

NOTE: Subtotals are adjusted by removing costs for equipment purchased for previous activities.

Lab Activity	Materials	Source	Cost	Notes
1- Making Observations	colored pencils magnifying glass (optional) local tree identification book (optional)	grocery <a href="#">Home Science Tools: OP-MAGNIFY</a>	\$2.85	
2 - Cycle of Scientific Enterprise	Different brands of paper towels 250 mL beaker Several pennies or other similar coins Scale or balance	Grocery Home Science Tools - CE-BE10250 Bank Home Science Tools - BS-DBX0300	\$5 \$3 \$1 \$36	Or you can buy a set of 5 different beakers for \$38 This one measures up to 300 g at 0.01 g precision
		<b>Subtotal</b>	<b>\$45</b>	
3 - Intro to Microscopes	Compound light microscope Lens paper - booklet Blank glass slides - box of 72 Cover slip - box of 100 Slide of letter 'e' - 1	Home Science Tools: MI-4100LST Home Science Tools: MI-paper Home Science Tools: MS-SLIDP72 Home Science Tools: MS-SLIDCV Home Science Tools: MS-ELETTER	\$217 \$2 \$5 \$2 \$3	AmScope also has some fairly inexpensive microscopes You could also choose to buy a set of prepared slides (MS-SETBIO) to use throughout the semester.
		<b>Subtotal</b>	<b>\$229</b>	
4 - Making Solutions	100 mL graduated cylinder <i>250 mL Beakers - 8</i> Stirring rod - 2 Weigh boats - 10 pack Laboratory Scoop or spatula - 1 <i>Scale or balance</i> Hot plate Distilled water - 1 gallon Sucrose - sugar, 4lb bag NaCl - salt, 1 container Storage bottle - 8 Marker for labeling	Home Science Tools - CE-CYGL100 <i>Home Science Tools - CE-BE10250</i> Home Science Tools: CE-STIR10 Home Science Tools: BS-WHDSPLY6 Home Science Tools: CE-SCOOP <i>Home Science Tools - BS-DBX3000</i> Home Science Tools: CE-HOTELEC Grocery Grocery Grocery Home Science Tools: CE-BTP125W Grocery	\$6 <i>\$3</i> \$1 \$2 \$3 <i>\$45</i> \$24 \$1 \$5 \$1 \$12 \$3	<i>See lab 2</i> You can also get a pack of 500 for \$25 <i>See lab 2</i> You do not need lab grade chemicals for this lab. You do not need lab grade chemicals for this lab. Mason jars with lids can also be used
		<b>Subtotal</b>	<b>\$106</b>	<b>\$58</b>
5 - Melting Points of Two Solutions	Bag of Ice 1 or 2 gallon size ziplock bag Hammer 2-4 clothes pins or similar clamps Digital thermometer - 1 Timer/stopwatch Styrofoam cups - 3 <i>100 mL graduated cylinder</i> <i>250 mL Beaker</i>	Grocery Grocery  Home Science Tools: ME-THER30A Home Science Tools: ME-STOPWAT Grocery <i>Home Science Tools - CE-CYGL100</i> <i>Home Science Tools - CE-BE10250</i>	\$2   \$3 \$6 \$4 <i>\$6</i> <i>\$3</i>	<i>See Lab 4</i> <i>See Lab 4</i>

Distilled water - 1 gallon

Grocery

\$1 See Lab 4

**Subtotal**

**\$25**

**\$9**

## 6 - Properties of Water

Petri dish - 2 pack

Home Science Tools: BE-PETRI1

1.4 20 pack is \$6.95

Plate

Kitchen

Cotton swabs

Grocery

Distilled water

Grocery

Dish soap

Grocery

Cooking oil

Grocery

Food coloring

Grocery

Whole milk

Grocery

Metal paper clip

Grocery

Filter paper

Grocery

Scissors

Grocery

Test tube - 2 large

Home Science Tools: CE-TTUBLG

1.8

Test tube rack

Home Science Tools: CE-TTRACK1

3.9

Water soluble ink pen

Grocery

**Subtotal**

**7.1**

## 7 - Introduction to Cells

Compound light microscope

Home Science Tools: MI-4100LST

\$217 See lab 3

Lens paper

Home Science Tools: MI-paper

\$2 See lab 3

Elodea prepared slide

Home Science Tools: MS-ELODEA

3.15

Human epithelial prepared slide

Home Science Tools: MS-HUSQUAM

3.6

Amoeba prepared slide

Home Science Tools: MS-AMOEBAA

5.5

Paramecium prepared slide

Home Science Tools: MS-PARACAD

3.3

Blank slide (optional)

