

AgX Course Materials

Lesson 1 Ag in the Past

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
1.1	20	30	Sets	Colored pencils	Local
	1	1	Each	Timer	Local
1.2	7	10	Each	Calendar	Local
	7	10	Pkgs	Seed packets, cucumber (5 varieties)	Local
1.3	7	10	Pkgs	Seed packets, lettuce(5 varieties)	Local
	7	10	Pkgs	Seed packets, radish(5 varieties)	Local
	7	10	Each	Germination heat mat (optional)	Local
	7	10	Each	Permanent marker	Local
	21	30	Each	Plant labels	Local
	2	3	Bag	Plant starter media	Local
	7	10	Each	Plant tray	Local
	7	10	Pkgs	Seed packets, cucumber (5 varieties)	Local
	7	10	Pkgs	Seed packets, lettuce(5 varieties)	Local
	7	10	Pkgs	Seed packets, radish(5 varieties)	Local
	21	30	Each	Seed starter kits (12-cell)	Local
	7	10	Each	Spray bottles with water	Local
1.4	20	30	Each	Calculator	Local
1.5	20	30	Sets	Colored pencils	Local
	7	10	Each	Garden planters with trellis	Local
	7	10	Each	Ruler	Local
	7	10	Each	Tape measure	Local

Lesson 2 Plants We Grow

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
2.1	10	15	Each	Beaker, 250ml	Ward's
2.1	100	150	Each	Corn seeds (field or sweet)	Local
2.1	20	30	Each	Cup, 9 oz.	Local
	10	15	Each	Funnel, small	Lab-Aids
	10	15	Roll	Laboratory tape	Ward's
	1	1	Roll	Paper towels	Local
	1	1	Bag	Paper, shredded	Local
	10	15	Each	Permanent markers	Local
	10	15	Each	Pipette	Ward's
	1	1	Bag	Potting soil, 1 gallon	Local
	10	15	Each	Ruler, English	Lab-Aids
	1	1	Bag	Sand, 1 gallon	Local
	10	15	Each	Test tube rack	Ward's
	80	120	Each	Test tube stoppers	Ward's
	80	120	Each	Test tubes, small, clear	Ward's
	10	15	Each	Tweezers	Ward's
2.2	10	15	Each	Beaker, 100ml	Ward's
	20	60	Each	Coffee filters	Local

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
	50	75	Each	Cups, 30ml	Lab-Aids
	20	30	Each	Eyedropper	Ward's
	1	1	Bag	Field soil, 1 gallon	Local
	20	30	Pairs	Gloves, disposable	Local
	2	3	Bottles	Hydrogen peroxide, 16oz	Lab-Aids
	5	8	Each	Laboratory tape	Ward's
	20	30	Each	Magnifying glass	Lab-Aids
	20	30	Each	Paper plates	Local
	2	3	Rolls	Paper towels	Local
	10	15	Each	Permanent markers	Local
	1	1	Bag	Potting soil, 1 gallon	Local
	20	30	Each	Safety glasses	Local
	2	2	Each	Spoons, plastic	Local
	10	15	Each	Stir rod	Ward's
	20	30	Each	Tweezers	Ward's
	-	-	-	Water source	Local
2.3	5	8	Each	Buckets, 1-gallon	Local
	20	30	Pairs	Gloves	Local
	5	8	Each	Grow lights	Local
	5	8	Bale	Peat moss, 1.5 cu feet	Local
	5	8	Bag	Perlite, 8-quart	Local
	5	8	Each	Permanent markers	Local
	15	24	Each	Plant labels	Local
	5	8	Each	Plant trays	Local
	5	8	Each	Garden planter	Local
	20	30	Each	Safety glasses	Local
	5	8	Sets	Seedlings from <i>Project 1.3</i>	Local
	1	2	Btl	Slow-release fertilizer, pelleted (Osmocote®), 453g	Local
	5	8	Each	Spoons, plastic	Local
	5	8	Bag	Vermiculite, 8 quarts	Local
2.4	5	8	Pkg	Cucumber seedlings from <i>Project 1.3</i>	Local
	20	30	Pairs	Gloves, disposable	Local
	5	8	Gallon	Media mixed in <i>Activity 2.3</i>	Local
	20	32	Each	Pots, 4 inch	Local
	1	1	Pkg	Quick-release fertilizer, liquid (Miracle-Gro®), 8oz	Local
	20	30	Each	Safety glasses	Local
	1	2	Btl	Slow-release fertilizer, pelleted (Osmocote®), 453g	Local
	5	8	Each	Spoons, plastic	Local
	1	2	Each	Watering can	Local
2.5	5	8	Bunch	Fill (twigs, baby's breath)	Local
	5	8	Bunch	Flowers (12 per bunch)	Local
	5	8	Bunch	Greenery (leatherleaf, ruscus, ferns)	Local
	20	30	Each	Recycled containers	Local
	20	30	Pair	Scissors	Local
	-	-	-	Water	Local

