

The Logical Interface

BIOLOGY-CHEMISTRY CATALOGUE

Data Loggers:
Vernier,
Fourier and
TLI Ezilog USB
Large range of sensors



Microscopes: Optical and Digital



Electronic Balances



Software and DVDs



Electronic Equipment
Power Supplies
Signal Generators
Fuel Cells



The Educational Technology Experts

All prices include GST. Many of the products in this catalogue are available for 21 day trial.

The ProScope HR

The ProScope HR is a high resolution digital microscope with a 1.3 MP color camera. The lightweight yet tough construction easily fits in the hand of a child or adult. The user friendly software makes taking and managing images a breeze, yet includes powerful features such as video and time lapse photography. Now you will be able to capture changes that occur in biological, or chemical experiments using time lapse photography over seconds, minutes, or hours.

From \$350.00
Ex GST*



Features

- 1/4 inch high resolution 1.3Mp color sensor
- USB 2.0
- Four possible magnifications 50X, 100X, 200 X and 400X and 1X to 10 X zoom.
- Lightweight, rugged construction easily fits in the hand of a child or adult.
- The user friendly software makes taking and managing images a breeze
- Includes powerful features such as video and time lapse photography.

Field Use

As it's only connection is the USB port on your computer the ProScope™ can bring the lab to the field so that Biology, archaeology or any field studies can be conducted on site. The full ProScope HR™ Kit comes with a hard case so portability and care of your ProScope HR™ and its accessories is assured.

In the Lab

Investigate leaf and insect structure. Examine the surface of your skin and hair, or simply attach to your existing microscopes with a C-mount, or microscope adapter (see below).

Product	Price (Inc GST)
Proscope HR+ 50 X	\$540.00
400 X Lens	\$460.00
200 X Lens	\$275.00
100 X Lens	\$275.00
50 X Lens	\$220.00
1 to 10 X Lens	\$226.00
Microscope Adapter	\$34.00
Stand	\$298.00
Carry Case	\$29.00

ProScope HR™ Lenses

1-10X LENS

Our most popular and versatile lens, the 1-10X is a variable focus lens that can be used as a web, still or video camera lens in 1X, or manually adjusted to 10X for light magnification of text, cataloging insects, gems or ballistic investigations.

100X Lens

Perfect for fingerprints, agricultural inspection, general biological studies. With this lens you can actually watch perspiration ooze from the pores on your fingerprints.

200X and 400X Lens

Our most powerful lenses, these lenses allow the user to view microorganisms, small insects and print detail with ultra sharp clarity.

C-Mount and Eyepiece Adapters

Use our industry standard 16mm c-mount adapter, or eyepiece adapter to attach the ProScopeHR™ to an existing microscope, telescope or camera lenses to capture digital images and expand your digital imaging tools.

ProScope Stand

Use the ProScopeHR™ stand, or a camera tripod to support your ProScopeHR™ for extended periods. Ideal for time lapse, or normal video photography.



Ezonics Digital Camera with Microscope Adapter

Inexpensive digital microscopy is now available to educational institutions using a digital camera and microscope adapter from The Logical Interface.

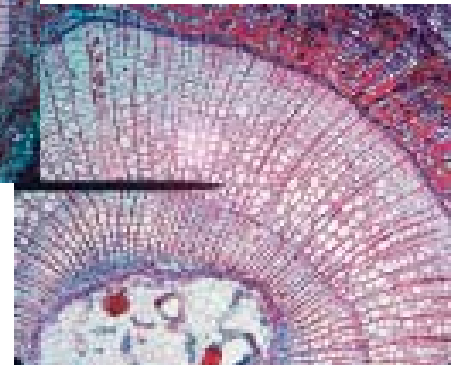
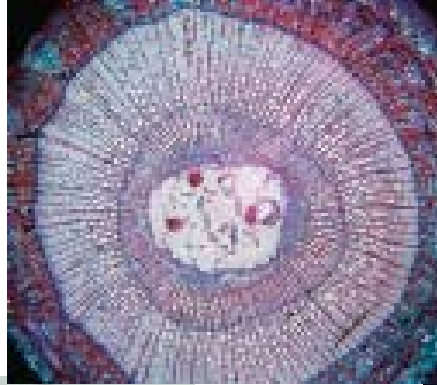
- Capture images from your microscopes and telescopes.
- Capture images to camera's own memory - no need to attach a computer.
- Display images on a computer, or digital projector.
- Use with a PC, Mac or Notebook.



Features

- 3 MPixel,
- still image mode
- video capture mode
- web cam mode

Use with Ezonics, your own graphics, or our TLI Scope software.



