RECOMMENDED MINIMUM CORE INVENTORY TO SUPPORT STANDARDS-BASED INSTRUCTION CHEMISTRY

developed by California Science Teachers Association

Qty per lab group	Qty per classroom/adjacent work area	Description	Comments
SAFETY EQUIPMENT			
	2	acid storage cabinet (one reserved exclusively for nitric acid)	
	1	chemical spill kit	
	5	chemical waste containers (Categories: corrosives, flammables, oxidizers, air/water reactive, toxic)	
	1	emergency shower	
	1	eye wash station	
	1	fire blanket	
	1	fire extinguisher	
	1	first aid kit	
	1	flammables cabinet	
	1	fume hood	
	1/person	goggles	
	1/person	lab aprons	
EQUIPMENT/SUPPLIES			
	1 box	aluminum foil	
	100	assorted rubber stoppers	
	1	balance, analytical (0.001g precision)	
1		balance, electronic or manual (0.01g precision)	
	1 pkg of 50	balloons, latex	
4		beakers, 50 mL	
4		beakers, 100 mL	
2		beakers, 250 mL	
2		beakers, 400 or 600 mL	
1		beakers, 1000 mL	
1		beaker tongs	
	1	bell jar	
	4	bottle, carboy round, LDPE 10 L	
	4	bottle, carboy round, LDPE 4 L	
	10	bottle, narrow mouth, 1000 mL	
	20	bottle, narrow mouth, 125 mL	
	20	bottle, narrow mouth, 250 mL	
	20	bottle, narrow mouth, 500 mL	
	10	bottle, wide mouth, 125 mL	
	10	bottle, wide mouth, 250 mL	
	2	broken glass container	
1/sink		brushes, bottle/beaker	
1/sink		brushes, buret	
2/sink		brushes, test tube	
1		Buchner funnel	
1		Bunsen burner ignitors, strikers, lighters, or box of	
2		Bunsen burner	

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2		buret, 0.1 mL graduations	
1		buret clamps, double	
	1	cart, lab	
2		centrifuge tube to fit centrifuge	
	1	centrifuge, 8-place (*shared with biology class)	
	1	cork borer set	
	4	counter brush	
1		crucible tongs	
1		crucibles	
	2	deflagrating spoons	
	1	demonstration molecular model set	
	1	demonstration tray	
	1	desiccant, Dreerite	
	1	desiccator plate	
	1	desiccator, Scheibler	
1/2 students		diffraction gratings / spectroscopes	
	100	dropping (dispensing) bottles, 30 ml (for permanent storage of solutions)	
	1	drying oven	
	1	drying rack, vinyl coated	
	1	dust pan	
	1	element display set	
2		evaporating dish, porcelain	
	1 box	filter paper for Buchner funnel	
	5 pkg of 100	filter paper, 90 mm	
1		fisher (high temperature) burners	
	2	flasks, Erlenmeyer, 1 L	
4		flasks, Erlenmeyer, 125 mL or 250 mL	
	2	flasks, Erlenmeyer, 2 L	
1		flask, filtering, 500 mL	
1		flask, volumetric, 100 mL	
2		flint lighter	
2		forceps	
2		funnels, plastic, 2.75" diameter	
1		funnels, plastic, 5" diameter	
1		gas measuring tube, glass graduated, 50 mL	
		glass tubing (i.e., Pyrex brand glass tubing assortment - 25 lb. case	
	1 box	gloves, latex	
2		graduated cylinders, 10 mL	
2		graduated cylinders, 50 mL	
2		graduated cylinders, 100 mL	
	2	graduated cylinders, 500 mL or 1000 mL	

