

Republika ng Pilipinas
(Republic of the Philippines)
KAGAWARAN NG EDUKASYON, KULTURA AT ISPORTS
(DEPARTMENT OF EDUCATION, CULTURE AND SPORTS)
UL Complex, Pasig, Metro Manila

August 3, 1988

DECS O R D E R
No. 73, s. 1988

CORRIGENDUM TO DECS ORDER NO. 68, S. 1988
(Standard Science, Mathematics and Practical Arts
Equipment for Secondary Schools)

To: Bureau Directors, Regional Directors, and Schools
Superintendents
Heads of Chartered State Colleges and Universities
Heads of Private Schools, Colleges and Universities
Heads of Community Colleges and Universities
and Vocational Schools

1. In response to requests from the field and recommendation of Philippines-Australia Science and Mathematics Education Project (PASMSEP), DECS Orders Nos. 85 and 96, s. 1988 were revised. The new list of standard equipment and supplies of science and technology, mathematics, and technology and home economics is enclosed.
2. This Order revises DECS Orders Nos. 68 and 96, s. 1988.
3. It is desired that this Order be widely disseminated.


ARMAND V. FABELLA
Secretary

Incl.:
As stated

References:
DECS Orders: (Nos. 68 and 96, s. 1988)

Allotment: 1-2-3-4—(M.O. 1-87)

To be indicated in the perpetual Index
under the following subjects:

- ✓ CHANGE
- ✓ Course of Study, SECONDARY
- ✓ EQUIPMENT
- ✓ SCHOOLS

LIST OF STANDARD EQUIPMENT/MATERIALS AND SUPPLIES
FOR SCIENCE AND TECHNOLOGY I
(General Science)
(For a class of 50 students divided into 10 groups)

A. Equipment

Items	Quantity
*Alcohol burner	10 pcs.
Ancroid barometer	1 pc.
Aquarium model	1 pc.
Ball (small)	10 pcs.
Bar magnet	10 pcs.
Barometer	1 pc.
Basin (small)	10 pcs.
Beaker (250 mL; plastic or glass)	40 pcs.
*Bottle cap with a long handle	10 pcs.
Cement or iron pipe (about 30 cm long)	10 pcs.
Constellation model with simulator	1 pc.
Cubes of Pb, Al and Cu (1 cm ³ ; 2 cm ³ ; 3 cm ³)	10 pcs./vol.
Dry & wet bulb thermometer	10 pcs.
Erlenmeyer flask (50 mL w/2 hole stopper)	10 pcs.
Flashlight	10 pcs.
Flat world map	10 pcs.
*Force measurer	10 pcs.
Funnel (8 cm dia., plastic)	30 pcs.
Glass jar or 1000 mL beaker	40 pcs.
Graduated cylinder (100 mL, plastic)	10 pcs.
50 mL, plastic)	10 pcs.
Hand lens or microscope	10 pcs.
*Heat conductivity apparatus (convection)	1 pc.
*Heat transfer apparatus (radiation)	1 pc.
*Inclined plane (with smooth & rough sides)	10 pcs.
Kettle or 1000 mL heat resistant beaker	10 pcs.
Matchbox	10 boxes
Medicine dropper	20 pcs.
Metal caps	10 pcs.
*Metal rod or small stick 35 cm long	10 pcs.
Meterstick	20 pcs.
Modeling clay	10 boxes
Molecular model	1 set
Plastic plate	10 pcs.
*Rain gauge	10 pcs.
Rocke (different kinds particularly basalt, obsidian, granite, diorite, gabbro, and andesite)	10 sets
Ruler	10 pcs.
Scissors	10 pcs.
Spring balance (Newton scale)	10 pcs.
Soil sieve	1 pc.
Standard set of mass	1 set

Test tube (10 mL)	20 pcs.
Thermometer (mercurial, 10 to 110°C, with iron stand)	20 pcs.
Timepiece w/second hand (stopwatch)	10 pcs.
Tripod and wire gauze	10 sets
U magnet	10 pcs.
Wind spin measurer	1 pc.
Wind vane with magnetic compass	1 pc.
Wooden block with hook	10 pcs.