Ezonics Megacam Pro and Microscope Adapter **\$290.00**



TLI Scope Imaging Software

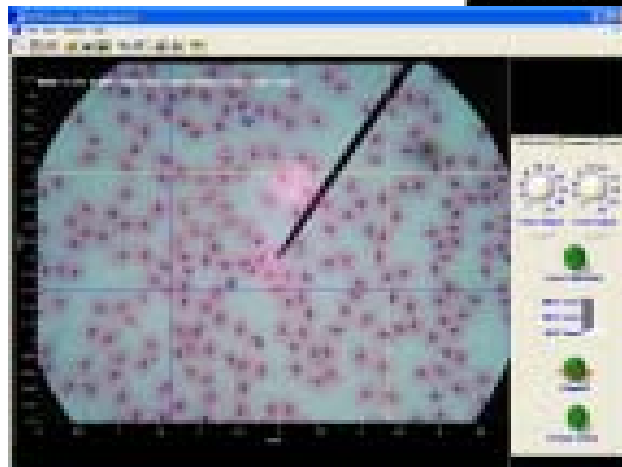
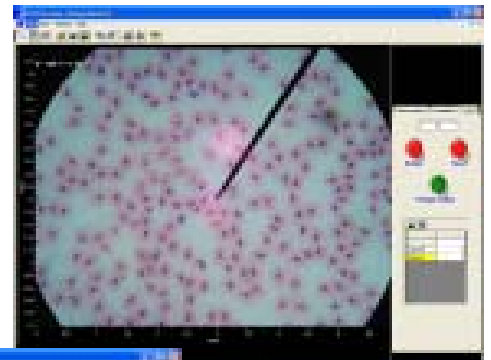
Turn your microscope into a powerful data acquisition tool by combining digital photography with TLI Scope software. For use with the Proscope digital microscope and digital cameras.

Features

- live and snapshot scale measurement
- split screen for image comparison.
- count mode for counting items in image
- annotation of images
- export to Excel

Price Including Site Licence **\$154.00**

Site Licence
\$154.00



Food Webs - Ponds

Construct hundreds of food chains and webs using up to 45 organisms and then model the populations.

Fantastic for projects!

Incorporate digital photography and data logging. Use your own species pictures in the software. Students can replace existing pictures with those they have taken during their own pond study and even enter their own species into the environment. Integrate physical data collected about your pond by altering the physical parameters of the environment. The modelling software then works with your own ponds physical data and species. Web site support with additional species, pond environments and much more.

- Personalise the software by having your school pond as the title or background picture.
- Model your food webs for up to 2 years
- Change the web easily during modelling to allow for the introduction of species and a changing ecosystem.
- Control levels of Sewage Pollution, Phosphate, Nitrate, Turbidity and Thermal Pollution.
- Various graph types including biomass pyramid.
- Data can be saved as text or printed out for later analysis.
- Food Webs and modelling data can be easily saved.

Full Species Editor included make your own Species!

Food Webs: Ponds includes Full Environment and Species Editor

The integrated editor allows you to:

- ◆ Edit the physical environment to match your pond.
- ◆ Change existing species.
- ◆ Create new species.
- ◆ Import new species created by others.

A unique predator-prey interface allows you to easily demonstrate

- ◆ The importance of prey in species survival.
- ◆ which changes directly affect the modelling of your web.

Edit environmental data including

- ◆ Temperature.
- ◆ Sewage Pollution levels B.O.D.
- ◆ Turbidity Oxygen Levels pH.
- ◆ Phosphate levels.
- ◆ Nitrate Levels.
- ◆ Light Intensity.

Edit species data including:

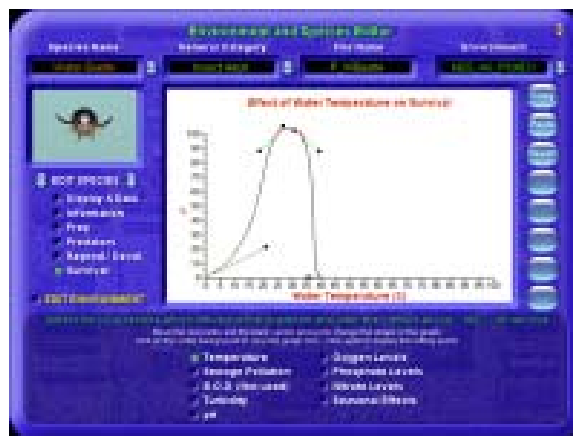
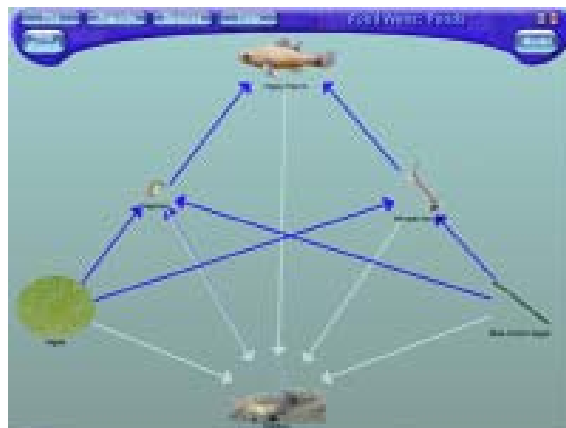
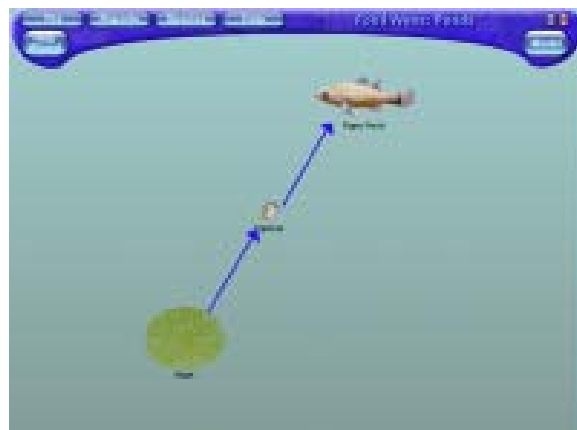
Display diagrams, physical data, background Information, prey, reproduction, development, survival under different conditions.