Lesson 3 Resources We Use

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
3.1	1	1	Each	Bucket, metal, full of water	Local
	12	24	Each	Clothespin	Local
	10	20	Each	Clothing samples	Local
	½	1	Yard	Cotton fabric	Local
	3	6	Each	Device with timer	Local
	2	3	Each	Electronic balance	Ward's
	1	1	Each	Fabric scissors	Local
	1	2	Each	Go Direct® temperature sensor	CASE
	12	36	Each	Graduated plastic cup, 30ml	Ward's
	1	2	Each	Graphical Analysis™ app	CASE
	½	1	Yard	Hemp fabric	Local
	1	1	Each	Knife and mat for cutting leather or suede	Local
	4	8	Pairs	Leather gloves	Local
	½	1	Yard	Leather or suede fabric	Local
	½	1	Yard	Linen fabric	Local
	1	2	Each	Ruler, metric	Ward's
	20	30	Pairs	Safety glasses	Ward's
	2	3	Sheet	Sandpaper, 80-grit	Local
	½	1	Yard	Silk fabric	Local
	1	2	Each	Tongs	Ward's
1	2	Each	Utility lighter	Local	
½	1	Yard	Wool fabric	Local	
3.2	1	1	Bottle	Corn or soybean oil	Local
	1	2	Pkg	Corn starch	Local
	10	15	Each	Cup, 9 oz. plastic	Local
	20	30	Pair	Disposable gloves	Ward's
	10	15	Each	Dropper	Ward's
	10	15	Each	Graduated plastic cup, 30ml	Ward's
	10	15	Each	Hot pad or hot hand protector	Local
	20	30	Each	Lab apron or lab coat	Ward's
	1	1	Each	Microwave	Local
	180	270	Each	Paper clips, large	Local
	300	450	Each	Paper clips, small	Local
	10	15	Each	Plastic container with cover, 280ml	Local
20	30	Each	Safety glasses	Ward's	
10	15	Each	Spoon, plastic	Local	
3.3	5	8	Each	Calculator	Local
	5	8	Each	Chisel, small	Local
	5	8	Each	Electronic balance	Ward's
	5	8	Each	Hammer	Local
	5	8	Each	Hardware tree rounds	Acorn Naturalists or Local
	5	8	Each	Magnifying glass	Lab-Aids
	5	8	Each	Ruler, metric	Lab-Aids
	20	30	Each	Safety glasses	Ward's
	5	8	Each	Softwood tree rounds	Acorn Naturalists or Local
3.4	1	1	Each	Device with timer	Local
	1	1	Roll	Paper towels	Local
	20	30	Each	Plastic spoon	Local
	2	3	Pkg	Red fish candies	Local
	5	8	Each	Resealable plastic bags, quart	Local
	2	3	Pkg	Yellow fish crackers	Local

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
3.5	5	8	Each	Beakers, 250ml	Ward's
	5	8	Each	Beakers, 600ml	Ward's
	1	1	Pkg	Coffee filters	Local
	5	8	Each	Device with timer	Local
	1	2	Gallon	Distilled water	Local
	5	8	Each	Electronic balance	Ward's
	5	8	Each	Glass stir rod	Ward's
	20	30	Pairs	Gloves, disposable	Local
	3	4	Rolls	Laboratory tape	Ward's
	3	4	Bottles	Nitrate and Nitrite test strips, WaterWorks™ (Part Number 480009)	Industrial Test Systems
	5	8	Each	Permanent marker	Local
	5	8	Each	Plastic cup, 20 oz.	Local
	15	24	Each	Pots, 4 inch standard	Local
	20	30	Each	Safety glasses	Ward's
	1	1.5	ft ³	Sand	Local
	75	120	Grams	Slow-release fertilizer (20%N)	Local
	75	120	Grams	Soluble fertilizer (20%N)	Local
	10	15	Each	Weigh dishes	Ward's