B. Consumables

Alum	0.25 kg
Aluminum foil	1 roll
Balloon	30 pcs.
Boiled egg	10 pcs.
Bond paper	1 ream
Brown sugar lumps ("panutsa")	10 pcs.
Cardboard	1 pc.
Coil of Cu wire	10 pcs.
Coil of nichrome wire	10 pcs.
Colored paper	1 box
Crotchet thread	1 cone
Distilled water	500 mL
Drinking straw (hard plastic)	100 pcs.
Dye or water soluble ink	
Filter paper	1 box
Ice cubes	5 cups
Lime	0.25 kg
Litmus paper (red & blue)	2 boxes/color
Masking tape	1 roll
Matchsticks	10 boxes
Nail (2 mm long)	200 pcs.
Oil or pomade	1 pack
Paper clip	1 box
Paper cup	10 cups
Paste	1 tube
Pencil	50 pcs.
Plastic sheet	10 m
Pins	60 pcs.
Rubber band	1 box
Rubbing alcohol	1 bottle
Salt	0.25 kg
Sulfur powder	0.25 kg
Tracing paper	10 sets
White cartolina	10 pcs.

* Can be improvised

5

LIST OF STANDARD EQUIPMENT AND SUPPLIES FOR
SCIENCE AND TECHNOLOGY II

A. EQUIPMENT	QUANTITY
Compound Microscope	8 pcs.
Triple Beam Balance	2 pcs.
Dissecting Set	8 pcs.
Cover Glass	2 boxes
Class Slides	2 boxes
Graduated Cylinder (100 mL) (plastic)	8 pcs.
Thermometer (Mercurial, 10°C to 110°C)	8 pcs.
Test Tube (25 mL)	2 doz.
Hand Lens (8 cm dia.)	8 pcs.
* Alcohol Burner	8 pcs.
Evaporating Dish (8 cm dia.)	8 pcs.
Funnel (8 cm dia.) (plastic)	8 pcs.
* Meterstick	8 pcs.
Mortar and Pestle (8 cm dia.)	8 pcs.
* Test Tube Holder	8 pcs.
* Test Tube Rack	8 pcs.
Petri Dish	8 pcs.
Medicine Dropper (plastic)	1 doz.
* Iron Stand with Ring	8 sets
Beaker (250 mL) (plastic)	8 pcs.
	(glass) 8 pcs.
Tripod	8 pcs.
Wire Gauze	8 pcs.
Cork Stoppers (2.5 cm dia.)	1 doz.

Plastic Models of the Following:

DNA	1 pc.
Cell	1 pc.
Mitosis	1 set
Meiosis	1 set
Organ Systems	
Digestive system	1 pc.
Nervous system	1 pc.
Skeletal system	1 pc.
Muscular system	1 pc.
Reproductive system (male & female)	1 pc.
Circulatory system	1 pc.
Excretory system	1 pc.
Respiratory system	1 pc.

* Can be improvised

4

* Chart showing:

Development of the embryo	1 pc.
Mendel's hypothesis	1 pc.
Gene map of the human chromosome	1 pc.
Codominance	1 pc.
Food Pyramid	1 pc.
Life cycle of a moss plant	1 pc.
Typical complete flower	1 pc.

B. CONSUMABLES

Tincture of Iodine	0.25 L
Yeast	0.50 kg.
Filter Paper	2 boxes
Denatured Alcohol	2.00 L
Calcium Oxide (Lime)	0.50 kg.
Distilled Water	2.00 L
Sodium Hydroxide (pellet)	0.50 kg.
Starch	0.50 kg.
Cooking Oil	0.50 L
Ethyl Alcohol	1.00 L
Ammonium Hydroxide	0.50 kg.
Copper Sulfate	0.50 kg.
Methylene Blue	0.50 L
Sodium Chloride	0.50 kg.