Available for:

Windows 98, ME, NT, 2000 and XP.

Software supplied on CD.

\$499.00 for Full Site Licence including GST



eDNA is a digital tool for the simulation of genetic engineering exercises. eDNA makes it possible for you to carry out as many DNA-exercises as you want, with as many students as you like.

eDNA is designed to mimic real-life research with an intuitive interface that makes it easy to get started. Manuals are included with the eDNA software describing the theoretical background of exercises in detail.

In eDNA you can carry out several different exercises, with many different genomes and enzymes. The software includes an electrophoresis apparatus, a PCR-apparatus and dishes for bacterial culturing. eDNA is non-linear, which means that genomes and enzymes may be combined in any chosen order. Price includes full site licence.

All exercises are described in detail in the exercise resources.

- **Restriction Analysis**
- **DNA Fingerprinting** using RFLP and PCR
- **Paternity Analysis** using RFLP and PCR
- **Phylogenetic Trees** using RFLP and PCR
- **Genomic Library**
- **Sequencing and Translation**

Easy to Use

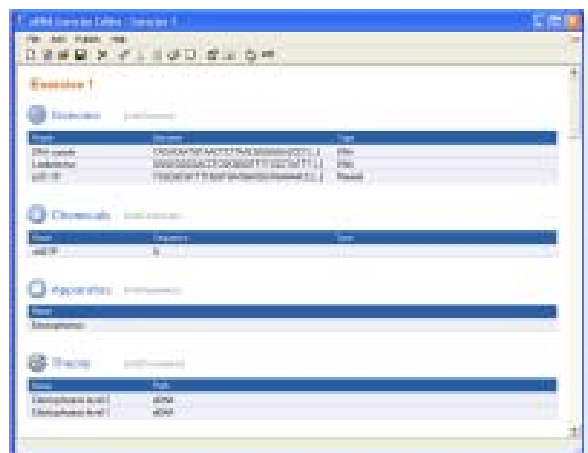
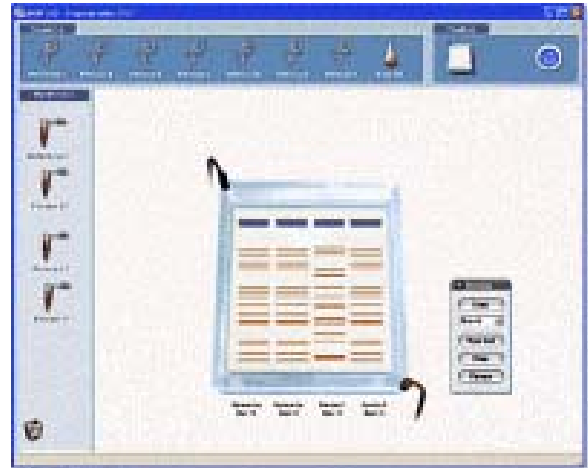
eDNA is designed to function as an educational resource where the emphasis is on learning and analysis. Hence much effort has been made to make the program as easy as possible to work with. As a teacher you should not spend a lot of time showing how the program works, instead you should be able to spend time on the students' learning. The eDNA software notices if students are doing something wrong and automatically gives advice about how the program should be used - so you can focus on your students and not on the computers.

Theory Resources

Along with eDNA a large number of theory resources are provided. They are designed so that you easily can adapt them to your classes.