Home Science Tools: MS-SLIDP72

\$5 See lab 3

Cover slips (optional)

Home Science Tools: MS-SLIDCV

\$2 See lab 3

Eye dropper (optional)

Home Science Tools: CE-DROPPER

0.5

Saline (0.9% NaCl) solution (optional)

Grocery

Elodea, living (optional)

Home Science Tools: LD-ELODEA

16

Toothpick (optional)

Grocery

Methylene blue stain (optional)

Home Science Tools: CH-METHBLU

4.6

**Subtotal**

**\$263**

36.65

## 8 - Diffusion

Petri dish - 2 pack

Home Science Tools: BE-PETRI1

1.4 See lab 6

Prepared Agar in Bottle (125 mL)

Home Science Tools: BE-AGARNBT

7.4 Optron: prepared plates from HST: BE-PPLATEN, 5 pack for \$12.50

Food coloring pack of 4 colors

Grocery

\$3

Plastic drinking straw

Grocery

\$2

Metric ruler

Grocery

\$1

Timer/stopwatch

Home Science Tools: ME-STOPWAT

\$6 See lab 5

**Subtotal**

**20.8**

## 9 - Osmosis

Distilled water

Grocery

\$1 See Lab 4

Sucrose

Grocery

See lab 4

250 mL beakers - 4	Home Science Tools - CE-BE10250	\$3	See lab 2
Eggs	Grocery		
Vinegar - 1 gallon	Grocery		
Large spoon	Grocery		
Weigh boats	Home Science Tools: BS-WHDSPTY6	\$2	See lab 4
Scale	Home Science Tools - BS-DBX3000	\$45	See lab 2
100 mL graduated cylinder	Home Science Tools - CE-CYGL100	\$6	See Lab 4
Timer/stopwatch	Home Science Tools:ME-STOPWAT	\$6	See lab 5

#### 10 - Calorimetry

Safety goggles	CE-GOGGL1F	\$5	
Aluminum soda pop can w/ tab	Grocery		
Glass stirring rod or wooden dowel	Home Science Tools: CE-STIR10	\$1	See lab 4
Large industrial aluminum can (option 1)	Grocery		
Aluminum pie tin (option 1)	Grocery		
Support Stand (option 2)	Home Science Tools: CE-STAND2	\$15	
Clamp (option 2)	Home Science Tools: CE-RING3	\$7	
Aluminum foil	Grocery		
Small sewing needle or sewing pin	Grocery		
Butane lighter	Grocery		
Water	Grocery		
Thermometer	Home Science Tools: ME-THER30A	\$3	See lab 5
100 mL graduated cylinder	Home Science Tools - CE-CYGL100	\$6	See Lab 4
Puffed cheese chips (Cheetos)	Grocery		
Small marshmallows	Grocery		
Walnut or peanut	Grocery		
Scale	Home Science Tools - BS-DBX3000	\$45	See lab 2

#### 11 - Enzymes

1 potato, peeled & diced into 1cm <sup>3</sup> cubes	Grocery		
2 50 mL beakers	Home Science Tools: CE-BEAK050	\$6	
vinegar	grocery		
100 mL graduated cylinder	Home Science Tools - CE-CYGL100	\$6	see lab 4
Plastic knife	grocery		
5 small 'dixie' cups or similar	Grocery		
1 sharpie marker for labeling	Grocery		
3% hydrogen peroxide	Grocery		
Small tongs, forceps or plastic spoon	Home science Tools: CE-FORPLAS	\$ 0.55	

#### 12 - Fermentation

Distilled Water	Grocery		
Sucrose (baking sugar)	Grocery		
Starch	Grocery		
Scale	Home Science Tools - BS-DBX3000	\$45	See lab 2
3 - 50 mL beakers	Home Science Tools: CE-BEAK050	\$6	See lab 11
1 - 400 mL beaker	Home Science Tools: CE-BE10400	\$ 3.30	
3 large test tubes (18 x 150)	<a href="#">Amazon: set of 6 with stoppers and rack</a>	\$22	

