

## Activity supply lists and suppliers

The number of each item needed is for a class of 30 working in groups as noted in each activity.

### Activity 1 (15 groups of 2)

Item	Catalog #	# per pack/ # needed	Price per pack	Supplier <sup>1</sup>
Ethanol (91% isopropanol can be substituted if necessary)	S73979	500 ml/30 ml	6.40	Fisher
250-ml beakers <sup>2</sup>	71-7923	6 ea/1	12.95	Carolina
Applicator sticks	70-6865	1000 ea/15	12.45	Carolina
Small test tubes	73-1435	250 ea/15	13.20	Carolina
Transfer pipets	73-6984	100/15	4.35	Carolina

<sup>1</sup> See supplier list at the end of this document for complete information

<sup>2</sup> Beakers may be available from your chemistry teacher

From grocery store: small ziploc baggies, cheesecloth or coffee filters, Suave Daily Clarifying Shampoo, salt, fruit such as strawberry or kiwi, 91% isopropanol (rubbing alcohol, NOTE: NOT 70%) if preferred instead of ethanol.

### Activity 2 (6 groups of 5)

Item	Catalog #	# per pack/ # needed	Price per pack	Supplier <sup>1</sup>
Electrophoresis system	36 V5164	1 ea/3 <sup>2</sup>	49.95 <sup>3</sup>	Ward
Pipette tips	E2-60-0009	250/60	9.95	Neo/Sci
20- $\mu$ l pipets	E2-60-0017 <sup>4</sup>	1 ea/1	99.95	Neo/Sci
50-ml beakers	71-7921	12 ea/3	15.30	Carolina
250-ml beakers	71-7923	6 ea/1	12.95	Carolina
Agarose	21-7075	5 g/1 g	10.50	Carolina
TBE buffer	21-9025	3 L/0.6 L	11.95	Carolina
0.25% safranin O	946 V 7002	30 ml	4.60	Ward
Bromophenol blue	AA3264103	1 g/0.025 g	5.13	Fisher
Orange G	AC41655-0100	10 g/0.1 g	22.10	Fisher
Xylene cyanol	38 V 9400	1 g/0.025 g	10.40	Ward
1% Janus green	945 V 8601	15 ml	4.30	Ward

<sup>1</sup> See supplier list at the end of this document for complete information

<sup>2</sup> You may choose to have just one unit that groups use at different times

<sup>3</sup> Requires 5 X 9 volt batteries, also available in a pack of 5 systems for \$199.00

<sup>4</sup> If you do not wish to teach use of the micropipet, a cheaper alternative will be to purchase microcapillary pipets from Carolina catalog # 21-4500 (\$46.50 for 250).

Purchase from the grocery store: distilled water

**Activity 3 (6 groups of 5)**

Item	Catalog #	# per pack/ # needed	Price per pack	Supplier <sup>1</sup>
Electrophoresis unit incl. power supply <sup>2</sup>	E2-55-1070	1 ea/1	229.95	Neo/Sci
20- $\mu$ l micropipet	E2-60-0017 <sup>+</sup>	1 ea/1	99.95	Neo/Sci
Pipette tips	E2-60-0009	250/100	9.95	Neo/Sci
Microcentrifuge tubes	18 V 1361	500 ea/20	15.95	Ward
Agarose	21-7075	5 g/1 g	10.50	Carolina
TBE buffer	21-9025	3 L/0.6 L	11.95	Carolina
50-ml beakers	71-7921	12 ea/3	15.30	Carolina
250-ml beakers	71-7923	6 ea/1	12.95	Carolina
<i>Bam</i> HI <sup>3</sup>	85 V 1355	50 $\mu$ l/12 $\mu$ l	17.99	Ward
<i>Eco</i> RI <sup>3</sup>	85 V 1356	500 $\mu$ l/12 $\mu$ l	7.99	Ward
<i>Hind</i> III <sup>3</sup>	85 V 1358	500 $\mu$ l/12 $\mu$ l	7.99	Ward
Lambda DNA	21-1418	50 $\mu$ g/40 $\mu$ g	28.75	Carolina
10X loading dye	21-8200	1 ml	5.25	Carolina
0.1% methylene blue	4841-4	120 ml/2 ml	8.72	Fisher

<sup>1</sup> See supplier list at the end of this document for complete information

<sup>2</sup> This is a system that can be run at 100V and thus will provide quicker results than the unit specified in Activity 2. It has its own power supply so there is no need to buy batteries

<sup>3</sup> Order just prior to use as it will be shipped on ice and must be stored in freezer

Purchase from the grocery store: foam cups, crushed ice, distilled water.