Topics covered include:

- DNA
- DNA Fingerprinting
- Electrophoresis
- Paternity Analysis
- Phylogenetic Trees
- Construction of DNA Map
- Construction of Genomic Library

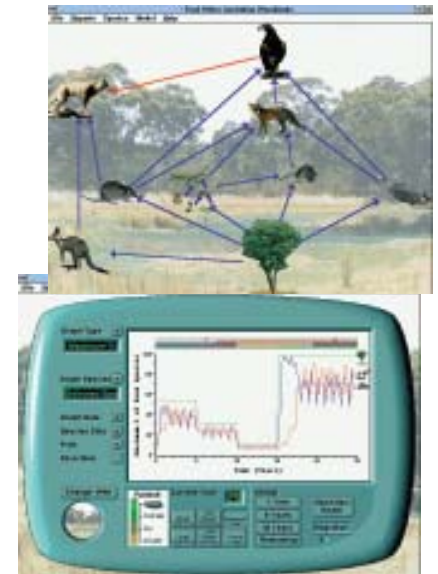


Food Webs: Australian Woodlands Ver. 3

This outstanding software allows your students to investigate the food chains and webs of one of our most common community types.

- Construct hundreds of food chains and webs using the 30 organisms available.
- Discover the relationships between organisms
- Investigate the influence of introduced species such as the rabbit, fox and cat.
- Up to 30 species can be modelled over 25 years.
- Change the web easily during modelling to introduce a new species and change the ecosystem.
- Control rainfall, droughts and bushfires.
- Introduce farming into the ecosystem.
- Save data as text files for later analysis in spreadsheets etc

Site Licence
\$299.00

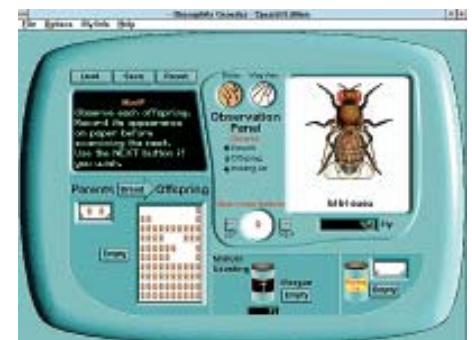


Drosophila Genetics (Version 5.1 Special Edition)

This breeding simulation is designed for senior students and encourages the development of skills in scientific method. Students visually count, categorise and record the individual flies. 69 reproducible pages contain experiments to guide students through five types of inheritance. Inheritance investigated includes:

- | | |
|--|-----------------------------------|
| ● Single Genes | ● Double Genes |
| ● Sex-linked Genes | ● Incomplete Sex-linked Dominance |
| ● Linked Genes and linkage distance | ● Unlimited generations. |
| ● Unlimited flies in each generation. | ● 6 genotype display modes. |
| ● Teacher blocking of genotype, XY, linkage and dominant gene display. | |

Site Licence
\$349.00

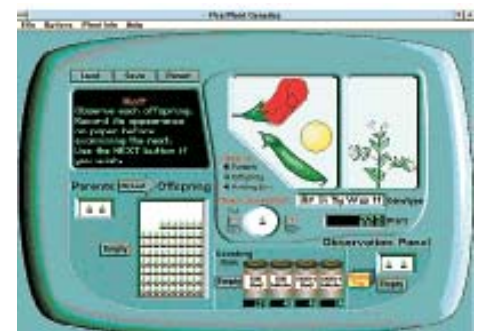


Pea Plant Genetics: Version 6

This GENETIC BREEDING SIMULATION enables your students to collect and analyse raw data from experiments which take only a few minutes instead of months. NEW Features include:

- 6 genotype display modes including TpTp, TT or +t.
- Teacher blocking of genotype dominant gene display.
- Unlimited generations.
- Unlimited plants in each generation.
- Hold selected plants, then use them as the next parents.
- Use labelled jars to record each plant type, or just drop the plant into the morgue and record it by hand.

Site Licence
\$299.00



Inheritance investigated includes:

- Single, Double and Triple Gene
- Co and Incomplete Dominance

108 reproducible pages contain 24 experiments to guide students through 5 types of inheritance.

Biology

Natural Selection Series

Site Licence
\$125.00 per Title

All three only
\$310.00

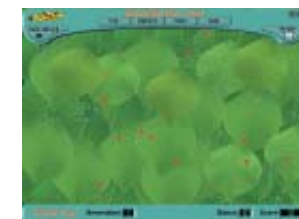
Peppered Moths

This simulation directly involves the student in the predation process by allowing them to prey on moths under different pollution conditions. Your students will gain a first-hand understanding of why a population of coloured moths can be replaced by one dominated by dark colours as a result of a change in the physical environment. Graph and data tracks population variations.



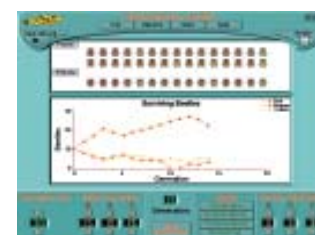
Frogs

This simulation directly involves the student in the predation process by allowing them to prey on frogs of different colour and poison characteristics. Excellent for advanced studies in natural selection, this program explores the selective advantage of brightly coloured poisonous frogs. Mimicry as a survival strategy can also be studied. Population trends are observed and analysed over 20 generations.