LIST OF STANDARD EQUIPMENT AND SUPPLIES
SCIENCE AND TECHNOLOGY III

A. EQUIPMENT	QUANTITY
Thermometer (Mercurial, 10° to 110° C)	8 pcs.
Test tube (25 mL)	1 doz.
* Test tube brush	8 pcs.
* Test tube rack	8 pcs.
* Test tube holder	8 pcs.
* Alcohol burner	8 pcs.
* Iron stand w/ ring	8 sets
* Clamp holder	8 pcs.
Funnel (plastic 8 cm dia.)	8 pcs.
Wire gauze	8 pcs.
* Tripod	8 pcs.
Stirring/glass rod	8 pcs.
Beaker (250 mL) (plastic)	8 pcs.
(glass)	8 pcs.
Class tubing (30 cm long 10 mm dia.)	8 pcs.
Evaporating Dish	8 pcs.
Graduated cylinder (plastic 100 mL)	8 pcs.
* Electrolysis apparatus	8 sets.
* Electrical conductivity apparatus	8 sets.
Medicine dropper	2 doz.
Disposable syringe (plastic 50 mL)	8 pcs.
Cork (2.5 cm)	1 doz.
Cork borer	1 set
Triple beam balance	4 pcs.
* Atomic/molecular models	1 set.
* Carbon and organic compounds model	1 set.
Mortar and pestle	8 sets
Reagent bottle (250 mL)	10 pcs.
Erlenmeyer flask (250 mL)	8 pcs.
* Periodic table	1 pc.
Distillation set	1 set
 B. CONSUMABLES	
Filter paper	2 boxes
Distilled water	1 L
Iron filings	0.50 kg.
Sulfur powder	0.50 kg.
Sodium hydroxide (pellets)	0.50 kg.
Copper rod	8 pieces
Copper dust	0.50 kg.
Copper wire	1 roll
Magnesium ribbon	1 roll
Litmus paper (red & blue)	1 box/each
Ammonia water	0.50 L
Hydrochloric acid (12 M)	0.50 L
Starch	0.50 kg.
Carbon (charcoal)	0.50 kg.
Copper sulfate (pentahydrate)	0.250 kg.

Lead nitrate (crystals)	0.250 kg.
Potassium iodide (crystals)	0.250 kg.
Ferric chloride (crystals)	0.250 kg.
Potassium ferricyanide (crystals)	0.250 kg.
Alka seltzer	0.250 kg.
Yeast	0.250 kg.
Calcium oxide (limo)	0.50 kg.
Alum	0.50 kg.
Sodium bicarbonate	0.250 kg.
Potassium nitrate	0.250 kg.
Potassium chloride	0.250 kg.
Sodium sulfate (crystals)	0.25 kg.
Ethyl alcohol	1 L
Mineral oil	0.25 L
Kerosene	0.25 L
Naphthalene	0.25 kg.
Calcium chloride	0.25 kg.
Calcium carbide	0.25 kg.
Ammonium chloride	0.250 kg.
Zinc nitrate	0.250 kg.
Zinc strip (4 cm x 2 cm)	8 pcs
Aluminum strips (4 cm x 2 cm)	8 pcs
Copper strip (4 cm x 2 cm)	8 pcs
Copper plate (4 cm x 2 cm)	8 pcs
Sulfuric acid (12M)	0.250 kg.
Hydrogen peroxide	0.250 kg.
Manganese dioxide	0.250 kg.
Acetic acid (glacial)	0.250 L
Potassium chromate	0.250 kg.
Potassium dichromate	0.250 kg.
Lead iodide	0.250 kg.
Hydrogen sulfide	0.250 L
Boric acid (crystals)	0.250 kg.
Sodium chloride	0.250 kg.
pH paper	2 boxes
Zinc sulfate	0.250 kg.
Silver nitrate (crystals)	0.250 kg.
Iodine crystals	0.250 kg.
Benzoic acid (crystals)	0.250 kg.

* Can be improvised

LIST OF STANDARD EQUIPMENT/MATERIALS AND SUPPLIES
FOR SCIENCE AND TECHNOLOGY IV
(PHYSICS)
(For a class of 50 students divided into 10 groups)

