

Laboratory Equipment

The chart below itemizes all the equipment you will need in each lab station in your classroom. You may wish to post a copy of this list in each lab station. This will help students verify that a full set of equipment has been properly stored in each station at the end of each lab.

Foods Lab Equipment

Quantity	Equipment
1	2-piece tube pan
1	biscuit cutter, 2-inch
1	blender
5	bowls, small
1 per lab group member	clothespins
1	colander
1	computer with Internet connection, word-processing software, and (optional) spreadsheet program
1	container with lid
1	cookie sheet
2	cooling racks
5	cups
7	custard cups
2	cutting boards, ½-inch thick
1	double boiler
1	drip coffeemaker (optional)
1	electric mixer, portable
1	filtration pitcher with filter
1	food processor (optional)
1 per lab group member	forks
3	freezer containers (optional)
2	funnels
1	grater

Quantity	Equipment
4	hot pads
1	knife, chef's
1	knife, paring
1	knife, serrated
1	knife, utility
1	ladle, small
1	liquid measuring cup, 500-mL (2-cup) with milliliter divisions
1	loaf pan
1	metric dry measuring cups, 50 mL, 125 mL, and 250 mL
1	metric measuring spoons, 1 mL, 2 mL, 5 mL, and 15 mL
1	mixing bowl, large
1	mixing bowl, medium
1	mixing bowl, small
1	muffin pan
1	pastry blender (optional)
1	pie plate, glass
1	pizza pan (optional)
1	plate, glass
1 per lab group member	plates
1	printer
1	rolling pin
2	rubber scrapers
1	saucepan, 1-quart

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Foods Lab Equipment (*Continued*)

Quantity	Equipment
1	saucepan, 1½-quart
1	saucepan, 2-quart with lid
1	saucepan, 3-quart
6	saucers
1	scoop, small
1	skillet, 6- to 10-inch with nonstick finish
1	small deep fryer (optional)
4	soft drink bottles, 16-ounce (optional)
1	spatula, bent-edged
1	spatula, straight-edged
1	spoon, slotted

Quantity	Equipment
1	spoon, wooden
1 per lab group member	spoons
2	spoons, mixing
4	spoons, serving
1	thermometer, digital (optional)
1	thermometer, instant-read
1	tongs
1	towel, linen
3	towels, terry cloth
1	vegetable brush
1	vegetable peeler
1	whisk

Scientific Equipment

Quantity	Equipment
2	beakers, 50-mL
4	beakers, 100-mL
3	beakers, 150-mL
5	beakers, 250-mL
2	beakers, 400-mL
1	beaker, 500-mL
1	beaker, 1000-mL
1	beaker tongs
1	blindfold
2	burets
1	buret stand
1	calculator
1	crucible
1	electronic balance
1	Erlenmeyer flask, 125-mL

Quantity	Equipment
4	Erlenmeyer flasks, 250-mL
1	evaporating dish
1	eyedropper
1	gas flame source (Bunsen burner or gas stove)
5	glass rods
3	graduated cylinders, 10-mL
2	graduated cylinders, 25-mL
3	graduated cylinders, 100-mL
2	graduated cylinders, 1000-mL
1	hair dryer
1	inoculating loop
1	magnifying glass
1	metal cylinder
1	metric ruler

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Scientific Equipment (*Continued*)

Quantity	Equipment
1	microscope
5	microscope slides with cover slips
1	mortar and pestle
1	needle
1	oil immersion microscope
1	permanent marker
4	petri dishes
1	pH indicator paper
1	pH meter (optional)
1	plastic gasket
1 pair per lab group member	safety glasses
1	square pan, 9-inch

Quantity	Equipment
1	standard mass, 100-gram
1	strainer
1	test-tube rack
25	test tubes with lids or stoppers
1	test-tube tongs
3	thermometers
1	thermometer holder
1	titration stand
1	top plate
1	UV light source
1	viscosity ring
2	wash bottles
2	watch glasses
1	wax pencil

In addition to the above equipment for each lab group, you will need one incubator and one thermostatically controlled food dehydrator for use in your classroom. You may also wish to have one digital camera.

Laboratory Supplies

The table below itemizes all the chemicals and scientific supplies you will need to conduct all the experiments in *Principles of Food Science*. You can purchase common chemical supplies at local grocery stores and pharmacies. You can order scientific supplies through science supply catalogs. Before ordering supplies, check the amounts needed and confer with biology and chemistry teachers to see if your order can be combined with theirs or if they have adequate supplies for your use. In some cases, science teachers may be willing to donate supplies to meet your small needs. Note that many of the chemicals in this chart are considered hazardous and should be handled with caution.

Supply	Amount per Lab Group	Experiment
Common Chemical Supplies		
Ammonia	15 mL	6B
Chlorine bleach	16 mL	6B, 7C
Epsom salts	15 mL (1 tablespoon)	9B
Fructose solution	5 mL	8A
Glycerin	1 drop	8C
Hydrogen peroxide	35 mL	12A
Iodine tincture	1 mL	4C, 7C
Milk of magnesia	15 mL	6B
NaCl solution, 1 M solution	100 mL	23C
Pectin, commercial	49 g (1 package)	16A
Potassium chloride (salt substitute)	45 g per class	5C
Rennin (junket)	0.6 g (½ rennet tablet)	13B
Sodium chloride (salt)	1 g	4B
Sodium hydroxide (lye), 0.5 M solution	42 mL	6B, RM**10-1
Sucrose (sugar) solution	30 mL	8A, 12B
Vitamin C tablet	1 crushed	4B
Scientific Supplies		
2, 6-dichloroindophenol, 0.1% solution	1 L per class	13C
Acetic acid	7 mL	6B
Ascorbic acid solution	25 mL	12B
Benedict's solution	50 mL	8A
Calcium chloride solution	20 drops	13B
Crystal violet*	1 to 2 drops	18C
Petri dishes with agar, disposable	6 per group plus 1 per student	18B, 21A
Ethanol (ethyl alcohol)	30 mL (2 tablespoons)	9B, 14C, 18C
Glucose solution	5 mL	8A
Gram's iodine*	1 to 2 drops	18C
Immersion oil	2 drops	18C

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Supply	Amount per Lab Group	Experiment
Scientific Supplies (Continued)		
Lactose solution	5 mL	8A
Maltose solution	5 mL	8A
Microscope slides, disposable	1 per student	18C
Potassium permanganate (KMnO ₄)	4 g	RM** 23-2
Safranin*	1 to 2 drops	18C
<i>Serratia marscens</i> or <i>Bacillus subtilis</i> bacterial culture	1 mL	21A
Sodium bicarbonate	2 g	4B
Sodium citrate	0.1 g (<1/8 teaspoon)	13B
Sodium nitrate	0.02g	16C
Sodium phosphate (Na ₂ HPO ₄)	2 g	16B
Starch solution	5 mL	8A

* May be a part of Gram's stain kit

**RM = Reproducible Master