Beetles

Examine the effects of predation on subgroups within a population and the effect of population size on the viability of such subgroups. Great for dealing with ecological concepts which relate to population size, diversity and evolution. Students can alter the initial beetle population and relative predation rates of the three beetle colours over 15 generations.



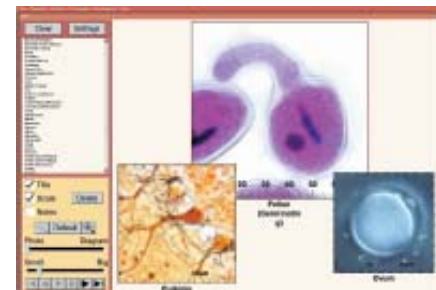
MULTIMEDIA LIBRARY FOR SCIENCE

The Multimedia Library for Science is a suite of thirteen multimedia programs for secondary science. with a wealth of resources including Examples, Activities, Worksheets and Teacher's Notes in PDF format. For complete details and preview downloads visit our web site at www.logint.com.au.

Cells

A collection of micrographs of cells linked to diagrams.

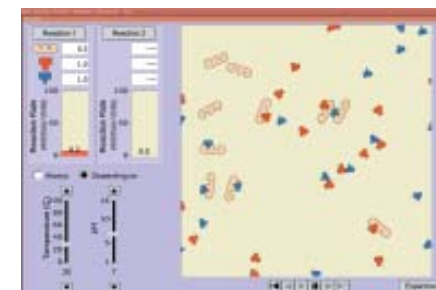
- Enhance microscope practical work
- Show the main features and relative sizes of animal and plant cells
- Demonstrate how specialized cells are adapted to their functions



Enzymes

Simulates enzyme-catalysed reactions.

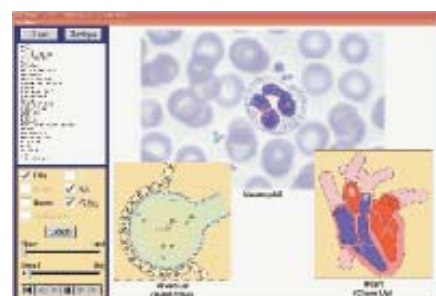
- Show the lock and key theory of enzyme action and demonstrate how enzymes enature
- Compare simulated results to real experiments.
- Examine the effect of concentration, pH and temperature on the rate of an enzyme catalysed reaction.



Circulation

This software uses animations and micrographs to examine

- The structure of the heart and its function
- The transport function of the circulatory system and blood composition
- Gas exchange in alveoli and diffusion in body tissues
- The structure of arteries, veins and capillaries.



Chemistry

The Chemical Databook: The Elements.

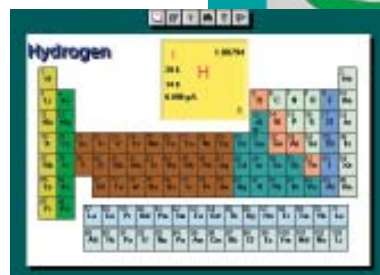
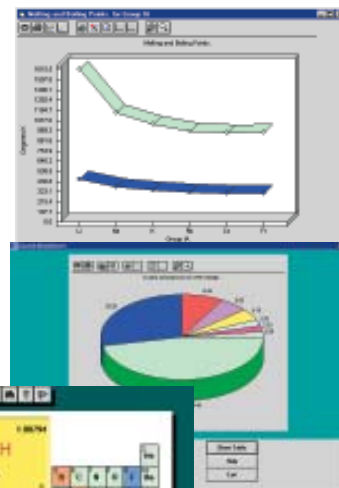
A comprehensive database of the elements including

- ◆ Abundances, Periodic and Group trends by graph and table.
- ◆ Detailed description of each element including the history of its discovery and common uses in industry.

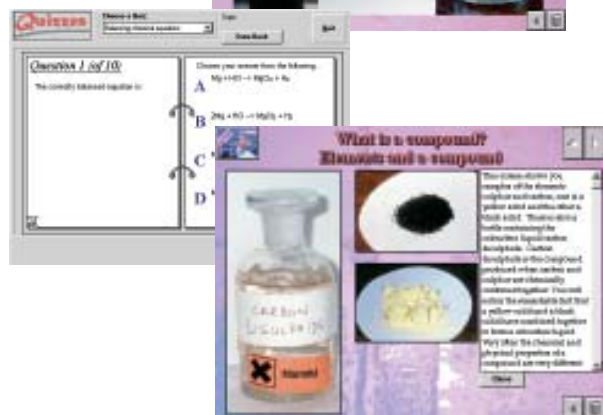
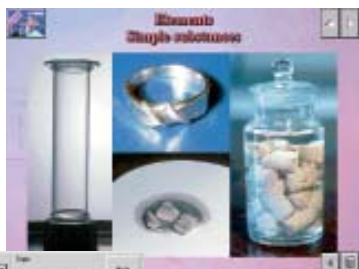
Features

- Easily print and copy data, graphs and photographs to your favourite application.
- Enhanced graphs and screen design.
- Includes photographs or graphic of most elements.