A. EQUIPMENT

Items	Quantity
Accessories to make a dark room	
Acetate rod	10 pcs.
*Alcohol burner	10 pcs.
Alligator clips	40 pcs.
Aquarium (5 gallon cap.)	10 pcs.
Ball bearing (about 5 mm dia.)	10 pcs.
Barbecue sticks	100 pcs.
Bar magnets (strong)	20 pcs.
*Baseboard (circuit board)	10 pcs.
Basin (about 28 cm dia.)	10 pcs.
Beaker (100 ml, 500 ml, plastic)	10 pcs./kind
(1000 ml, glass)	10 pcs.
*Bench	2 in a room
Bicycle (front wheel with axle attached to a stand about 1.5 m high)	1 pc.
*Blocks (4x4x6 cm ³ of 3 different densities)	10 pcs./kind
*Board with sloping edge (28x40 cm ²)	10 pcs.
Bottle caps	200 pcs.
Breadboard or proto-board (8x4 cm ²)	10 pcs.
*Calorimeter	10 pcs.
*Candle holder	10 pcs.
Capacitors (50 uF, 100 uF)	20 pcs./kind
Car battery with charger	1 pc.
*Cardboard cylinder tube (5cm long, 1.5cm dia.)	10 pcs.
*Cardboard screen (15x15 cm ² , white)	10 pcs.
(10x10 cm ² , white)	10 pcs.
C-clamp	10 pcs.
Color TV	1 set
*Connecting wires with clips	60 pcs.
Copper rod (10 cm long)	10 pcs.
Copper wire (6 m with gauge 30)	10 pcs.
(1 m #20 or bigger)	10 pcs.
(1.75 m #20 or bigger)	10 pcs.
Crystal diode	10 pcs.
Diffraction kit	10 pcs.
*Dominocs (100 pcs. per group)	
Drum (toy)	10 pcs.
*Dry cell holder for various sizes used	
*Dynamic cart	10 pcs.
Earphone (for one ear only)	10 pcs.
Eggbeater (with gear)	5 pcs.
*Electric doorbell	5 pcs.
*Electric motor	10 pcs.
*Electromagnetic swing	10 pcs.

*Electroscope	1 pc.
Filters (red, green, blue, yellow, orange, cyan, magenta)	10 pcs./kind
Flannel cloth (10x10 cm ²)	10 pcs./kind
Flashlight bulb & holder (1.5 V, 2.2 V)	10 pcs./kind
(3.8 V, 4.5 V)	30 pcs./kind
(3 V)	50 pcs.
*Free fall apparatus (with accessories)	10 sets
Funnel (plastic)	10 pcs.
Galvanized iron (bunch of 50-100 pcs. 5-10 cm long)	10 bunches
Galvanometer (with long connecting wires)	10 pcs.
*Galvanoscope	10 pcs.
Generator model & accessories	5 pcs.
Class plate (20x10 cm ² thin)	10 pcs.
(graphite coated with double slit)	10 pcs.
Glass tubing (20 cm long 90° bent)	10 pcs.
Graduated cylinder (500 mL, 250 mL, 50 mL)	10 pcs./kind
*Graphing board	2 pcs.
Guitar/ukulele	1 pc.
Hacksaw blade	10 pcs.
Hair dryer	
*Hedcon light box	10 pcs.
IEC electronic trainer (only in PASMRF recipient schools)	
*Incandescent tube (busted)	10 pcs.
*Inclined plane (2.5 m x 20 cm)	10 pcs.
Integrated circuits	20 pcs.
Iron filings (10g per vial)	10 vials
Iron stand, ring, & rod (or multipurpose stand)	10 pcs.
Iron nail (about 10 cm long)	10 pcs.
Iron wire (14 cm)	10 pcs.
Lead (convex & concave with holder/stand)	10 pcs./kind
(convex: t = 5, 10, 20 cm)	40 pcs./kind
*Lever	10 pcs.
Light dependent resistor (LDR)	10 pcs.
Light emitting diode (green & red LED)	10 pcs./kind
Logic gates set	10 sets
*Loop for soap film (3 cm dia. with thread or thin cloth around)	10 pcs.
Magnetic compass	10 pcs.
Magnetic wire (# gauge # 20-24)	10 pcs.
(9.5 m)	10 pcs.
Magnifying glass	10 pcs.
Mass (5 bottles 5 g, 5 bottles 200g)	10 bottles
(1 kg, 100g, 500g, 1 kg)	
Metal cylinders (100 g, 200g with 1.5 cm dia. 10 cm long)	10 pcs./kind
Motorstick	10 pcs.
Mirror (plane, convex, concave with stand)	10 pcs./kind

LIST OF STANDARD EQUIPMENT AND
SUPPLIES FOR MATHEMATICS

Items	Quantity
* Chalkboard compass (teacher)	4 pcs.
* Protractor (teacher)	4 pcs.
Straight rule	4 pcs.
* Graphing board	2 pcs.
Compass (student)	40 pcs.
Protractor (student)	40 pcs.
Calculator (scientific)	20 pcs.
* Cooboard (student)	20 pcs.
Triangle (teacher)	4 pcs.
Stopwatch	4 pcs.
Solid geometrical bodies	1 set
* Can be improvised	

