

**SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM**

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	No. of Items	Materials and Equipment	
Core Science Subjects 40 students	✓ 1 Life Science Laboratory (including sink, storage, shower)	3	✓ NSTIC-developed Basic Science Equipment (1 package per 5 students):	✓ Shelves and Cabinets for Earth and Space equipment
	✓ 1 Chemistry Laboratory (including sink, storage, shower)	3	✓ Stand Base Assembly	
		3	✓ Stand Support	
	✓ 1 Physical Science Laboratory (including sink, storage, shower)	1	✓ Ring with stem	
		1	✓ Ø9.5mm x 250mm long Stand Rod	
	✓ 1 Computer Laboratory	1	✓ Ø9.5mm x 500mm long Stand Rod	
		1	✓ Ø12.7mm x 1000mm long Stand Rod	
	✓ 1 Storage Room (chemical and toxic substances)	2	✓ Multiclamp Assembly	
		6	✓ Universal Bosshead Assembly	
		2	✓ Universal Clamp Assembly	
		3	✓ Test Tube Holder	
		5	✓ Test Tube Rack	
		1	✓ Case 001 (with Cover and Base Sheathing)	
		1	✓ Case 002 (with Cover and Base Sheathing)	
		1	✓ Case 003 (with Cover and Base Sheathing)	
			✓ NSTIC-developed Mechanics Science Equipment (1 package per 5 students)	
		1	○ Cart-Rail System (includes Dynamic Carts, Motorized Cart, Rails, etc.)	
		1	○ Free-Fall Apparatus (includes Solenoid, Pad Switch, Synchro Box, Timer, etc.)	
		1	○ Hooke's Law Apparatus	

SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM

		1	○ Friction Apparatus	
		2	○ Lever Assembly	

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
		5	○ Pulley set:	
		2	• Double Pulley Assembly	
		3	• Single Pulley Assembly	
		7	○ Spring Balances:	
		2	• 10-Newton Spring Balance Assembly	
		3	• 5-Newton Spring Balance Assembly	
		2	• 2-Newton Spring Balance Assembl	
		1	○ C-Clamp with hook	
		2 sets	○ Hooked Masses:	
		2	• 500-gram Hooked Mass	
		2	• 250-gram Hooked Mass	
		4	• 20-gram Hooked Mass	
		1	○ Case 001 (with Cover and Base Sheathing)	
		1	○ Case 002 (with Cover and Base Sheathing)	
		1	○ Case 003 (with Cover and Base Sheathing)	
		1	○ Spare Parts:	
		1	• Worm with Axle Assembly	
		1	• Worm Gear A	
		1	• Spur Gear B	
		1	• Spur Gear C	
		1	✓ NSTIC-developed Thermocline Apparatus (1 package per 5 students)	

SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM

		1	✓ NSTIC-developed Heat Conductivity Apparatus ((1 package per 5 students)	
		1	✓ Aneroid Barometer Set (demonstration type)	
		1	✓ Aneroid Barometer Set (wall type)	

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
		4	✓ Hand Lens, at least 10x magnification	
		1	✓ Rain Gauge	
		2	✓ Protractor, plastic, 180º, semi-circular, 15cm diameter (minimum)	
		1	✓ Stopwatch, digital	
		1	✓ Balance, Triple-Beam	
		2	✓ Relief Globe, Ø 12 inches	
		6	✓ Bulb, flashlight size, 2.5 V, screw-type	
		3	✓ Bulb Socket, flashlight size, screw-type	
		1	✓ Penlight, 3 V, plastic case	
		1	✓ Anemometer with Wind Vane, handheld, digital direct reading	
		6	✓ Magnetic Compass	
		1	✓ AWG # 22 Wire, red, 250mm long with alligator clips at both ends	
		1	✓ AWG # 22 Wire, black, 250mm long with alligator clips at both ends	
		1	✓ AWG # 22 Wire, red, 500mm long with alligator clips at both ends	

SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM

		1	✓ AWG # 22 Wire, black, 500mm long with alligator clips at both ends	
		3 sets	✓ Bar Magnet, 6" x 3/4" x 1/4"	
		2	✓ U-shaped Magnet, 3" L x 3" W x 3/4" thick	
		6	✓ Graduated Cup, 200 ml. Capacity, plastic, transparent	
		3	✓ Meterstick, plastic	
		7	✓ Ring and Ball Apparatus	

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
		3	✓ Glass Rod, solid, Ø 6mm (minimum) x 300mm long (Insulator)	
		1	✓ Plastic Rod, solid, Ø 6mm (minimum) x 300mm long (Insulator)	
		1	✓ Wood Rod, solid, Ø 6mm (minimum) x 300mm long (Insulator)	
		1	✓ Copper Rod, solid, Ø 6mm (minimum) x 300mm long (Conductor)	
		1	✓ Aluminum Rod, solid, Ø 6mm (minimum) x 300mm long (Conductor)	
		1	✓ Steel Rod, solid, Ø 6mm (minimum) x 300mm long (Conductor)	
		1	✓ Celestial Globe	
		1	✓ Rock Samples Box, 24 compartments	
		1	✓ Telescope, astronomical	
		3	✓ Bunsen Burner, gas-type	
		4	✓ Tweezer, 6 1/2" long, stainless steel, self- closing, with wood handle & serated jaws	

SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM

		7	✓ Laboratory Tong, stainless steel, 8 3/4" long	
		11	✓ Test Tube Brush	
		1 box	✓ Hand Gloves, acid/solvent-resistant, super nitrile	
		20	✓ Safety Goggles	
		1	✓ Storage Cabinet, 1800 mm x 2000 mm x 500 mm	
		2	✓ Beaker, 250 ml., borosilicate	
		10	✓ Erlenmeyer Flask, 250 ml., borosilicate	
		6	✓ Stirring Rod, Ø 6mm x 250mm long	

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
		38	✓ Test Tube, Ø 16mm x 150.8mm long	
		510	✓ Glass Tubing, Ø 4mm x 1220mm long	
		6	✓ Vial, Ø 12mm x 75mm long	
		3	✓ Graduated Cylinder, 100 ml. capacity	
		16	✓ Graduated Cylinder, 10 ml. Capacity	
		6	✓ Glass Funnel, Ø 50mm (Top Inside Diameter), 100mm long Stem	
		9	✓ Petri Dish, Ø 100mm (minimum)	
		7	✓ Watch Glass, Ø 100mm (minimum)	
		5	✓ Reagent Bottle, 250 ml. capacity	
		6	✓ Glass Tubes, Hematocrite, 100's/pack (for experiments in capillarity)	
		3	✓ Glass Tube, 3mm OD x 1200mm long (for experiments in capillarity)	

**SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM**

		3	✓ Glass Tube, 6mm OD x 1200mm long (for experiments in capillarity)	
		1	✓ Hydrometer, Specific Gravity: 0.700 - 2.000, 15" long	
		9	✓ Alcohol Thermometer, -20°C to 110°C	
		2	✓ Evaporating Dish, 75 ml. capacity	
		3	✓ Alcohol Burner, glass, 120 ml. Capacity	
		6	✓ Mortar and Pestle, 300 ml. Capacity	
		5	✓ Syringe, 10 ml. Capacity, without needle	
		3	✓ Medicine Dropper, 2 ml. capacity	
		1	✓ Triangular File, 6" long, with handle	