Site Licence
\$165.00



Core Chemistry



Single User \$105.00
Site Licence \$226.00

Suitable for both junior and senior science.

Features

- Interactive Quizzes and Comprehensive Databook.
- Multimedia including video, animation, graphics, text and audio.

Includes

- The Elements and Compounds, Atoms and Molecules
- Metals and Non Metals, Acids and Bases
- Oxidation and Reduction, Evaporation and Condensation

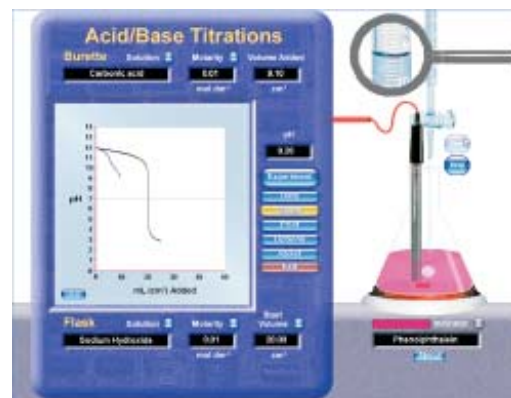
Acid/Base Titrations (Version 4) NEW

Site Licence
\$240.00

Your students can carry out titrations in minutes - with no broken glassware or split solutions.

Features

- 100 Unknown solution strengths, allowing teachers to set assignments.
- Student Quiz Options which allow your students to test themselves.
- Save data as text for later analysis.
- Save the last 6 titrations for instant recall.
- Print graphs and data for the last 6 titrations.



Indicators available:

- Methyl Orange, Methyl Red, Litmus
- Bromothymol Blue
- Phenolphthalein, Thymolphthalein
- Hypothetical IDEAL Indicator

Chemistry

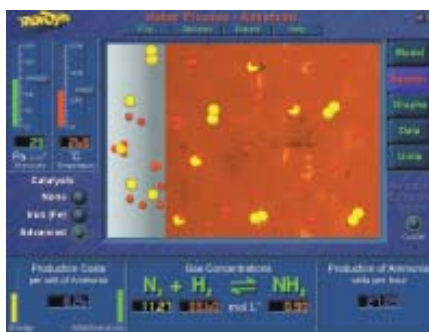
Haber Process

This simulation helps simplify the concepts involved in the Haber Process and the production of ammonia. It is ideal for teachers and students of all levels.

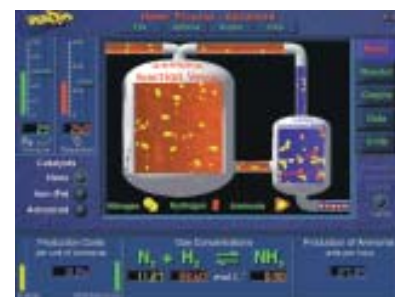
Includes Experiment Worksheets to study:

Features

- Data can be printed and exported for later use.
- Investigate ammonia equilibrium in a closed system, with and without catalysts.
- Full control over temperature, pressure, catalyst, gas concentrations and the units used.
- Extensive graph options allow the students to observe up to 12 different variables at once.
- Energy, maintenance and raw material costs can also be altered to help economically oriented investigations.



Site Licence
\$240.00



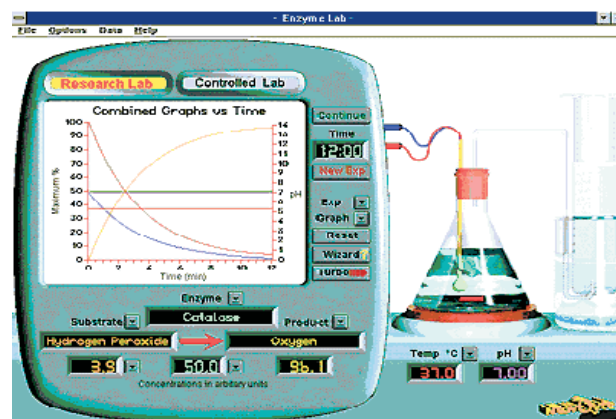
Enzyme Lab (Version 6)

Enzyme Lab encourages the use of scientific method, experimental design and discovery learning. The effects of pH, temperature, enzyme concentration and substrate concentration variation are easily demonstrated. Enzymes studied include Pepsin, Trypsin, Catalase, Amylases, Hydrolases and Lypases