*Mortar & pestle	10 sets
Motor model	5 sets
Multimeter	10 pcs.
Newton's color disc	10 pcs.
Optical bench or meterstick	10 pcs.
Pail (about 20 cm rim dia.)	10 pcs.
Fan (flat, large and rimmed)	10 pcs.
Paraffin reflecting blocks (for water waves)	
Pencil	60 pcs.
Pendulum bob	60 pcs.
Fenlight	10 pcs.
Perspex block (semicircular, rectangular)	10 pcs./kind
Photometer (only for JICA recipient schools)	
Phototube or cardboard illustration	
Plastic cover (5x5 cm ²)	10 pcs.
Plastic sheets (2 - 10x10 cm ²)	10 pairs
Plier (long nose)	10 pcs.
Pingpong ball	10 pcs.
*Pinhole camera	10 pcs.
Pins	200 pcs.
Polythene rods	20 pcs.
Power supply (2V, 5V, 6V, 8V, 9V, all 220V AC-DC)	10 pcs.
Prism (60° x 60° x 60°)	10 pcs.
(90° x 45° x 45°)	10 pcs.
Protractor (regular size)	10 pcs.
(demonstration size)	1 pc.
PVC pipe (thin, 20 cm long)	10 pcs.
(for resonance apparatus - 1 m transparent & flexible 2.5 cm dia.)	10 pcs./kind
Fulley (single fixed with clamp and single movable)	10 pcs./kind
*Radio set (junked set)	10 pcs.
*Ray box (or shoe box)	10 pcs.
Razor blade	10 pcs.
Rectifying diode	50 pcs.
Resistors (0.5, 1, 2, 5, 10, 22, 330, 390 ohms)	10 pcs./kind
(2 - 1, 50, 2 - 100, 2 - 500 10 ³ ohms)	10 sets/kind
(other values)	20 pcs/valuc
*Rheostat	10 pcs.
*Ripple tank with wave generator	1 pc.
Ring magnets	10 pcs.
*Roller board/skate (for 2 persons)	1 pair
Rope (nylon or abaca, 2 cm dia., 5 - 10 m long)	
(1 cm dia., 5 - 10 m long)	10 pcs./kind
Rubber foam (20x10x20 cm ³)	10 pcs.
Rubber sheet (15 x 15 cm ² , thin)	10 pcs.
Rubber band (regular and large size)	10 pcs./kind
Rubber stopper	10 pcs.
Rubber tubing	10 pcs.
Ruby laser or its illustration	1 set

Ruler (grooved, 15.5 cm long)	10 pcs.
*Sand (5 bags of 5 M each)	50 bags
Set of weights	10 sets
Scientific calculator	50 pcs.
Scissors	10 pcs.
Slinky spring (6 m long with thick & thin dial)	10 pcs.
Soft spring	10 pcs.
Spectroscope	pc.
Spiral spring (3 different x-sectional areas with the same material)	10 pcs./kind
Spotlight (white, red, green, and blue 100W bulbs)	10 pcs./kind
Spring balance (1 - 1.5 N)	20 pcs.
(0.001 - 0.01 N)	10 pcs.
Stopwatch (electronic digital)	10 pcs.
Switch	20 pcs.
Tape measure (50 m long)	5 pcs.
Ten centavo coin (100 pcs. per bag)	10 bags
Thermistor	10 pcs.
Thermometer (-10° to 250°)	10 pcs.
Ticker timer	10 pcs.
Toy car	10 pcs.
Transistor (NPN and PNP)	10 pcs./kind
Transistor radio demo set	1 set
Triple beam balance with standard set of mass (only for PASMEP recipient schools)	
Tripod with wire gauze	10 pcs.
Tuning fork (256 Hz & 512 Hz)	10 pcs./kind
U-magnet (strong)	10 pcs.
U-tube manometer	10 pcs.
Variable resistor (10 kilo ohms)	10 pcs.
Vinyl sheets (about 5x7 cm ²)	10 pcs.
Washer holder	10 pcs.
Washers (lead)	200 pcs.
Wirecoat hanger	10 pcs.
Wooden bar (1 x 1 x 7 cm ³ , 2 pcs.)	
(1 x 1 x 4.5 cm ³ , 3 pcs.)	10 sets/kind
Wooden base for electric motor (1.5x15x20 cm ³)	10 pcs.
Wooden block (about 300 g and 2 blocks of the same thickness, 2x2x4 cm ³)	10 pcs./kind
(1kg block with hook)	1 pc.
Wood post (80 cm long, 3 cm dia.) or bamboo	10 pcs./kind
Wood support for Kree Fall Activity (2x/x60 cm ³)	10 pcs.