#### Activity 4 (6 groups of 5)

Item	Catalog #	# per pack/ # needed	Price per pack	Supplier <sup>1</sup>
Microcentrifuge tubes	18 V 1361	500 ea/20	15.95	Ward
LB agar plates <sup>2</sup>	21-6600	10/12	15.50	Carolina
LB agar + ampicillin <sup>2</sup>	21-6601	10/12	16.00	Carolina
<i>E. coli</i> cells	E2-80-0012	1/1	10.45	Neo/Sci
pGREEN plasmid	21-1449	1/1	8.25	Carolina
Inoculating loops	70-3039	30/54	7.00	Carolina
Transfer pipets	21-4551	100/30	27.00	Carolina
LB broth	88 V 0009	1 L/1 L	5.95	Ward
0.1M (100mM) calcium chloride <sup>3</sup>	940 V 8203	50 ml/1.5 ml	3.10	Ward
UV light source	29 V 3005	1/1	29.95	Ward
Floating racks	05-664-15D	6/1	10.52	Fisher
Parafilm <sup>4</sup>	15 V 1940	1	20.50	Ward

<sup>1</sup> See supplier list at the end of this document for complete information

<sup>2</sup> If you wish to pour your own plates use the LB broth and purchase:

Petri dishes: Carolina Biological Supply Co., catalog # 74 1250 (\$4.60 for 20),

Ampicillin: Carolina Biological Supply Co., catalog # 21-6858 (\$3.50 for 4 ml of 10 mg/ml),

Agar: Ward catalog # 944V 3502 (\$11.95 for 25 g).

Make per directions following materials subsection under Information for Teachers

<sup>3</sup> Dilute 1.5 ml with 1.5 ml distilled water to change from 100mM to 50mM.

<sup>4</sup> Alternatively, use kitchen plastic wrap cut into strips to seal the edge of the plate.

### Activity 5 (work alone or in pairs)

Item	Catalog #	# per pack/ # needed	Price per pack	Supplier <sup>1</sup>
Murashige & Skoog powdered medium	ICN2610020	10/0.5	25.97	Fisher
Tissue culture agar	19-8206	8 g/4 g	6.35	Carolina
Culture tubes <sup>2</sup>	19-0606	36/30	73.90	Carolina
Caps for tubes <sup>2</sup>	19-9062	100/30	69.15	Carolina
Forceps	19-9391	3/3	25.10	Carolina
Safety razor blades <sup>3</sup>	62-6931	100/30	8.55	Carolina
NAA	N605	100 ml/0.05 ml	11.50	Phytotech
BAP	B130	100 ml/1 ml	11.50	Phytotech
Large beaker, or saucepan with a pouring lip	72-1213	1 L	8.85	Carolina

<sup>1</sup> See supplier list at the end of this document for complete information

<sup>2</sup> A cheaper alternative is to use tall baby food jars that have been carefully washed and rinsed in distilled water. Purchase caps from Carolina Biological Supply Co., catalog #19-9064 (\$47.45/100)

<sup>3</sup> Sterile disposable scalpels may also be used: Fisher catalog # S17800 (\$1.57 each)

From the grocery store purchase sugar (sucrose), containers for sterilizing the explants such as Rubbermaid or disposable containers (or use beakers from other activities)

### Activity 7

Item	Catalog #	# per pack/ # needed	Price per pack	Supplier <sup>1</sup>
4" pots <sup>2</sup>	66-5775	100/20	38.25	Carolina
Potting soil <sup>2</sup>	15-9705	30/20	8.50	Carolina
Peat moss <sup>2, 3</sup>	15-9718	2 cu. ft	16.50	Carolina
Containers to hold pots <sup>2</sup>	66-5666	1 each/5	1.90	Carolina
Measuring jug <sup>2</sup>	72-1444	1 L	5.95	Carolina
Wheat or rice seed <sup>4</sup>	See links below	100/25	9.99 or 12.50	

<sup>1</sup> See supplier list at the end of this document for complete information

<sup>2</sup> Compare prices at your local hardware or nursery store

<sup>3</sup> Only necessary when using rice seed. Other grains will grow in potting soil alone.

<sup>4</sup> Wheat seed \$9.99/100 <http://www.localharvest.org/store/item.jsp?id=3078>  
Rice seed \$12.50/100 <http://www.organicseedco.com/vesers.html>

Purchase salt at the grocery store

## General Lab Equipment

Item	Catalog #	# per pack	Price per pack	Supplier
Gloves	70-6345 70-6346 70-6347	50 pairs	6.50	Carolina
Safety glasses	64-6704B	20, asst. sizes	46.50	Carolina
Hot plate <sup>2</sup>	70-1006	1	41.35	Carolina
Measuring cylinder	72-1609	Starter pack	9.85	Carolina
Spray bottle	66-5565	1 each	4.25	Carolina
Thermometer	74-5382	1	4.70	Carolina
pH test paper	14-853-150E	1 roll	7.79	Fisher
Ethanol	S73979	500 ml	6.40	Fisher
Bleach				Supermarket
Sterile distilled water				Supermarket
Saucepan or other container to heat water on hot plate				Supermarket or from home
Bucket or pan to soak contaminated items				Supermarket
Foam cups				Supermarket
Assorted containers				Supermarket
Crushed ice				Supermarket

<sup>1</sup> See supplier list at the end of this document for complete information

<sup>2</sup> A cheaper alternative is a single temperature plate from Fisher, catalog # S50408 (\$12.76)

C = Carolina Biological Supply Company [www.carolina.com](http://www.carolina.com) 800-334-5551  
 F = Fisher Scientific [new.fishersci.com](http://new.fishersci.com) 800-766-7000  
 W = Ward's Natural Science [www.wardsci.com](http://www.wardsci.com) 800-962-2660  
 N = Neo/Sci [www.neosci.com](http://www.neosci.com) 800-526-6689  
 P = PhytoTechnology Laboratories [www.phytotechlab.com](http://www.phytotechlab.com) 800-749-8682