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	1	hammer	
	1	hot mitts	
1		hot plate	
1		inoculating loop, Nichrome (for flame tests)	
		labels	
	1	magnetic stirrer bar set	
	1	magnetic stirrer plate	
1		magnifying glass	
1		medicine dropper	
	2	metal electrode set	
1		meter, conductivity	
1		meter, conductivity, digital, hand-held	
2		microplates, large, 24-well	
4		molecular model kits (three dimensional)	
	2	mortar, porcelain	
1/sink		paper towel dispenser	
	1	parafilm, 250 ft.	
	1	periodic table wall chart	
	2	pestle, porcelain	
	1	pH meters / probes	
1		pH meter, digital, hand-held	
	500 pkg	pipette, Beral-type, thin-stem	
1		pipette, graduated, 10 mL	
	500 pkg	pipettes, graduated, transfer, disposable, non-sterile, 5mL	
1		pipette pump	
1		pneumatic trough	
2		ring stands (or other lab counter top support)	
2		rings with clamps	
2		rubber policeman	
1		rulers	
2		single buret clamp	
2		spatulas, scoops, or plastic spatula/spoons	
	1	spectrophotometer and accessories *(cuvets/test tubes, and optical wipes)*	
	1	spectrum tube power supply	
	1	spectrum tube, hydrogen	
	1	spectrum tubes (other gases for comparison)	
	5	sponge, cellulose	
2		spot plates	
	1	still, water	
	100	stirring rods (plan for breakage replacement)	
	Set of 100	stoppers / corks (sacked, assorted sizes, with and without holes bored)	

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Qty per lab group	Qty per classroom/adjacent work area	Description	Comments
1		stop watch	
		storage boxes for student lab equipment	
	100	Styrofoam cups	
	2	syringe without needle, 60 mL	
	1	television or digital projector	
2		test tube clamps	
2		test tube holders	
2		test tube racks (fitted for purchased test tubes)	
12		test tubes (standard size, about 16 mm x 150 mm; plan for breakage replacement)	
2		thermometers (-20 to 110 degrees C)	
1		triangles, iron wire	
	150 ft.	tubing, rubber, black, 1/4" diameter (for Bunsen burners)	
	1	utility carrier tray	
	1 tube	vacuum grease	
	1	vacuum pump	
	1	vacuum tube, 50 ft.	
	1	VCR	
	2	voltaic cell with porous cup	
	2	volumetric flasks, 500 mL	
	2	volumetric flasks, 1000 mL or 2000 mL	
1/sink		washing bottles, plastic	
	48	watch glass, 90 mm	
	500	weigh dishes	
2		wire gauze	
	1 pkg of 500	wood splints	
	1	wrench, adjustable	
ESSENTIAL CHEMICALS			
This list of chemicals was compiled based on laboratories that support the California Science Content Standards. For storage of chemicals recommended on this list, refer to the *California Science Safety Handbook* at: www.cde.ca.gov/pd/ca/sc/			
1	ea.	acetic acid, glacial, ACS grade (17.4 M)--2.5 L	
1	500 mL	acetone, laboratory, solution, 500 ml btl	
1	100 g	aluminum chloride	
	100 g	aluminum filings	
1	100 g	aluminum nitrate	
3	500 g	ammonium chloride, laboratory, granular, 500 g btl	
3	500 mL	ammonium hydroxide, laboratory, solution 6.0 m, 500 ml btl	
1	100 g	ammonium metavanadate, reagent powder, 100 g btl	
1	ea	boiling chips 500 g	
1	ea	bromine water kit	
	1 L	buffer solution pH 10	

