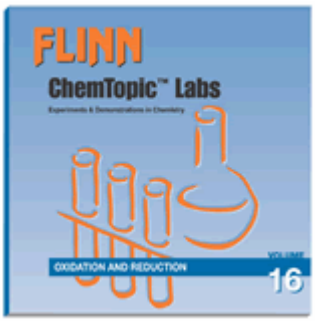
Oxidation and Reduction—
Master Materials Guide



Materials listed below are recommended for a class of 30 students working in pairs.

Experiments and Demonstrations

Chemicals	Flinn Scientific Catalog No.	Metal Activity and Reactivity	Oxidation–Reduction Survey	Corrosion of Iron	Analysis of Hydrogen Peroxide	UV-Sensitive Paper	Fantastic Four-Color Oscillator	The Can Ripper	The Floating Tin Sponge	Oxidation States of Vanadium	The Silver Mirror Award
Acetone	A0009										optional
Agar	A0256			20 g							
Aluminum wire, 16 gauge	A0175			7 cm							
Ammonium chloride	A0266			3 g							
Ammonium metavanadate	A0245									3 g	
Ammonium nitrate	A0056										12 g
L-Ascorbic acid	A0077		1 g								
Cerium(IV) ammonium nitrate	C0287						3 g				
Copper strips	C0182	1 pkg									
Copper wire, 18 gauge	C0148			7 cm							
Copper(II) chloride	C0282							3 g			
Copper(II) sulfate pentahydrate	C0102	5 g									
Dextrose	D0002										5 g
Ferroin solution, 0.5%	F0073						15 mL				
Hydrochloric acid solution, 6 M	H0033	34 mL							80 mL		
Hydrochloric acid solution, 3 M	H0034		30 mL								
Hydrochloric acid solution, 0.1 M	H0014			100 mL							
Hydrogen peroxide solution, 6%	H0028									7 mL	
Hydrogen peroxide solution, 3%	H0009		15 mL		50 mL						
Iron nails, 3-inch	I0032			40							
Iron sheet	I0015	1									
Iron(II) ammonium sulfate	F0013		4 g								
Iron(II) sulfate heptahydrate	F0016	6 g									
Iron(III) chloride solution, 0.1 M	F0045		105 mL								
Iron(III) nitrate solution, 0.1 M	F0047					10 mL					
Lead strips	L0065			7 cm							
Magnesium ribbon	M0139	75 cm		7 cm							
Magnesium nitrate hexahydrate	M0114	6 g									
Malonic acid	M0091						8 g				
Nitric acid solution, 6 M	N0048										optional
Oxalic acid	Q0005			7 g		2 g					
Phenolphthalein solution, 1%	P0019			40 mL							
Potassium bromate	P0205						10 g				

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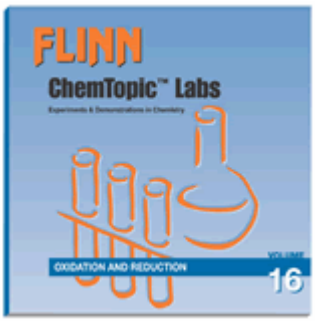

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Chemicals, continued											
Potassium bromide	P0137						2 g				
Potassium ferricyanide solution, 0.1 M	P0165		30 mL	40 mL		10 mL					
Potassium permanganate	P0077		1 g		4 g						
Potassium thiocyanate solution, 0.1 M	P0178		15 mL								
Sandpaper	S0165	optional		1							
Silver nitrate	S0274	4 g									10 g
Sodium bicarbonate solution, 0.5 M	S0268			100 mL							
Sodium bromide solution, 1 M	S0368		5 mL*								
Sodium chloride solution, 0.5 M	S0348			100 mL							
Sodium hydroxide	S0074										10 g
Sodium hypochlorite solution, 5%	S0079		15 mL								
Sodium iodide solution, 1 M	S0369		10 mL*								
Sodium sulfite, anhydrous	S0111		2 g								
Sulfuric acid solution, 6 M	S0415				250 mL						
Sulfuric acid solution, 3 M	S0417						225 mL				
Sulfuric acid solution, 1 M	S0202									400 mL	
Tin strips	T0087			7 cm							
Tin(II) chloride	S0227								20 g		
Zinc foil	Z0008	1		1							
Zinc, granular	Z0028									5 g	
Zinc, mossy	Z0003								20 g		
Zinc sulfate heptahydrate	Z0023	6 g									
Glassware											
Beakers											
50-mL	GP1005										1
100-mL	GP1010				15						
250-mL	GP1020				15						
400-mL	GP1025			10							
400-mL, tall-form	GP1059								1		
1-L	GP1040						1				
Burets, 50-mL	GP1090				15						

*Dilute to 0.2 M.

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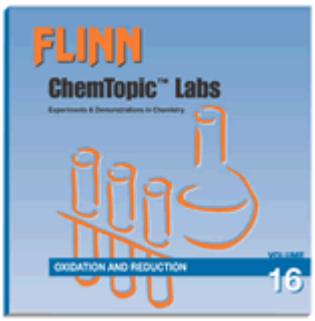

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Glassware, continued											
Erlenmeyer flasks											
125-mL	GP3040				30						
250-mL	GP3045						4				
500-mL	GP3050									2	
Florence flask, 250-mL	GP3085										1
Graduated cylinders											
10-mL	GP2005				15	2					4
25-mL	GP2010						1				
250-mL	GP2025						1			1	
Pipets, serological, 1-mL	GP7056				15						
Stirring rod	GP5075			10		1					
General Equipment and Miscellaneous											
Balance, centigram	OB2059	1	1	1	1	1	1	1	1	1	1
Bunsen burner	AP5344			optional							
Clamp, buret	AP1034				10						
Felt tip pen	AP1297	15	15	10	15						
File, triangular	AP8402							1			
Filter paper, 7 cm	AP2249					1					
Forceps, 4-inch	AP8328	15									
Forceps, 10-inch	AB1093								1		
Funnel, powder	AP2269									1	
Hot plate	AP4674			3							
Labels, 1″ × 2″	AP5368		1 roll	1 roll	1 roll						
Magnetic stir bar	AP5401						1			1	
Magnetic stirrer	AP6067						1			1	
Magnifier	AP1134	optional									
Petri dishes, disposable	AP8170			20							
Pipet, Beral-type, graduated	AP1721	90	180							1	
Pipet filler	AP1887				15						
Pliers, long nose	AP8389			1							
Reaction plate, 24-well	AP1447	15	15								

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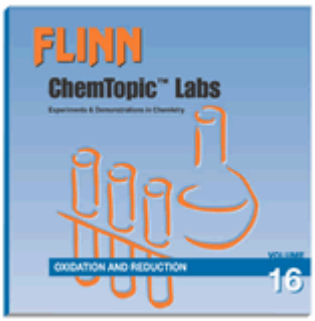

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General Equipment and Miscellaneous											
Rubber stopper, size 5	AP2227										1
Rubber stopper, size 7	AP2229									1	
Scissors, heavy duty	AP8949	1		1							
Spatula	AP1323			10							
Support stand, 6″ × 9″	AP8228				15						
Tongs, utility	AP1359					1					
Toothpicks, plastic	AP1810	optional	1 box								
Wash bottle	AP1668	15	15		15						1
Water, distilled or deionized	W0007 W0001	✓	✓	✓	✓		✓				✓
Weigh dishes	AP1278			10		2				1	

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