

## Introduction

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### Lab Options

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

- Dry labs require the lab manual – no additional materials are required.
- Hands-on labs require the lab manual and the materials listed below.

### Lab Manual

*Biology: Exploring Life Lab Manual*, Student ed. Neil Campbell, Brad Williamson, and Robin Heyden (Prentice Hall, 2004).

- See the [Course Materials List](#) for how to acquire this manual.

### 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 Apex Learning Support by phone at 1-800-453-1454 or by email at [support@apexlearning.com](mailto:support@apexlearning.com).

## Hands-On Lab Materials

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### Making a Rip-O-Meter

Semester 1: 2.3.1 / PH: Lab 2

- Paper cup
- Paper clip
- Approximately 150 pennies
- 2 plastic sandwich bags
- Masking tape
- Marker
- Leaves

## Way to Go, Indigo

Semester 1: 3.4.1 / PH: Lab 5

- 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: 4.4.1/ PH: Lab 6

- 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: 5.4.1 / PH: Lab 18

- 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: 6.4.1 / PH: Lab 36

- 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)
- 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

## Radical Radishes

Semester 2: 1.4.1 / PH: Lab 11A

- 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

## The Right Prescription for Bacteria

Semester 2: 2.4.1 / PH: Lab 16A

- 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

## Birds on an Island

Semester 2: 3.4.1 / PH: Lab 14

- 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: 4.4.1 / PH: Lab 26A

- 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
- Down feather
- Mammal fur

## Breaking Down Fat

Semester 2: 5.4.3 / PH: Lab 29

- 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