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	1 L	buffer solution pH 4	
3	500 g	calcium chloride anhydrous, laboratory, lumps, 500 g btl	
1	500 mL	calcium metal	
1	500 g	calcium nitrate 4-hydrate, laboratory, granular, 500 g btl	
	5 pkg.	candles	
1	500 g	charcoal, laboratory, activated, 500 g btl	
3	100 g	chromium (III) nitrate 9-hydrate, reagent, crystal, 100 g btl	
	500 g	citric acid	
1	100 g	copper (II) carbonate	
1	100 g	copper (II) chloride anhydrous, laboratory, powder, 100 g btl	
1	500 g	copper (II) chloride anhydrous, laboratory, powder, 500 g btl	
1	ea	copper (II) nitrate 2.5 hydrate, reagent, crystal, 4 x 25, 4 x 25 g btls	
1	500 g	copper sulfate	
	100 g	copper, metal	
2	4L	ethyl alcohol, reagent, solution, 4 l btl	
1	100 g	ferric nitrate	
9	set of 4	food coloring set with 4 colors	
1	ea	glacial, acs grade, (17.4 m)—2.5 l	
1	5g	germanium, pieces, irregular 99.999% 5g	
3	12/box	grease pencils black 12/box	
1	ea	hydrochloric acid sol. conc. (12 m) 2.5 l	
1	1 L	hydrogen peroxide	
1	100 g	iron (II) ammonium sulfate	
1	100 g	iron (II) chloride	
1	100 g	iron filings	
1	500 g	iron (II) sulfate 7-hydrate, laboratory, granular, 500 g btl	
1	100g	iron (III) nitrate	
1	500 g	lithium sulfate acs, 500g	
1	100 g	lycopodium, laboratory, powder, 100 g btl	
	1 reel	magnesium ribbon	
1	2.5 kg	magnesium sulfate 7-hydrate, laboratory, crystal, 2.5 kg btl	
3	100 g	manganese (IV) dioxide, reagent, powder, 100 g btl	
1	500 mL	manganese nitrate, reagent, solution, 50%, 500 ml btl	
1	3.87 L	methanol lab grade 3.875 l	
	1 L	mineral oil	
1	100 g	nickel nitrate 6-hydrate, laboratory, crystal, 100 g btl	
3	500 mL	nitric acid, reagent acs, solution, (~15.8 m), 500 ml btl	
1	500 g	oxalic acid dihydrate, laboratory, crystal, 500 g btl	

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1	5 g	phenol red	
1	25 g	phenolphthalein, laboratory, powder, 25 g btl	
3	500 mL	phenolphthalein, laboratory, solution, 1.0% (alcoholic), 500 ml btl	
1	500 g	potassium bromide, reagent, crystal, 500 g btl	
4	500 g	potassium hydroxide, laboratory, solution, 2.0 m, 1 l btl	
1	500 g	potassium iodate, laboratory, powder, 500 g btl	
1	500 g	potassium nitrite, reagent, crystal, 500 g btl	
1	500 g	potassium permanganate	
1	100g	potassium thiocyanate	
1	500 g	potassium thiocyanate reagent grade - crystal 500g	
	1 kg	sand	
1	500 g	silicon metal, laboratory, lump, 500 g btl	
1	100 g	silver nitrate	
1	100 g	sodium (metal)	
1	100 g	sodium acetate	
1	2.5 kg	sodium bicarbonate, laboratory, powder, 2.5 kg btl	
1	100 g	sodium bromide, reagent, crystal, 100 g btl	
1	2.5 kg	sodium carbonate anhydrous, laboratory, granular, 2.5 kg btl	
3	500 g	sodium chloride granular reagent grade 500 grams	
	500 g	sodium citrate	
1	100 g	sodium fluoride, reagent, powder, 100 g btl	
3	500 g	sodium hydroxide, laboratory, pellet, 500 g btl	
2	ea	sodium metabisulfate 50 lb bag	
1	ea	sodium phosphate tribasic 500g	
1	100 g	sodium phosphate (dibasic)	
1	100 g	sodium phosphate (monobasic)	
1	500 g	sodium thiosulfate	
1	500 g	starch, soluble powder 500 g	
1	500 g	strontium chloride 6-hydrate, laboratory, granular, 500 g btl	
	500 g	sucrose	
1	500 g	sulfur	
1	500 mL	sulfuric acid, reagent acs, solution, (~18 m), 500 ml btl	
1	500 mL	universal indicator	
1	100 g	zinc	
1	500 g	zinc nitrate 6-hydrate, laboratory, crystalline flakes, 500 g btl	

FACILITIES

A source of water and access to waste disposal (i.e., lab stations/sinks) are essential for classrooms in which chemistry is taught.