Overview

This course includes the option of either hands-on or dry lab activities.

- In order to conduct the hands-on laboratory activities in this course, you will need to obtain the materials and lab manual listed in this document.
- Dry labs require only the lab manual; there are no additional lab materials needed for these activities.

Lab Manual


For information on acquiring the lab manual for this course, refer to the Course Materials List at [http://support.apexlearning.com](http://support.apexlearning.com). In the upper-right corner, under Quick Links, select Course Materials.

Disclaimer

Apex Learning® has no liability whatsoever regarding any hands-on laboratory activities. The personnel at the school at which the student conducts the hands-on lab activities, or the student's parent or guardian if the lab activities are completed at home, are responsible for all such hands-on lab activities, including ensuring that qualified personnel are available to supervise the activities.

Questions?

Contact the Apex Learning support team by phone at 1-800-453-1454 or by email at support@apexlearning.com.
Hands-On Lab Materials by Experiment

Making a Rip-O-Meter
Semester 1: 1.3.3; PH: Lab 2 (2009: Semester 1: 1.1.4)
- Paper cup
- Paper clip
- Approximately 150 pennies
- 2 plastic sandwich bags
- Masking tape
- Marker
- Leaves

Way to Go, Indigo
Semester 1: 2.4.3; PH: Lab 5 (2009: Semester 1: 2.3.2)
- 3 dark blue denim fabric swatches
- Scissors
- Masking tape
- Marker
- (2) 500-mL beakers or large cups
- 1 pH buffer capsule
- 500 mL water
- Graduated cylinder
- 2 g IndiAge® cellulase
- Transfer pipette
- Large plastic bowl or bucket
- Hot tap water
- Paper towels
- Magnifying glass

Design a Cell
Semester 1: 3.4.3; PH: Lab 6 (2009: Semester 1: 3.1.3)
- Agar cubes containing bromthymol blue (about 2 cm on each side)
- Plastic knife
- Paper or plastic plate
- Plastic cup or beaker
- Vinegar solution
- Stopwatch or clock with second hand
- Laboratory balance

A Twist on Fermentation
Semester 1: 4.4.3; PH: Lab 18 (2009: Semester 1: 4.1.5)
- 5 clear (white) plastic film canisters or empty prescription bottles
- Plastic shoe box (1 for 4 groups)
- Heating pad
- Permanent marker
- Masking tape
- Dough
- 1 g granulated sugar
- Laboratory balance
- Food coloring
- Clock or watch
- Metric ruler
Can Lake Life Remain Despite Acid Rain?
_Semester 1: 5.4.3; PH: Lab 36 (2009: Semester 2: 5.2.5)_

- Transfer pipette
- Universal pH indicator
- Stirring rods or coffee stirrers
- Marker
- 50 mL simulated Brant Lake water
- 5 clear plastic cups or beakers (500-mL size)
- 50 mL simulated Blue Mountain Lake water
- Graduated cylinder
- Labeling tape
- 50 mL distilled water
- Simulated “acid rain” (dilute acetic acid in small beaker or cup)
- 50 mL local lake water (or 50 mL local soil, 100 mL tap water, coffee filter, funnel)

The Right Prescription for Bacteria
_Semester 2: 1.4.3; PH: Lab 16A (2009: Semester 2: 2.2.5)_

- Plastic cup for biohazard waste containing 10% bleach solution
- 2 agar plates
- Labels or masking tape
- Marker
- 2 cultures of bacteria
- 2 plastic inoculating loops
- Antibiotic disks
- Forceps or toothpicks
- Metric ruler

Radical Radishes
_Semester 2: 2.4.3; PH: Lab 11A (2009: Semester 1: 5.1.5)_

- Small growing container
- Labeling tape
- Marker
- Potting soil
- Water
- Bucket or other drainage container
- 10 radish seeds exposed to cobalt 60
- Metric ruler
- Optional: calculator

Birds on an Island
_Semester 2: 3.4.3; PH: Lab 14 (2009: Semester 2: 1.3.3)_

- Plastic spoon, knife, or fork
- Self-sealing plastic sandwich bag
- Food pieces (candies, unshelled nuts, beans, etc.)
- Optional: plastic container for nest
Bones, Feathers, and Fur
*Semester 2: 4.4.3; PH: Lab 26A (2009: Semester 2: 3.2.5)*

- Bird bone
- Mammal bone
- Laboratory balance
- 100-mL graduated cylinder
- Water
- Flight feather

- Down feather
- Mammal fur
- 3 microscope slides and cover slips
- Transfer pipette
- Microscope
- Scissors

Breaking Down Fat
*Semester 2: 5.4.3; PH: Lab 29 (2009: Semester 2: 4.2.5)*

- 4 test tubes
- Labeling tape
- Pen or marker
- Test-tube rack
- Graduated transfer pipettes
- 12 mL whole milk solution

- 2 mL bile solution
- 2 mL pancreatic juice solution
- 4 mL water
- 4 mL phenol red solution
- Stopwatch or clock with second hand
- 4 plastic film squares, stoppers, or caps