

## Saving Money on *IPS* Equipment and Laboratory Supplies

Harlan Downing Formerly, Columbia Heights HS Columbia Heights, MN

All teachers like the convenience of obtaining all their lab supplies from a single catalog. However, when budgets are tight, there are ways of cutting costs, especially for schools that are implementing *IPS* for the first time or expanding enrollment in their *IPS* classes. Here are some concrete suggestions. The equipment and supplies used in *IPS* can be divided into several categories.

*IPS*-specific materials. These materials were designed for *IPS* or must meet special *IPS* requirements. They are best bought from a recommended source.

- Ammeter, 0-1 A
- Balance, equal arm
- BHT 2, 6-Di-tert-butyl-4-methylphenol
- Black Box
- Bucket, plastic, 5-qt
- Bulb, mini-lamp, #13
- Bulb Holder with clip
- · Burner, alcohol
- Burner Stand with screen
- Clip, large
- · Clip, small
- Conservation of Mass Set
- Copper, fine granular

- Copper Dust, pure electrolytic
- Cylinder Set, metal
- Electric Charge Set
- Electrode, copper, #20 mesh
- Electrode, electrolysis
- Electrode, stainless steel
- Fasteners and Rings
- Gram Mass Set
- Metal Cube and Slab Set
- Microburner, natural gas
- Parchment Paper, 12" x 29"
- Pegboard Set
- Rack, test tube, wood
- Rubber Disc (for electrolysis set)

- Sheet, rubber, 12" x 12"
- Spectral Analysis Kit
- Stirring Rod, glass
- Stopper, cork, #7
- Stopper, rubber, 1 hole, #4, safety
- Stopper, rubber, 2 hole, #4, safety
- Stopper, rubber, 1 hole, #2, safety
- Stoppers, rubber, #2, solid
- Test Leads, copper, alligator clips, red and black
- Tray, black metal
- Wick for IPS Burner
- Zinc, commercial, 1-cm square

**Standard materials.** Items in this category are probably used in other science classes and may be put out for bids. Items used for only a short period may be borrowed from a physics or chemistry teacher.

- Alcohol, denatured ethyl, 95%
- Alcohol, isopropyl, 99%
- Balance, electronic, top-loading, 0.01 g sensitivity
- Dish, evaporating (000), porcelain
- Epsom Salt (magnesium sulfate)
- Filter Paper, Whatman #1, 12.5 cm
- Funnel, polypropylene, 55-mL
- Safety Goggles, adult size
- Scoopula
- Sodium Carbonate, USP
- Sodium Chloride, fine, USP

- Battery Charger, 6/12-V
- Beaker, glass, graduated, 100-mL
- Beaker, glass, graduated, 250-mL
- Boiling Chips
- Bottle, polyethylene wash, 500-mL
- Brush, test tube
- Citric Acid, granular hydrous USP
- Copper (II) Acetate, monohydrate
- Copper (I) Chloride, anhydrite, reagent
- Copper (II) Sulfate, powder
- Cylinder, glass, graduated, 50-mL
- Cylinder, plastic, graduated, 10-mL

- Geiger Counter
- Glycerine
- Hand Lens, plastic, tri-lens
- Hydrochloric Acid, concentrated, reagent
- Limewater, USP
- Magnesium ribbon, roll
- Microburner, artificial gas
- Microburner, natural gas
- Mortar and Pestle, ceramic
- Nitric Acid, concentrated, reagent
- Potassium Chloride, USP
- Potassium Dichromate, granular, USP
- Potassium Nitrate, granular, USP

- Sodium Nitrate, granular, purified
- Spatula, micro, stainless steel
- Spectrum Tube, hydrogen
- Spectrum Tube, mercury vapor
- Spectrum Tube, neon
- Spectrum Tube, power supply
- Spectrum Tube, water vapor
- Sulfur, powder
- Sulfuric Acid, concentrated, reagent
- Test Tubes, 20 mm x 150 mm
- Test Tubes, 25 mm x 150 mm
- Thermometer, lab, -20 to 110 °C
- Watch Glass, 6.5-cm diameter
- Zinc Sulfate, USP

**Household items.** The items in this category can be obtained at a local supermarket or from home.

- Alka Seltzer
- Aluminum Foil, heavy-duty, 18" x 25'
- Aluminum Foil, standard weight, 12" x 25'
- Baking Soda, 1 lb
- Battery, 6-V, screw top
- Battery, 1.5-V "D" cell

- Bottle, plastic, clear, 16-oz
- Bottle, soda, 2-L
- Cement, Duco
- Cups, massing, souffle, 20-oz
- Cups, Styrofoam, 6-oz
- Dice
- Hammer, small
- Pen, water-soluble, green, red, black