3 small test tubes (13 x 100)	<a href="#">Amazon: pack of 25 w/corks</a>	\$10	
<i>Stirring rod</i>	<i>Home Science Tools: CE-STIR10</i>	\$1	<i>See lab 4</i>
<i>Weigh boat</i>	<i>Home Science Tools: BS-WHDSPTY6</i>	\$2	<i>See lab 4</i>
<b>Metric ruler</b>	<b>Grocery</b>		
<i>Timer/stopwatch</i>	<i>Home Science Tools:ME-STOPWAT</i>	\$6	<i>See lab 5</i>
<i>Thermometer</i>	<i>Home Science Tools: ME-THER30A</i>	\$3	<i>See lab 5</i>
<i>Hot plate or microwave</i>	<i>Home Science Tools: CE-HOTELEC</i>	\$24	<i>See lab 4</i>
<i>Sharpie or wax pencil for labeling</i>	<b>Grocery</b>		<i>See lab 3</i>

### 13 - Extracting DNA

Strawberry	grocery		
Knife	grocery		
Ziplock sandwich bag	grocery		
Cheesecloth	grocery		
Funnel (optional)	grocery		
<i>50 mL beaker</i>	<i>Home Science Tools: CE-BEAK050</i>	\$6	<i>See lab 11</i>
<i>Scissors</i>	<i>grocery</i>		<i>See lab 6</i>
NaCl (table salt)	grocery		
dish soap	grocery		
Distilled water	grocery		
<i>100 mL graduated cylinder</i>	<i>Home Science Tools - CE-CYGL100</i>	\$6	<i>See Lab 4</i>
<i>Bamboo skewer or glass stirring rod</i>	<i>grocery</i>		<i>See lab 4</i>
isopropanol (91% rubbing alcohol)	grocery		<i>See lab 4</i>
rubberband	grocery		

### 14 - Gene expression

Pipe cleaners - 2 colors	grocery		
5 colors of pony beads (~ 20-25 of each)	grocery	\$6	for a bag of 1000
Basic set of Lego bricks w/ 4 different co	grocery/Amazon	\$60	<a href="#">Creative Lego Brick set by Lego Education</a>

### 15 - Observing Mitosis

<i>Compound light microscope</i>	<i>Home Science Tools: MI-4100LST</i>	\$217	<i>See lab 3</i>
Allium (onion) root tip slide	Home Science Tools: MS-ALLROOT	3.45	
<i>Pipe cleaners - 2 colors</i>	<i>grocery</i>		<i>See lab 14</i>
<i>Pony beads (4)</i>	<i>grocery</i>	\$6	<i>See lab 14</i>

### 16 - Looking at Meiosis

<i>Compound light microscope</i>	<i>Home Science Tools: MI-4100LST</i>	\$217	<i>See lab 3</i>
Meiosis slide set	Amazon: <a href="https://www.amazon.com/c">https://www.amazon.com/c</a>	\$33	
<i>Pipe cleaners - 2 colors</i>	<i>grocery</i>		<i>See lab 14</i>
<i>Pony beads (4)</i>	<i>grocery</i>	\$6	<i>See lab 14</i>

### 17 - Inheritance

Monohybrid corn ear (option 1)	Carolina Biology: 176500	\$ 11.25	A genetics set is available for \$129.95 (#176321)
Dihybrid corn ear (option 1)	Carolina Biology: 176600	\$ 11.25	
paper towel tube (option 2)	recycled/grocery		
printable corn pattern (see teacher's guide--option 2)			