Lesson 5 Energy We Consume

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
5.1	5	8	Each	Chocolate bars, large	Local
	7	10	Each	Device with timer	Local
	1	2	Box	Graham crackers	Local
	3	3	Each	IR Thermometers	Local
	1	2	Each	Marshmallows, large	Local
	-	-	Assorted	Materials for construction • Aluminum foil • Cardboard boxes • Tape	Local
	7	10	Each	Ruler, metric	Local
	-	-	Assorted	Tools for construction • Box cutter • Glue sticks • Hot glue gun • Scissors	Local
5.2	7	10	Each	Butane torch	Local
	20	30	Each	Calculator	Local
	5	8	Each	Electronic balance	Ward's
	1	1	Bottle	Firestarter gel	Local
	7	10	Each	Go Direct™ temperature sensor	CASE
	7	10	Each	Graduated cylinder, 100ml	Ward's
	7	10	Each	Graphical Analysis app	CASE
	7	10	Each	Iron wire	Ward's
	7	10	Pair	Leather gloves	Local
	1	2	Each	Metal container with water	Local
	7	10	Each	Plastic spoons	Local
	1	1	Each	Resealable plastic bag, gallon-sized	Local
7	10	Each	Ring stand	Ward's	

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
	14	20	Each	Rings, 10cm	Ward's
	7	10	Each	Ruler, metric	Local
	20	30	Pair	Safety glasses	Ward's
	7	10	Each	Single-hole stoppers, size 6	Ward's
	1	1	Each	Drill	Local
	1	1	Each	Drill bit, ¼ inch	Local
	7	10	Each	Soup can, empty	Local
	7	10	Each	Stirring rod	Ward's
	7	10	Each	Utility clamp	Ward's
	-	-	-	Water, cold	Local
	15	20	Ounces	Wood pellets	Local
5.3	4	4	Each	Measuring spoons	Local
	1	1	Bottle	Amylase solution	Ward's
	1	1	Each	Beaker, 600ml	Ward's
	1	1	Each	Coffee grinder	Local
	1	1	Box	Corn starch	Local
	1	1	Bottle	Corn syrup	Local
	1	1	Sample	Cornstalks, finely ground	Local
	2	2	Each	Plastic cup, 9 oz	Local
	7	10	Each	Device with internet	Local
	40	60	Pair	Disposable gloves	Ward's
	1	1	Gallon	Distilled water	Local
	1	1	Each	Electronic balance	Ward's
	7	10	Each	Graduated cylinder, 100ml	Ward's
	21	30	Each	Index cards, 4"x6"	Local
	20	30	Each	Laboratory apron	Ward's
	7	10	Rolls	Laboratory tape	Ward's
	7	10	Each	Permanent marker	Local
	15	21	Each	Pipette, 1ml	Ward's
	21	30	Each	Resealable plastic bags, sandwich size	Local
	7	10	Each	Ruler, metric	Local
	20	30	Pair	Safety glasses	Ward's
	2	3	Bottle	Yeast, 4 oz	Local
5.4	7	10	Each	Beaker, 600ml	Lab-Aids
5.4	1	1	Gallon	DDG sample	Lab-Aids
5.4	20	30	Each	Disposable gloves	Ward's
	1	2	Gallon	Distilled water	Local
	7	10	Each	Dropper	Lab-Aids
	2	2	Each	Fat Testing Solution	Lab-Aids
	15	21	Each	Graduated cups, 30ml cups	Lab-Aids
	1	1	Gallon	Ground corn sample	Local
	2	2	Each	Lugol's Solution	Lab-Aids
	1	1	Roll	Masking tape	Local
	7	10	Each	Permanent marker	Local
	4	4	Each	Pipettes, 1ml	Ward's
	4	4	Each	Plastic cup, 9 oz	Local
	2	2	Each	Protein Testing Solution A	Lab-Aids
	2	2	Each	Protein Testing Solution B	Lab-Aids
	7	10	Each	Rinse bottle	Ward's
	20	30	Each	Safety glasses	Ward's
	2	2	Each	Spoons, plastic	Local

