

# Late Nite LABS

## Science lab simulations for online and blended learning

**Like a flight simulator for science, Late Nite Labs recreates a traditional lab environment accessed right from your computer.**

Used by universities and colleges for on-campus and online programs, our labs let students explore in a safe, interactive environment anytime, anywhere. Each experiment module comes equipped with all the instruments materials, and texts for each course—all for less than the price of a textbook—so that you can provide sophisticated learning experiences while preserving resources. And with everything accessed right from a browser, students and educators can work based on their own schedules.

### Pricing

Unlimited

**\$49.95**

Custom Courses

**\$19.95**

Faculty accounts are **free!**

Email [sales@latenitelabs.com](mailto:sales@latenitelabs.com)  
or call **1-800-262-0518**, and  
we'll help set you up.

Pricing is subject to change.

## Step Up to the Bench

Conduct experiments with  
state of the art instruments.

Use all the chemicals, compounds,  
and specimens you'd find in a wet Lab.  
No goggles needed.

Throw out  
materials when  
you're done.  
Grab new ones  
when you  
need them.



Upload photos, videos, and files  
with the media player.

Keep track of progress with  
the Lab Log and Timer.

Lab manual includes  
background, procedures, and  
a note-taking section.



## Chemistry Labs & Categories

### Basic Principles

- Sample Lab
- Titration Tutorial

### Properties of Matter

- Chemical Reaction Types and Their Equations
- Conservation of Mass
- Density – A Characteristic Property
- Characteristic Properties – Melting and Boiling Points
- Identifying Unknown Substances From Characteristic Properties
- Separating a Mixture of Compounds
- Law of Definite Proportions
- Molar Mass of Magnesium

### Radiation

- Chemistry of Solutions
- Molecular Weight by Freezing Point Depression
- Precipitation Titration of Cobalt Chloride
- Temperature Dependence of Salt Solubility

### Stoichiometry of Chemical Reactions

- Decomposition of Malachite
- Empirical Formula of a Hydrate
- Empirical Formula of Copper Oxide
- Limiting Reactant and Excess Reactant
- Mole to Mole Relationship Between Cu and Ag
- Stoichiometry by Loss of CO<sub>2</sub>
- Stoichiometry of an Acid-Base Reaction

### Acids and Bases

- pH indicators
- Standardization of a NaOH Solution
- Titration of Strong and Weak Acids

### Gas Laws

- Apparent Molecular Weight of Air
- Avogadro's Law
- Boyle's Law
- Charles' Law
- Determination of Absolute Zero
- Molar Volume of an Ideal Gas
- Pressure and Stoichiometry
- Volume of Air as a Function of Temperature

### Qualitative Analysis

- Qualitative Analysis of Group I Cations
- Alka Seltzer Strength

### Thermochemistry

- Enthalpy Change for the Decomposition of Ammonium Chloride
- Enthalpy Change of a Chemical Reaction

### Redox

- Alcohol Content of Vodka by Dichromate Titration
- Analysis of Hydrogen Peroxide Solutions
- Identifying Halide Ions
- Oxidation States of Manganese
- Vitamin C Content of Juices

### Spectrophotometric Analysis

- Spectrophotometric Analysis of Copper
- Quantitative Determination of Food Dyes in Powdered Drink Mixes



## Biology Labs

- The Scientific Method
- Cell Structure and Function
- Biological Molecules
- Acids, Bases and pH Buffers
- Enzymes
- Diffusion and Osmosis
- Cellular Respiration
- Photosynthesis by the Elodea Plant
- Mitosis and Meiosis
- Mendelian Genetics of Corn
- DNA Analysis in a Paternity Case
- Bacteria Cultures and Antibiotics
- Protists
- Fungi
- Plant Structure and Function
- Plant Reproduction
- The Earthworm
- Mammalian Tissues
- Evolution of Island Lizards
- Ecology



## Microbiology Labs

- Cultivation of Microorganisms
- Basic Microscopy
- Staining
- Bacterial Growth
- Extended Bacterial Growth
- Control of Bacterial Growth
- Biochemical Characterization
- Antibiotic Sensitivity
- PCR of 16s rRNA Gene
- Bacterial Transformation
- Viral Plaque Assay
- Unknown Identification



## Physics Labs

- Error Analysis
- Free Falling Bodies
- Two-Dimensional Kinematics
- Newton's Second Law
- Conservation of Energy
- Conservation of Momentum
- Centripetal Force
- Hooke's Law
- Harmonic Waves
- Torque
- Buoyancy

