Recommended Supplies for Senior High School Science Labs in Liberia

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This page lists all the materials required to teach the experiments on the WASSCE exam. Please see the following pages for more details. Quantities are for a class of 50 students working in groups of 4 or 5.

REQUIRED MATERIALS (essential for WASSCE experiments)

General Materials

- Bucket (4)
- Broom (2)
- Cloth or rag (4)
- Cup or dipper (4)
- Dishpan or basin (4)
- Dustpan (1)
- Handwash bucket (2)
- Markers (4)
- Masking tape (2 rolls)
- Scissors (1 pair)
- Tire soap (plenty)
- Water storage barrel (1)

Safety Supplies

- Fire extinguisher (1 or2)
- First aid kit (1)
- Latex gloves (1 box)
- Thick rubber gloves (2 pairs)
- Goggles (at least 10, but enough for all students if possible)

Chemistry

- Balance (at least 1)
- Beaker [glass] (20 to 30)
- Beaker [plastic/rubber] (20 to 30)
- Bosshead clamp (12 to 15)
- Burette (12 to 15)
- Burette clamp (12 to 15)
- Conical flask (12 to 15)
- Dropper (30)
- Filter paper (2 pk of 100)
- Funnel (10)
- Graduated cylinder (10)
- Small gas stove or kerosene burner (8)
- Retort stand [ring stand] (12 to 15)
- Syringe[20 mL size] (12)
- Test tube (100)
- Test tube brush (4)
- Test tube rack (10)
- Volumetric flask (2 to 8)

Physics

- Ammeter (8 to 10)*
- Batteries (1 box)
- Concave mirror (10)
- Converging lens (10)
- Copper wire (6 yards)
- Crocodile clips (40)
- Glass block (10)
- Meter stick (10)
- Mirror/lens stand (10)
- Nichrome wire (1 roll)
- Pins or syringe needles (50)
- Plane mirror (10)
- Resistor (20)
- Spring (10)
- Spring scale (10)
- String or thread (1 roll)
- Thermometer (10)
- Triangular prism (10)
- Voltmeter (8 to 10)
- Weights (5 sets)

*Multimeters can be used instead of ammeters and voltmeters

Biology

- Microscopes (4 to 15)
- Lens paper (2 packs)
- Prepared slides (1 set)
- Slide coverslips (2 packs)
- Blank slides (2 packs)
- Specimens (many)

Chemicals

- Ammonia (1 L)
- Benedict's solution (1 L)
- Copper (II) sulfate (500 g)
- Iodine solution (100 mL)
- Red litmus paper (4 pk)
- Blue litmus paper (4 pk)
- Phenolphthalein (50 g or 250 mL)
- Sodium bicarbonate (1 box baking soda/Toboggi)
- Sodium hydroxide (1 plastic of caustic soda)
- Sulfuric acid (1.5 L battery acid/acid water)

ADDITIONAL MATERIALS (useful but not essential, buy them if you can)

Chemistry

- Centrifuge (1)
- Centrifuge tubes (8)
- Crucible (8)
- Dropper bottle (10 to 15)
- Evaporating dish (8)
- Glass rod (10)
- Mortar and pestle (8)
- Pipe clay triangle (8)
- Separating funnel (1)
- Spatula (10)
- Stopper (30)
- Test tube holder (8)
- Tongs (8)
- Tripod stand (8)
- Wash bottle (8)
- Watch glass (10)
- Wire gauze (8)

Physics

- Bar magnets (10)
- Battery case (10)
- Calorimeter (5)
- C clamp [G clamp] (10)
- Compass (10)
- Convex mirror (5)
- Diverging lens (5)
- Hydrometer (1 to 5)
- Iron filings (100 g)
- Light bulb (10)
- Micrometer screw gauge (1 to 5)
- Pulley (10)
- Ray box (5 to 10)
- Resistance box (1 to 5)
- Rheostat (1 to 5)
- Tuning fork (5 to 10)
- Vernier calipers (1 to 5)

Biology

- Dissecting kit (5 to 10)
- Dissecting tray (5 to 10)
- Gentian violet (1 bottle)
- Magnifying glass (10 to 15)
- Methylene blue (1 bottle)
- Petri dish (30 sets)
- Models (several)

Chemicals

- Acetic acid (1 L)
- Aluminum sulfate (250 g)
- Ammonium chloride (500 g)
- Barium chloride (100 g)
- Calcium carbonate (250 g)
- Calcium chloride (250 g)
- Ethanol (1.5 L)
- Hydrochloric acid (1.5 L)
- Hydrogen peroxide (300 mL)

Chemicals (continued)

- Iron (II) sulfate (500 g)
- Iron (III) chloride (250 g)
- Magnesium sulfate (250 g)
- Marble chips (500 g)
- Methyl orange (50 g or 250 mL)
- Nitric acid (1 L)
- pH paper (2 packs of 100)
- Potassium permanganate (250 g)
- Silver nitrate (20 g or 100 mL)
- Sodium carbonate (500 g)
- Sodium thiosulfate (500 g)
- Whitewash (1 plastic)
- Zinc granules (250 g)
- Zinc nitrate (500 g)