	glue stick or tape (option 2)	grocery		
<b>18 - Blood Typing</b>	ABO/Rh Simulated Blood Typing Kit	<a href="#">Home Science Tools: KT-ISBLSIM</a>	\$42.95	This kit has sufficient supplies for 10 groups of students.
	toothpicks	grocery	\$1	
<b>19 - Microbes</b>	<i>Compound light microscope</i>	<i>Home Science Tools: MI-4100LST</i>	\$217	<i>See lab 3</i>
	<i>Lens paper</i>	<i>Home Science Tools: MI-paper</i>	\$2	<i>See lab 3</i>
	Live Protist Culture	Home Science Tools: LD-PROTOZOA	\$ 19.00	
	Spirogyra prepared slide	Home Science Tools: MS-SPIROC	\$3.4	
	Bacteria smear prepared slide	Home Science Tools: MS-BACTERIA	\$3.35	
	Euglena prepared slide	Home Science Tools: MS-EUGLENA	2.75	
	Volvox prepared slide	Home Science Tolls: MS-VOLVOX	2.9	
	<i>Amoeba prepared slide</i>	<i>Home Science Tools: MS-AMOEBEA</i>	5.5	<i>See lab 7</i>
	<i>Paramecium prepared slide</i>	<i>Home Science Tools: MS-PARACAD</i>	3.3	<i>See lab 7</i>
	<i>Blank slide (optional)</i>	<i>Home Science Tools: MS-SLIDP72</i>	\$5	<i>See lab 3</i>
	<i>Cover slips (optional)</i>	<i>Home Science Tools: MS-SLIDCV</i>	\$2	<i>See lab 3</i>
<b>20 - Dichotomous Keys</b>	<i>Live Protist Culture</i>	<i>Home Science Tools: LD-PROTOZOA</i>	\$ 19.00	<i>See lab 19</i>
	<i>Compound light microscope</i>	<i>Home Science Tools: MI-4100LST</i>	\$217	<i>See lab 3</i>
	<i>Blank slide (optional)</i>	<i>Home Science Tools: MS-SLIDP72</i>	\$5	<i>See lab 3</i>
	<i>Cover slips (optional)</i>	<i>Home Science Tools: MS-SLIDCV</i>	\$2	<i>See lab 3</i>
<b>21 - Growing Bacteria</b>	Sterile swab applicator, 2 pack (option :	<a href="#">Home Science Tools, PT-SWABS</a>	\$0.30	Will need one sterile swab per sample
	Polystyrene Petri dishes (20 pack, optio	<a href="#">Home Science Tools, BE-PETRI20</a>	\$6.95	
	Nutrient agar prepared media (125 mL,	<a href="#">Home Science Tools, BE-AGARNBT</a>	\$7.85	One bottle will pour ~10 petri dishes
	Bacteria Growing Kit (option 2)	<a href="#">Home Science Tools, BE-BACKIT</a>	\$26.50	
<b>22-Gram Staining</b>	Gram Stain Kit	<a href="#">Home Science Tools, KT-GRAMSTN</a>	\$21.50	
	<i>Compound light microscope</i>	<i>Home Science Tools: MI-4100LST</i>	\$217	<i>See lab 3</i>
	latex or nitrile gloves	grocery	0.5	<i>See lab 7</i>
	<i>Eye droppers</i>	<i>Home Science Tools: CE-DROPPER</i>		
	toothpicks	grocery		
	distilled water	grocery		
	wash bottle	<a href="#">Home Science Tools, CE-WASH500</a>	\$4.75	(or grocery)
	small candle	grocery		
	lighter or matches	grocery		<i>see lab 10</i>
	paper towels	grocery		<i>see lab 2</i>
	Safety goggles	CE-GOGGL1F	\$5	<i>see lab 10</i>
	apron			
<b>23-Intro to Fungi</b>	<i>beakers (250 mL or similar)</i>	<i>Home Science Tools - CE-BEI0250</i>	\$3.00	<i>see lab 2</i>

Blank glass slides - box of 72	Home Science Tools: MS-SLIDP72	\$5	see lab 3		
Cover slip - box of 100	Home Science Tools: MS-SLIDCV	\$2	see lab 3		
Eye droppers	Home Science Tools: CE-DROPPER	0.5	See lab 7		
Compound light microscope	Home Science Tools: MI-4100LST	\$217	See lab 3		
coffee filters	grocery				
funnel (optional)	grocery		see lab 13		
Rhizopus nigricans prepared slide	<a href="#">Home Science Tools: MS-RNIGR</a>	\$3.25			
Ranunculus (buttercup) root prepared s	<a href="#">Home Science Tools: MS-RANROOT</a>	\$3.00			
Yeast (w.m.) prepared slide	Carolina: 098101; Part of Home Science Tools General Introductory Slide Set: MS-SETINTR	\$6.25	Carolina	\$49.95	HST slide set
Penicillium (w.m.) prepared slide	<a href="#">Home Science Tools: MS-PENIC</a>	\$3.25			
Mushroom (l.s.) prepared slide	<a href="#">Home Science Tools: MS-MUSHROOM</a>	\$2.50			
Lichen, foliose, sec. prepared slide	<a href="#">Home Science Tools: MS-LICHEN</a>	\$2.80			