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
Biology STEM	□	11	✓ Digital Microscope or better	✓ Digitized Science Equipment: ○ pH Sensor with computer interface/software ○ Sensor Extension Cable ○ Barometer Pressure Sensor with computer interface/software ○ Electronic Balance ○ Carbon Dioxide Sensor with computer interface/software ○ Oxygen Gas Sensor wuth computer interface/software ○ Quick Release Connector ○ Skin/Surface Temperature Probe ○ Introduction & use of dichotomous keys Kit ○ Microscope, halogen illumination (4x, 10x, 40xR, and 100xR)
		4	✓ Hand Lens, at least 5x magnification	
		1	✓ Balance, Triple-Beam	
		1 set	✓ Cork Borers, 4mm to 20mm OD, 12 borers/set	
		3	✓ Tripod, Height: 6"	
		20	✓ Cork Stopper for Ø 16mm test tube	
		13	✓ Rubber Stopper for Ø 16mm test tube	
		6	✓ Rubber Stopper # 6 with 2 holes	
		2	✓ Filter Paper, ordinary, 24" x 24" sheet	
		1	✓ Litmus Paper Strips, blue, 100's/vial	
		1	✓ Litmus Paper Strips, red, 100's/vial	
		1 box	✓ Hand Gloves, acid/solvent-resistant, super nitrile (1:1)	

**SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM**

		20	✓ Safety Goggles (1:1)	○ Dissecting Microscope
		1	✓ Storage Cabinet, 1200mm x 600mm x 2000mm	○ Examining Bacteria through infusion laboratory investigation Kit
		38	✓ Test Tube, Ø 16mm x 150mm long	○ Bio Laminar Flow Hood
		2	✓ Evaporating Dish, 75 ml. capacity	(equipped for growth and preparation of cultures)
		6	✓ Glass Funnel, Ø 50mm (Top Inside Diameter), 75mm long Stem	○ Nutrient Agar Culture Media
		9	✓ Petri Dish	○ Incubator
		2	✓ Beaker, 250 ml., borosilicate	○ Laboratory Oven Accessories
		9	✓ Alcohol Thermometer, -20°C to 110°C	
		6 boxes	✓ Glass Slides, 100's/box	
		3 boxes	✓ Glass Cover Slips, 100's/box	
		3	✓ Graduated Cylinder, 100 ml., borosilicate	
		10	✓ Erlenmeyer Flask, 250 ml., borosilicate	

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
		6	✓ Stirring Rod, Ø 6mm x 250mm long	
		3	✓ Alcohol Burner, glass, 120 ml. capacity	
		16	✓ Graduated Cylinder, 10 ml., borosilicate	
		7	✓ Watch Glass, Ø 90mm	
		6	✓ Mortar and Pestle, 300 ml. capacity	
		3	✓ dissecting set or scalpel & forceps	
		3	✓ Wash Bottle, plastic, 250 ml.	
		3	✓ Medicine Dropper, 2 ml. capacity	
Chemistry	□	9	✓ Alcohol Thermometer, -20°C to 110°C	✓ Digitized Science Equipment:
		16	✓ Graduated cylinder, 10 ml cap, borosilicate	○ SPARK Science Learning System

**SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM**

		3	✓ Graduated Cylinder, 100 ml., borosilicate*	○ Fast Response Temperature Sensor (3 packs) with computer interface/software
		38	✓ Test Tube, Ø16mm x 150mm long	○ Skin/Surface Temperature Probe
		10	✓ Wire Gauze, 140mm x 140mm (minimum)	○ Sensor Extension Cable
		6	✓ Stirring Rod, Ø 6mm x 250mm long	○ Hot Plate
		2	✓ Evaporating Dish, 75 ml. capacity	○ Absolute Pressure Sensor with computer interface/software
		1	✓ Electrolysis Apparatus, Hoffman-type	○ Water Quality Sensor with computer interface/software
		3	✓ Alcohol Burner, glass, 60 ml. capacity	○ Turbidity Sensor with computer interface/software
		7	✓ Watch Glass, Ø 90mm	Barometer Sensor with computer interface/software
		3	✓ Distilling Flask, 250 ml.	
		4	✓ Volumetric Flask, 250 ml.	
		10	✓ Erlenmeyer Flask, 250 ml., borosilicate	
		8	✓ Beaker, 500 ml, borosilicate	
		2	✓ Beaker, 250 ml, borosilicate	
		4	✓ Beaker, 100 ml, borosilicate	
		7	✓ Beaker, 50 ml, borosilicate	
		2	✓ Reagent Bottle, narrow mouth amber color (250 ml. capacity)	