Lesson 6 Animals We Care For

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
6.1	3	5	Sets	Fresh flowers, 6 different species	Local
	1	1	Pkg	Pollination Materials	Local
				<ul style="list-style-type: none"> • Wooden skewers • Cotton swabs • Cotton balls • Paintbrush, small 	
	20	30	Copies	Pollinator Data Sheet	California Academy of Sciences
3	5	Sets	Pollinator Profile Cards	California Academy of Sciences	
6.2	10	15	Set	Colored pencils	Local
6.4	5	8	Sets	Colored Pencils	Local
	5	8	Roll	Electrical tape	Local
	20	30	Copies	How to Tie a Halter	Oregon State University
	20	30	Each	Rope, ½" wax covered, nylon twisted, 10' lengths	Local
	2	3	Each	Toy stuffed animal (cow or horse)	Local
6.5	5	8	Set	Colored pencils	Local
	-	-	-	Equipment matching <i>Activity 6.5 Animal Equipment Cards</i> (optional)	Local
6.6	5	8	Each	Absorption Test Materials	Ward's Local
				<ul style="list-style-type: none"> • Graduated cylinder, 100ml • Beaker, 1L • Electronic balance • Water • Food coloring 	
	1	1	Bag	Cedar woodchips	Local
	5	8	Each	Cushioning Test Materials	Local
				<ul style="list-style-type: none"> • Free weights • Rocks • Small flat stock metal • Ruler, metric 	
	1	1	Bag	Pine woodchips	Local
	1	1	Bag	Sand	Local
	1	1	Bag	Shredded newspaper bedding	Local
	.25	.5	Bale	Straw	Local
	5	8	Each	Warmth Test Materials	CASE Local
<ul style="list-style-type: none"> • Device with Graphical Analysis™ App • Go Direct® temperature sensor • Heating pad or other heat source 					
5	8	Each	Weigh dish, 140 mm x 22 mm	Ward's	
1	1	Bag	Wood pellets	Local	

Lesson 7 Food We Eat

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
7.1	7	10	Each	Bowl, 20 oz	Local
	7	10	Each	Coffee grinder	Local
	7	10	Each	Cups, 9 oz	Local

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
	5	8	Each	Electronic balance	Ward's
	7	10	Each	Gradated cup, 30 ml	Lab-Aids
	20	30	Each	Hairnets	Local
	1	1	Each	Hand mill, optional	Amazon
	5	10	Pounds	Hard red wheat or hard white wheat, untreated	Amazon
	7	10	Each	Mesh strainer, 30-60 mesh	Local
	7	10	Each	Permanent marker	Local
	7	10	Each	Plate, 8 ½ inch	Local
	7	10	Each	Ruler, metric	Local
	20	30	Each	Safety glasses	Ward's
	7	10	Each	Sealable bag, gallon	Local
	21	30	Each	Sealable bag, quart	Local
	5	10	Pounds	Soft red wheat or soft white wheat, untreated	Amazon
	1	2	Gallon	Water, distilled	Local
	1	2	Loaf	White bread	Local
	1	2	Loaf	Whole-wheat bread	Local
7.2	6	12	Each	Apples	Local
	7	10	Bottle	Commercial fruit and vegetable wash	Amazon
	6	12	Each	Cucumbers	Local
	1	1	Bottle	Glo Germ™	Ward's
	14	20	Pairs	Gloves, disposable	Local
	6	12	Each	Grapes	Local
	1	1	Bottle	Lemon juice, small	Local
	6	12	Each	Lettuce leaves	Local
	1	1	Each	Measuring cup	Local
	1	1	Each	Measuring spoons	Local
	42	60	Each	Paper plates, 6 inch	Local
	6	12	Each	Radishes	Local
	20	30	Pairs	Safety glasses	Local
	14	20	Each	Spray bottles	Local
	6	12	Each	Strawberries	Local
	7	10	Each	UV light	Local
	2	4	Cups	Vinegar	Local
	14	20	Each	Wash bowl, large	Local
	-	-	-	Water source	Local
7.3	2	3	Each	Cucumber	Local
	20	30	Each	Paper plate, 8 ½ inch	Local
	4	8	Jars	Pickles, four different varieties	Local (Teacher Notes)
7.4	20	30	Each	Highlighter	Local
7.5	14	20	Cups	All-purpose flour from <i>Activity 7.1</i>	<i>Activity 7.1</i>
	1	1	Box	Baking powder	Local
	1	1	Box	Baking soda	Local
	14	20	Each	Bowls	Local
	4	5	Sticks	Butter, softened	Local
	7	10	Cups	Buttermilk	Local
	1	1	Can	Cooking spray	Local
	14	20	Each	Cucumbers, medium	Local
	7	10	Each	Cutting board	Local
	7	10	Each	Eggs	Local