This package also features an extensive manual of blackline masters which include studies such as:

- Enzymes as Catalysts
- Enzyme Structure, Enzyme Action
- Factors Affecting Enzyme Action
- Practical Uses for Enzymes
- Enzyme Nomenclature

Site Licence
\$399.00



Electrochemical cells

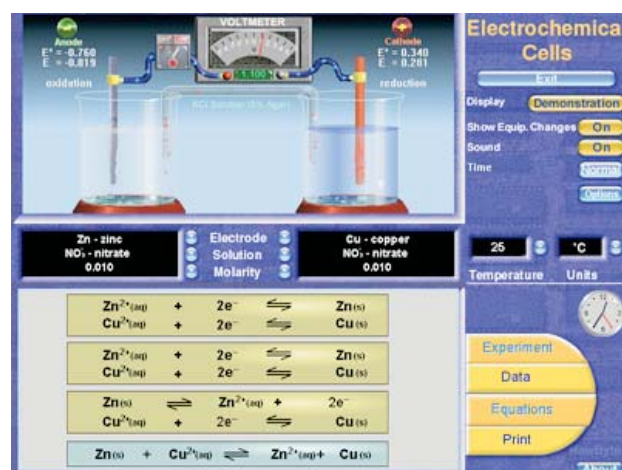
Introductory and advanced electrochemical experiments can be conducted with this software using integrated experiment notes. **Control your electrode, salt, salt concentration and temperature at the touch of a button. Simple yet powerful screen layout** lets you select thousands of cell variations.

Site Licence
\$299.00

- Display half-cell & overall equations
- Electron flow
- Voltage
- Anion and Cation movement
- Anode and Cathode
- Oxidation and Reduction site
- E° for each half-cell
- E for each half-cell
- Electrode decay/deposits

Unknown electrodes enable your students to investigate the relative activity of unknown metals and even determine their E° values.

Export or Print data files and experiments. **Print cell layout** or entire screen. **Create your own custom experiments** which will appear within the program.



Gas Equilibrium

Site Licence
\$240.00

Equilibrium experiments at your fingertips! Using NO_2 and HI equilibrium reactions your students will easily investigate the physical and chemical factors which influence gas equilibrium. This versatile simulation allows experimental conditions to be easily changed at any time.



Atoms and Ions

\$149.00

Using animation this software models the atom to

- Examines nuclear structure and determine atomic and mass numbers.
- Demonstrates how electrons are arranged in atoms with shell diagrams.
- Demonstrates how ions have stable electron arrangements.

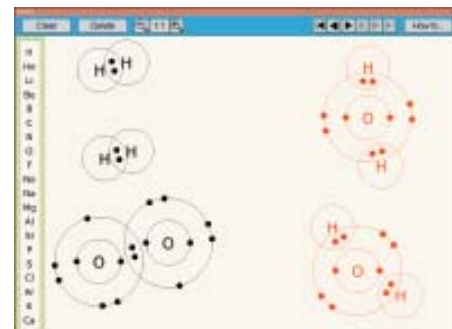


Bonding

\$149.00

Uses a "sketchpad" to assist construction of bonding diagrams.

- Illustrates covalent and ionic bonding.
- Explains why elements only combine with certain other elements and in set ratios.
- Explores the bonding of complex molecules



Diffusion

\$149.00

Using animation this software illustrates diffusion of liquids and gases.

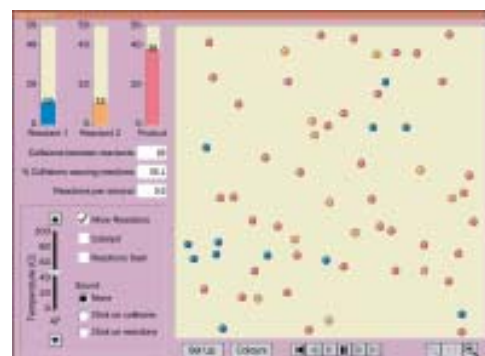
- Demonstrates how the particle model of gases and liquids explains diffusion.
- Demonstrates evaporation of liquids in vacuum and gas.
- Demonstrates the relationship between rate of diffusion and temperature.

Rates of Reaction

\$149.00

This software uses collision theory to model rates of reaction.

- Shows how particles must collide in order to react.
- Investigates activation energy and the rate of reaction
- Illustrates the relationship between energy of collisions/rates of reaction
- Create virtual investigations without using chemicals

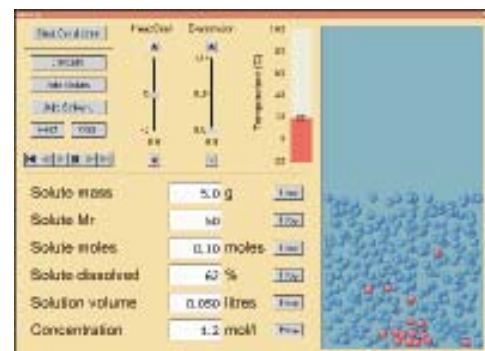


Dissolving

\$149.00

An interactive program that uses simulation and animation to

- demonstrates how substances dissolve.
- illustrates relative solubility of common substances.
- examine the factors effecting solubility.



