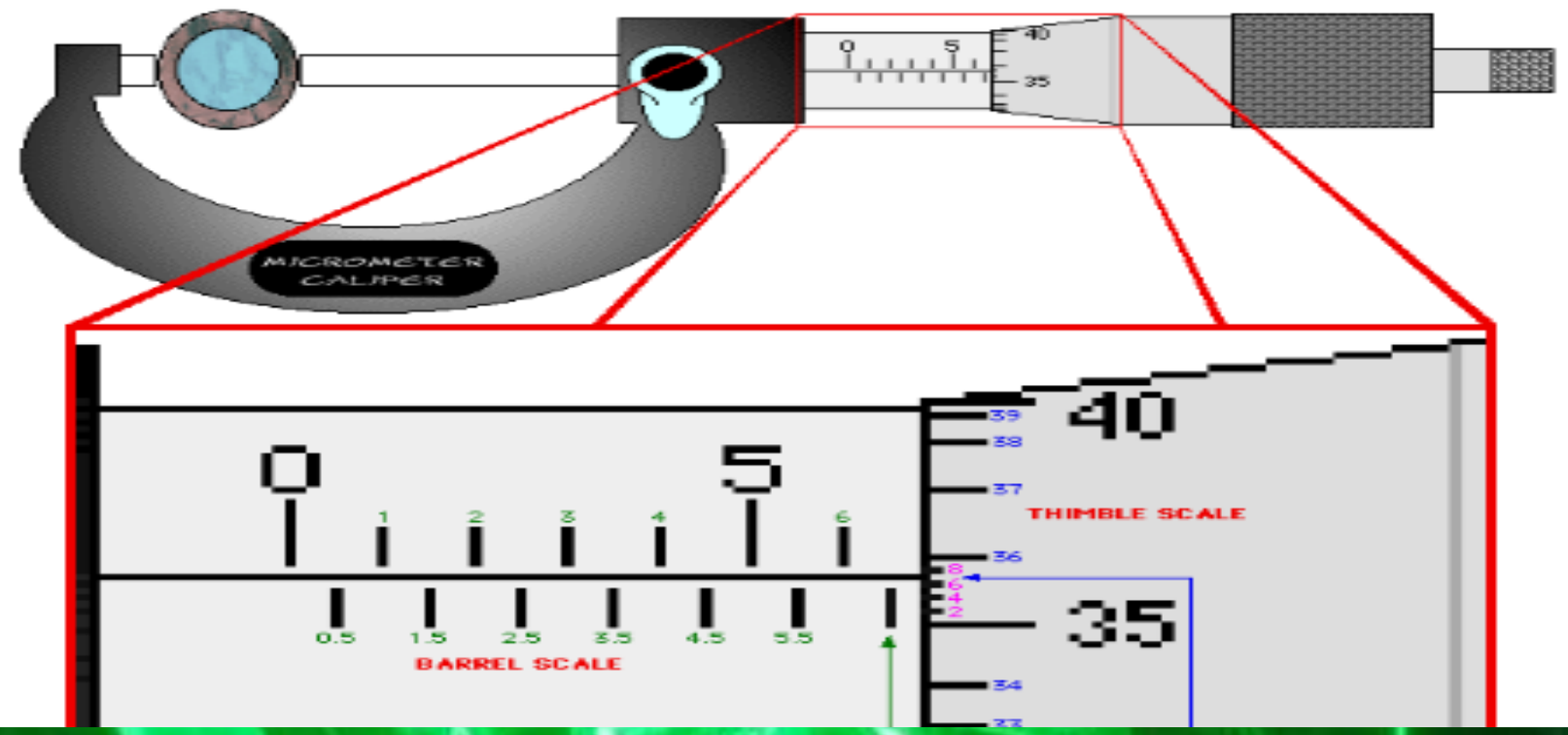
Demonstration

ابدا للعمل

0.375 mm

4 mm

MICROMETER CALIPER

MEASURE = 4 mm + 0.375 mm
MEASURE = 4.375 mm

RESET