B. Consumables

Art paper	1 box
Bond paper	1ream

Balloon (all sizes available)	10 pcs./kind
Carbon paper	5 pcs.
Candle (12 cm long)	20 pcs.
Cardboard	10 pcs.
Cartolina (white & black)	10 pcs./kind
Chalk	1 box
Connecting lead (about 50 m)	1 roll
Corrugated cardboard (old)	10 pcs.
Crochet thread	1 roll
Crystal diode	10 pcs.
CuSO_4 (aqueous)	200 mL
Detergent soap (smallest size)	1 bag
Drinking straw	1 bag
Dry cells (size A, C, D, 9V & Button type) (As per activity requirements)	11.5 m
Flannel cloth	1 bag
Flour	1 box
Graphing paper	50 mL
Gasoline	200 mL
KMnO_4 (aqueous)	20 pcs.
Letter envelope	50 pcs.
Manila paper	2 rolls
Masking tape	1 box
Match	
Mg ribbon	
Modeling clay (plasticine)	10 boxes
Nichrome wire (1 m fine wire with 4 different κ -fractional areas)	10 pcs./kind
Nylon string (11.5 m)	10 pcs.
Pencil per	1 box
Paper clip (metal)	20 pcs.
Paper cup	10 pcs.
Paper tape for ticker timer	1 roll
Polar graph	10 pcs.
Potato	1 tube
Raw egg	10 pcs.
Rectifying diode	50 pcs.
Sandpaper	2 pcs.
Scotch tape	1 roll
Tracing paper	10 pcs.
Water color/crayon	1 box

can be improvised

REVISED LIST OF STANDARD TOOLS/EQUIPMENT AND
SUPPLIES FOR TECHNOLOGY AND HOME ECONOMICS

I. Home Economics/Technology

ITEMS	QUANTITY PER CLASS
Flat Iron	2 pcs.
Classware set	2 sets
Mixing bowl set	10 sets
Kettle	10 sets
Bakeware set (square, round pans, rectangular cookie sheet, muffin, chiffon)	10 sets
Measuring spoons set	10 sets
Sewing machine with motor	10 pcs.
Pressure cooker	10 pcs.
Meat grinder	10 pcs.
Can sealer	5 pcs.
Electric/gas range	10 pcs.
Blender/mixer	10 pcs.
Casserole with cover	10 pcs.
Dinnerware set	2 sets
Silverware set	2 sets
Sewing machine attachments	10 sets
Rotary egg beater	10 pcs.
Charcoal stove	10 pcs.
Basin, stainless	10 pcs.
Ham syringe	10 pcs.
French curve	10 pcs.
Enema set	2 sets
Hot/cold water bag	2 pcs.
Carajay, cast iron (3 in a set)	10 sets
Kitchen knife set	10 sets
Cutting devices set	10 sets
Refrigerator	1 pc.
Rubber scraper	10 pcs.
Weighing scale (kitchen)	2 pcs.
Frying pan set (3 in a set)	10 sets
Dinnerware set	2 sets
Sewing kit	50 sets
Set of basic sewing tools	10 sets
Pressing stand	2 pcs.
* Storage cabinet	2 pcs.
Thermos bottle	2 pcs.
Measuring cups sets	10 sets
Clinical thermometer	2 pcs.
* Colander	10 pcs.
Cooking tools set (turner, soup laddle, fork, etc.)	10 sets
Enamel kettle sets	10 sets
Double boiler	10 sets

ITEMS	QUANTITY PER CLASS
* Food tongs	10 pcs.
* Strainer, mesh wire	10 pcs.
Rice kettle set (set of 3)	10 sets
* Wooden laddle	10 pcs.
Kitchen peeler	10 pcs.
* Chopping board	10 pcs.
Butcher knife	10 pcs.