#### 24- Mushroom Dissection

Compound light microscope	Home Science Tools: MI-4100LST	\$217	See lab 3		
Blank slide (optional)	Home Science Tools: MS-SLIDP72	\$5	See lab 3		
Cover slips (optional)	Home Science Tools: MS-SLIDCV	\$2	See lab 3		
Eye dropper	Home Science Tools: CE-DROPPER	0.5	See lab 7		
Paper towels	Grocery		see lab 2		
Knife (option 1)	Grocery		see lab 13		
Forceps (option 1)	Home science Tools: CE-FORPLAS	\$ 0.55	See lab 11		
Dissection kit (option 2)	<a href="#">Home Science Tools: DE-SET1</a>	\$10.95			
Water	Grocery				
White button mushroom	Grocery				
Magnifying glass	<a href="#">Home Science Tools: OP-MAGNIFY</a>	2.85	See lab 1		

#### 25-Intro to Plants

Flower-any type	Grocery or home garden				
Dissection tools	<a href="#">Home Science Tools: DE-SET1</a>	10.95	see lab 24; will also use in labs 27-29; 31, 33		
Foam tray or paper plate	<a href="#">grocery</a>				
Magnifying glass	<a href="#">Home Science Tools: OP-MAGNIFY</a>	2.85	See lab 24		
Mung beans	<a href="#">Grocery or Amazon</a>	\$14.95	will also use in lab 34 and 35		
Colored pencils	Grocery/discount store/Amazon				
Ziplock bag	Grocery				
Paper towel	Grocery		see lab 2		

#### 26 -Stomata

Compound light microscope	Home Science Tools: MI-4100LST	\$217			
Blank slide (optional)	Home Science Tools: MS-SLIDP72	\$5			
Plant leaves freshly harvested					
Clear fingernail polish	Grocery				
Clear packing tape	Grocery				
Scissors			See lab 6		

#### 27-Animal Dissection 1

Set of 9 specimens	<a href="#">Home Science Tools: PM-SPEC-3</a>	\$23			
Dissection tools	<a href="#">Home Science Tools: DE-SET1</a>		See lab 24		
Magnifying glass	<a href="#">Home Science Tools: OP-MAGNIFY</a>	2.85	See lab 1		

	styrofoam dissecting tray	<a href="#">Home Science Tools: DE-TRAY-XLG</a>	2.8	
	extra dissecting pins	<a href="#">Home Science Tools: DE-PINS100</a>	5.95	
	<i>Safety Goggles</i>			<i>See lab 10</i>
	<i>latex or nitrile gloves</i>			<i>See lab 22</i>
28-Animal Dissection 2	Same as Lab 27			
29-Animal Dissection 3	Same as Lab 27			
30 - Bone, Muscle, and Nervous Tissue				
	Muscle slide	HST: MS-MUSC3	5.1	
	Human bone slide	HST: MS-HUBONE	7.45	
	Motor neuron slide	HST: MS-NEURON	3.1	
	<i>Compound light microscope</i>	<i>Home Science Tools: MI-4100LST</i>	<i>\$217</i>	
Heart				
	Sheep heart dissecting kit	HST: DE-KTHEART	11	
	<i>Safety goggles</i>	<i>CE-GOGGL1F</i>	<i>\$5</i>	<i>see lab 10</i>
	<i>Gloves</i>			<i>see lab 22</i>
32 - Heart Physiology				
	Stop watch/phone			
33 - Kidneys				
	<i>Compound light microscope</i>	<i>Home Science Tools: MI-4100LST</i>	<i>\$217</i>	
	Prepared kidney slide	HST: MS-KIDNEY	3.35	
	Kidney dissecting kit	HST: DE-KTKIDNEY	7.7	
	<i>Gloves</i>			<i>see lab 22</i>
	<i>Safety goggles</i>	<i>CE-GOGGL1F</i>	<i>\$5</i>	<i>see lab 10</i>
34 - Plant Response to Pollutants				
	Bag of Potting soil	grocery	8	
	Mung beans	grocery - Amazon	11	<a href="#">Green Mung Gram - Protein &amp; Fiber Rich Moong Whole, 1.5 Pound Jar : Grocery &amp; Gourmet Food</a>
	8 4-inch pots	grocery	13	<a href="#">Plants, Plant Light for Grow Light Stand, DIY Indoor Growing Light Panel for Germination, Seedling, Vegetative Growth and</a>
	grow light	grocery - Amazon	20	<a href="#">Germination, Seedling, Vegetative Growth and</a>
	<i>NaCl</i>	<i>grocery</i>	<i>1.5</i>	<i>See lab 4</i>
	0.1 M sulfuric acid	Carolina #893381	\$9.90	