Electronic Balances

0-300 Grams 0.1 Gram

Ideal general purpose laboratory balance

Resolution 0.1 g
Range 0-300 g
Tare
Power: External battery pack, or 9V battery
Serial option available for computer connection.



0-500 Grams 0.01 Grams

Resolution 0.01 g
Range 0-500 g
Tare
Power: External battery pack, or 9V battery
Serial option available for computer connection.



0-300 g, 0.1g resolution balance. \$185.00
0-500 g, 0.01g resolution balance. \$345.00.
Free 21 Day trial of our balances.

Mass Sensor-Balance

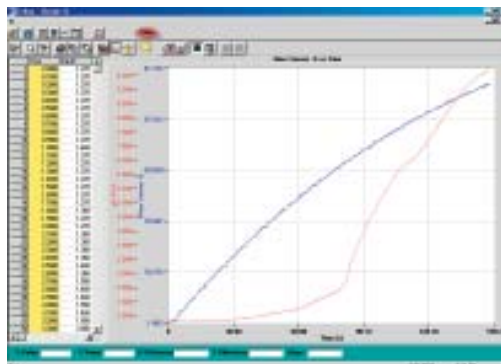
\$485.00

New from The Logical Interface. For use with most popular data loggers. This balance can be used as a stand alone electronic balance, **or as a mass sensor attached to a data logger**. It can be used to measure Mass, Force and Volume. Works with the following popular data loggers TI CBL., Vernier LabPro, Fourier Multilog Pro., TLI Ezilog USB, Tain, DataHarvest EasySense (without calibration).

Typical Experiments

- Volumetric measurements - titrations etc.
- Rates of Reaction.
- Ampere's Law: Force vs Current.
- Current Carrying Wire in a Magnetic Field.

Plus Free Experiment worksheets.



Introducing Dino Digital Microscopes

Dino-Lite Digital Microscope with USB output. **from \$295 (Ex GST)**

Dino-Lite Digital microscopes provide high quality digital microscopy. Simply connect to the USB of your PC or Mac and control magnification and focus while maintaining clear and steady images. High quality images where ever you go.

Features

- Adjustable magnification: 20x~200x. Continuous magnification without switching lenses
- Resolution: 640 x 480pixels (VGA)
- Built-in white-light LED illumination
- Frame rate: up to 30fps
- Interface: USB1.1 (PC)
- Dimension: 10cm (Height) x 3.2CM (R). Weight: 90g
- Capture picture, video and time-lapsed video
- DinoCapture Software



Australian 20 Cent coin.

Applications

Skin & scalp check. Industrial inspection e.g. diamond, printing, textile. Printed circuit board (PCB) inspection. Science, Education, Forensics and visual assistance.

Dino Lite Basic - USB Connection to PC or Mac, DinoCapture Software **\$295.00**

Dino Lite Pro - same as Dino Lite Basic plus TLI Scope Imaging software - take measurement, count and annotate. **\$365.00**

Dino-Eye Microscope Eye-Piece Camera. **from \$275 (Ex GST)**

The Dino-Eye is a digital eyepiece, which can easily be plugged into most biological and stereo microscopes. It allows you to view your microscopic image on your computer screen. The included DinoCapture software can capture and save an image, real time video or time-lapse video. Combine it with the TLI Scope software to take measurements, annotate and count.

Features

- Resolution: 640* 480pixels (VGA)
- Frame rate: up to 30fps
- Interface: USB

Dino Eye Basic - USB Connection to PC or Mac, DinoCapture Software **\$275.00**

Dino Lite Pro - same as Dino Lite Basic plus TLI Scope Imaging software - take measurement, count and annotate. **\$345.00**



For our complete catalogue contact Phil Jones at

The Logical Interface

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Web www.logint.com.au Email info@logint.com.au

Why we are different.....

The Logical Interface is uniquely positioned to provide support for educational technology. Our electronic support is provided by Steve Laurence BEng(HONS). Steve is a university medal winner and has designed and built a range of electronic data loggers (including our Ezilog USB), which are in use throughout the World. Steve has worked for Cochlea and BP Solar. Customer support is provided by Phil Jones BSc(HONS), MSc(HONS), DipEd. Phil is an experienced teacher having taught physics, IT and science at secondary and tertiary levels. He writes software in Visual Basic and C++. Phil is the author of many of the software titles sold through TLI, including our Ezilog USB. He is a consultant to NSW TAFE, for whom he has developed a range of database and web based systems, covering operational, student and IT management.