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
		3	✓ Reagent Bottle, wide mouth colorless (250 ml. capacity)	○ Electronic Balance – top loading
		6	✓ Glass Funnel, Ø 50mm (Top Inside Diameter), length of stem: 75mm	○ Quick Release Connector
		1 set	✓ Cork Borers, 4mm to 20mm OD, 12's/set	○ Accessories and various chemical solutions
		1	✓ Burette, 25 ml. Capacity (acid)	Magnetic stirrer

**SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM**

		1	✓ Burette, 25 ml. Capacity (base)	
		510	✓ Glass Tubing, Ø 6mm x Ø 4mm x 1220mm long	
		6	✓ Vial, Ø 6mm x 50mm long	
		1	✓ Hydrometer for light liquids	
		1	✓ Hydrometer for heavy liquids	
		4	✓ Condenser, Liebig-type	
		5	✓ Graduated Pipette, 10 ml. Capacity	
		3	✓ Balance, Double-Beam, 2610-gram capacity	
		4	✓ Spatula , porcelain	
		6	✓ Mortar and Pestle, 150 ml. capacity	
		1	✓ Calorimeter	
		1	✓ Osmosis Apparatus	
		1	✓ Electrical Conductivity Apparatus	
		1	✓ pH Meter, range: 0 to 14 pH	
		1	✓ Open U-tube Manometer (and Accessories)	
		2	✓ Phenolphthalein Indicator, 100 grams/bottle	
		1	✓ Litmus Paper Strips, blue, 100's/vial	
		1	✓ Litmus Paper Strips, red, 100's/vial	
		4	✓ Universal pH Paper, ph 0-14, 100 strips/pack	
		2	✓ Filter Paper, ordinary, 24" x 24" sheet	
		13	✓ Rubber stopper for Ø 16mm test tube	

Essential program will not run/not be implemented without these	Supplemental will enhance/ enrich implementation
--	---

SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM

Track	Facilities	Number of Items	Materials and Equipment	
		8	✓ Rubber stopper for 250 ml Erlenmeyer flask , with 1 hole	
		4	✓ Rubber stopper for 250 ml Erlenmeyer flask , with 2 holes	
		2	✓ Cork stopper for 250 ml Erlenmeyer flask , with 1 hole	
		7	✓ Cork stopper for 250 ml Erlenmeyer flask , with 2 holes	
		11	✓ Cork stopper for Ø 16mm test tube	
		1	✓ Chart on Periodic Table of Elements, tarpaulin, 36" x 72"	
		2	✓ Poster on Laboratory Safety Rules, 30" x 40", tarpaulin, wall mount	
		2	✓ Poster on Basic Laboratory Apparatuses, 30" x 40", tarpaulin	
		1	✓ Laser Pointer, dual-function, with dry cells	
		1 box	✓ Hand Gloves, acid/solvent-resistant, super nitrile	
		20	✓ Safety Goggles (1:1)	
		11	✓ Test Tube Brush	
		1	✓ Rubber Tube, Ø 10mm x Ø 8mm x 2000 mm long, Latex	
		5	✓ Syringe, 5 ml. Capacity, plastic	
		1	✓ Storage Cabinet for corrosive materials	
		1	✓ Storage Cabinet for non-corrosive materials	
		1	✓ Triangular File, 6" long, with handle	
		1	✓ stainless steel screw #6	