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
	14	20	Each	Glass jars with lids, quart-sized	Local
	20	30	Each	Hairnet	Local
	-	-	Misc.	Herbs, spices, peppers	Local (Teacher Notes)
	7	10	Each	Knife	Local
	1	1	Roll	Laboratory tape	Ward's
	7	10	Each	Liquid measuring cup	Local
	7	10	Each	Measuring cups	Local
	7	10	Each	Measuring spoons	Local
	7	10	Each	Muffin pans or bread pans	Local
	1	1	Each	Oven	Local
	2	2	Each	Oven mitt	Local
	7	10	Each	Plastic fork	Local
	7	10	Each	Plastic knife	Local
	7	10	Each	Plastic spoon	Local
	1	1	Each	Refrigerator	Local
	1	1	Package	Salt, 1lb	Local
	7	10	Each	Sealable bag, one-gallon	Local
	1	1	Package	Sugar, 4lbs	Local
	2	4	Bottle	Vinegar, 32 oz	Local
	1	2	Gallon	Water	Local

Lesson 8 Ag in My Future

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
8.1	1	1	Bag	Beeswax pellets or melts, 2lbs	
	1	1	Bottle	Cocoa or shea butter, 14oz	
	1	1	Bottle	Coconut oil, 14 oz	
	20	30	Each	Containers, 1 oz	
	3	4	Each	Device with timer	
	2	3	Each	Dish of water, small	
	20	30	Each	Leather key fobs	Local
	8	12	Each	Leatherworking mallet	
	2	3	Each	Leatherworking stamp sets	
	3	4	Each	Measuring cup, glass	
	3	4	Each	Measuring spoons	
	3	4	Each	Metal spoon	
	3	4	Each	Oven mitt	
	3	4	Each	Pan, small	
	1	2	Bottle	Pure lanolin 2 T (7 oz) .5	
	20	30	Pairs	Safety glasses	
	4	6	Each	Sponge	
	1	1	Bottle	Vitamin E oil, 4oz	
	-	-	-	Water source	
	8.3	7	10	Each	Bowl with lid
20		30	Each	Butter knife	Local
7		10	Each	Cloth towel	Local
1		1	Each	Container of salt	Local
-		-	-	Cucumbers	Local
7		10	Each	Cutting board	Local
7		10	Each	Cutting knife	Local

APP	Qty/ 20	Qty/ 30	Unit	Item Specifications	Vendor
	20	30	Each	Desert bowl	Local
	20	30	Each	Desert spoon	Local
	7	10	Cups	Heavy whipping cream	Local
	1	1	Each	Honey	Local
	28	40	Cups	Ice	Local
	7	10	Each	Large spoon	Local
	-	-	-	Lettuce	Local
	7	10	Each	mason jars,1 pint	Local
	7	10	Each	Measuring cups	Local
	7	10	Set	Measuring spoons	Local
	7	10	Each	Plastic bag, one-gallon sealable	Local
	7	10	Each	Plastic bag, one-quart sealable	Local
	20	30	Each	Plate	Local
	-	-	-	Radishes	Local
	3	4	Boxes	Rock salt, 4lb	Local
	20	30	Each	Salad fork	Local
	20	30	Each	Salad plate	Local
	1	1	Bottle	Vanilla flavoring	Local
	3	4	Each	Wash sinks	Local
	7	10	Cups	Whole milk	Local