II. Industrial Arts/Technology

ITEMS	QUANTITY PER CLASS
T-square	10 pcs.
Triangle 30° x 60° and 45°	10 pcs.
French curve	10 pcs.
Lettering pen set/speed ball etc.	10 sets
Divider	10 pcs.
Ruling Pen	10 pcs.
Compass	10 pcs.
Vernier caliper	10 pcs.
Metal rule	10 pcs.
Zigzag rule	10 pcs.
Tape rule	10 pcs.
Meter square	10 pcs.
Sliding T bevel	10 pcs.
Marking gauge	10 pcs.
* Scratch awl	10 pcs.
* Mallet	10 pcs.
Claw hammer	10 pcs.
Ball pein hammer	10 pcs.
Cross pein hammer	10 pcs.
Riveting hammer	10 pcs.
Hatchet	10 pcs.
Shader	10 pcs.
Spokeshave	10 pcs.
Couge	10 pcs.
Hand saw	10 pcs.
Crosscut saw	10 pcs.
Ripsaw	10 pcs.
Backsaw	10 pcs.
Hack saw	10 pcs.
Compass saw	10 pcs.
Coping saw	10 pcs.
Bar clamp	10 pcs.
C clamp	10 pcs.
Wooden smooth plane	10 pcs.
Jack plane	10 pcs.
Block plane	10 pcs.
Tin snip	10 pcs.
Plier	10 pcs.
Clip joint pliers	10 pcs.
Cutting plier	10 pcs.

Wire grip pliers	10 pcs.
Long nose pliers	10 pcs.
Diagonal cutter	10 pcs.
Slide cutter pliers	10 pcs.
Snap ring pliers	10 pcs.
Standard screw driver	10 pcs.
Screw driver, flat head	10 pcs.
Screw driver, clutched head	10 pcs.
Screw driver, offset	10 pcs.
Screw driver, starting	10 pcs.
Screw driver, Philip	10 pcs.
Mill file	10 pcs.
Rasp cut file	10 pcs.
Machinist file	10 pcs.
Metal cutting chisel	10 pcs.
Flat calve chisel	10 pcs.
Wood chisel	10 pcs.
Round nose chisel	10 pcs.
Cape chisel	10 pcs.
Diamond point chisel	10 pcs.
Pipe wrench set	10 sets
Tubing wrench	10 pcs.
Open end wrench set	10 sets
Box wrench	10 pcs.
Open adjustable wrench	10 pcs.
Multi tester/VOM	10 pcs.
Ammeter/clamp meter	10 pcs.
Stock and die set	10 sets
Pipe vise	10 pcs.
Wire stripper	10 pcs.
Electric drill with bit	10 pcs.
Hand drill with bit	10 pcs.
Soldering rod	10 pcs.
Soldering gun	10 pcs.
Soldering iron	10 pcs.
Desoldering tool	10 pcs.
Electrowelding	10 pcs.
Bench vice	10 pcs.
Machinist vice	10 pcs.
Starting punch	10 pcs.
Center punch set	10 sets
Aligning punch	10 pcs.
Pullers	10 pcs.
Hydraulic jack	4 pcs.
Bench grinder	4 pcs.
Handbrace	10 pcs.
Plumb bob	10 pcs.
Plumb level	10 pcs.
Width sizing	10 pcs.
* Layout table	10 pcs.

III. Agriculture and Fishery Arts/Technology

ITEMS	QUANTITY PER LAB
Crop Production	
Mattock pick	10 pcs.
Crub hoe	10 pcs.
Rake	10 pcs.
Hand trowel	10 pcs.
Spading fork	10 pcs.
Shovel	10 pcs.
Spade	10 pcs.
Bolo	10 pcs.
Warren hoe	10 pcs.
Post hole digger	10 pcs.
Crowbar	10 pcs.
Motor tape	10 pcs.
Plant Propagation	
Compressed air sprayer	1 pc.
Wheel barrow	5 pcs.
Budding knife	10 pcs.
Grafting knife	10 pcs.
Pruning shear	10 pcs.
Hedge shear	10 pcs.
Pruning knife	10 pcs.
Plastic sealer	2 pcs.
Animal Production	
Caponizing set	10 sets
Veterinary syringe	10 pcs.
Ear notcher	10 pcs.
Emaculator	10 pcs.
Fishery Arts	
Net making apparatus	10 pcs.
Net mesh gauge	10 pcs.
Twine cutter	10 pcs.

IV. Entrepreneurship

Computer with printer (IBM oriented)	25 sets
Typewriter	25 pcs.