Distilled water	grocery	2
1 mL pipettes, 10 pack	HST: CE-PIPET	2.25
<i>Ruler</i>	<i>grocery</i>	<i>1</i>
<i>100 mL graduated cylinder</i>	<i>Home Science Tools - CE-CYGL100</i>	<i>\$6 See Lab 4</i>
<i>250 mL Beakers</i>	<i>Home Science Tools - CE-BE10250</i>	<i>\$3 See lab 2</i>
<i>Storage bottle - 8</i>	<i>Home Science Tools: CE-BTP125W</i>	<i>\$12 See lab 4</i>
graph paper	grocery	
leaf color chart or green paint chips	grocery	
mechanical outlet timer (optional)	grocery - Amazon	11 <a href="https://www.amazon.com/dp/B000048801">Outlet, 2 Prong, 2-Pack -- Amazon.com</a>

#### Activity 35- Soil Testing

small garden trowel	grocery/garden shop	3	
small cups	grocery		
<i>marker for labeling</i>			<i>see lab 4</i>
soil testing kit (option 1)	Home Science Tools - BE-SOILLAB		<a href="https://www.homesciencetools.com/product/soil-test-lab-kit/">https://www.homesciencetools.com/product/soil-test-lab-kit/</a> more time consuming, better results
soil testing kit (option 2/rapitest)	Home Science Tools-- BE-SOILTST		<a href="https://www.homesciencetools.com/product/rapitest-soil-test-kit/">https://www.homesciencetools.com/product/rapitest-soil-test-kit/</a> consuming, decent results
extension	Home Science Tools - BE-ANALYZE		<a href="https://www.homesciencetools.com/product/pitest-4-way-soil-analyzer/">pitest-4-way-soil-analyzer/</a>

#### Activity 36 - Population Calculations

Calculator	grocery	
Small paper bags - 1 per group	grocery	
Beans ~ 150-200 per group	grocery	
<i>Sharpie</i>	<i>grocery</i>	<i>See lab 4</i>

#### Activity 37-Owl Pellet Dissection

Sterilized owl pellet-1 per group	Home Science Tools Economy Kit- PM \$14.50 per https://www.homesciencetools.com/product/economy-owl-pellet-kit/?nosto=nosto-page-category1	
<i>Plastic forceps-1 per student</i>	<i>Home Science Tools DE-FORPLAS</i>	<i>\$0.55 per : See lab 11</i>
Paper plates	grocery	
<i>Latex or nitrile gloves</i>	<i>grocery</i>	<i>see lab 22</i>
centimeter ruler	grocery	
<i>Scale or balance</i>		<i>See lab 2</i>

#### Activity 38 - Natural Selection

Solid colored fabric ~ 1 yd <sup>2</sup>	grocery	\$5-7
Colored patterned fabric ~ 1 yd <sup>2</sup>	grocery	\$5-7
White or black fabric ~ 1 yd <sup>2</sup>	grocery	\$5-7
2 cups	grocery	
Paper towel	grocery	\$2
72 M & M (12 of each color) or colored l	grocery	\$5