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	

**SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM**

		1 box 1 roll 1 9 6 1	✓ connecting wires red and blue ✓ copperwires ✓ stripping knife ✓ bulldog type clips ✓ measuring cup ✓ iron stand and burette clamp	
Physics	□	1 1 2 2 2 2 1 1 1 1 1 set 1 box 1 12 2 1	✓ Open U-tube Manometer (and Accessories) ✓ Air Blower, variable speed control ✓ Set of Connectors: ✓ AWG # 22, black, 300mm long with alligator clip and banana plug on ends ✓ AWG # 22, red, 300mm long with alligator clip and banana plug on ends ✓ AWG # 22, white, 300mm long with banana plugs on both ends ✓ AWG # 22, blue, 300mm long with banana plugs on both ends ✓ Resistance Box ✓ Switch, knife-type ✓ Multitester/Multimeter ✓ Galvanometer ✓ Set of Coils ✓ Motor-Generator Model Experiment Set ✓ Advanced Electromagnetism Kit ✓ Basic Electronics Kit ✓ Fuse Holder with Fuse ✓ Variable Power Supply, AC-DC	○ Archimedes Principle Apparatus ○ Digitized Science Equipment: ○ Voltage/Current Sensor with computer interface/software ○ Oscilloscope ○ Complete Robotics Kit (to include hardware, software, and accessories) ○ Force Table ○ Motion Sensor (free-fall adapter for CAE experiments) with interface/software ○ Force Sensor with computer interface/software

**SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM**

Essential program will not run/not be implemented without these				Supplemental will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
		4	✓ Tuning Fork Set (set of 8 tuning forks)	○ Moment Apparatus ○ Pressure Sensor (for fluid mechanics) with computer interface/software ○ Tesla (magnetic field) Sensor with computer interface/software ○ Engine Model ○ Refrigeration Model ○ Electrophysiology Sensor with computer interface/software ○ Transmitter Receiver for radio based communication (computer-based) ○ Ticker timer w/ ticker tapes (rolls) ○ Transformers ○ Robotics Set ○ Set of Tools ○ Screwdriver, flat, 6" ○ Screwdriver, phillips, 6" ○ Long Nose Pliers, 6" ○ Mechanical Pliers, 6" ○ Soldering Iron, 60 watts
		3	✓ Loudspeaker, > 1 watt, all frequency or low range, 4-8 Ohms	
		3	✓ Slinky Coil, metal, Ø3" x 4" long	
		1	✓ DC String Vibrator with String	
		1 set	✓ Basic Lens Set (set of 7 lenses)	
		2	✓ Mirror Set (set of 3 mirrors)	
		2	✓ Prism , right-angle, acrylic, 28 x 38 x 75mm	
		1	✓ Refraction Blocks (1 set is composed of 1 pc Glass & 1 pc Acrylic)	
		1	✓ Refraction Tank	
		1	✓ Student Optical Bench Set with Meterstick	
		1	✓ Multitester/Multimeter	
		2	✓ Beaker, 500 ml., polypropylene plastic	
		4	✓ Florence Flask, 250 ml., polymethylpentene	
		12	✓ Dry Cell. 1.5 V, size D , ISO Certified	
		3	✓ Dry Cell, 9 V, ISO Certified	
		1	✓ Logic Gates Trainer Kit	
		1	✓ Balance, Triple-Beam	
		1	✓ Basic Radioactivity Kit	

Essential	Supplemental
-----------	--------------

SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM

program will not run/not be implemented without these				will enhance/ enrich implementation
Track	Facilities	Number of Items	Materials and Equipment	
		1 1 set 2 pcs 1 pc 5 meter 1 can 1 set		○ Ball Peen Hammer, length including handle is 11", 300-350 grams ○ Precision Screwdrivers Set, 6 pcs, with plastic casing ○ Tweezers, stainless steel, with curved tips, 6 1/2" long ○ Diagonal Cutters, 6" ○ Soldering Wire, Ø1mm, Grade 60/40, Wt.: 1 lb/spool ○ Soldering Paste, 50 grams/can - Resonance Tube Set, open- ended - Sound Signal Generator Kit

Prepared By:

Science Laboratory Coordinator

Property Custodian

**SHS REQUIREMENTS:
Facilities, Materials and Equipment STEM**

Noted By:

Principal

School Director

Attested by:

MARLON S. MARQUEZ
EPS/in Charge of Private Schools

RHEA A. TOLENTINO
EPS II-SMME

CECILIA D. RAMIREZ
EPS/in Charge of Private Schools

FERDINAND C. PASCUAL
SGOD-CHIEF