

**SUPPLY AND DELIVERY OF 2,882 SCIENCE AND MATHEMATICS
EQUIPMENT PACKAGES TO 584 PUBLIC JUNIOR HIGH
SCHOOLS FOR GRADES SEVEN (7) TO TEN (10)**

**SCIENCE AND MATHEMATICS EQUIPMENT
(Market Items)
INSPECTION AND TEST PROTOCOL**

ITEM	PROCEDURE
Aneroid Barometer Set (Demonstration Type)	<ul style="list-style-type: none"> (a) Do dimensional inspection. Measure the diameter of the item. (b) There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. (c) The items demonstrated and obtained changed into pressure by compressing the rubber bulb.
Aneroid Barometer Set (Wall Type)	<ul style="list-style-type: none"> (a) Do dimensional inspection. Measure the diameter of the item. (b) There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. (c) The items demonstrated and obtained changed into pressure by compressing the item inside a plastic bag with air.
Cork Stopper # 16 with 1 hole	<ul style="list-style-type: none"> (a) Conduct visual inspection. There must have one hole, no cracks, no scratches, and other deficiencies/defects on the item. (b) Do dimensional inspection. Measure the height; 38 mm, top Ø:35 mm and bottom diameter: 28 mm, of the item; with dimension tolerance: $\pm 0.5\text{mm}$ (c) Do the fitting test to validate the level of performance and accuracy of the item by inserting the cork stopper into the mouth of a 250 mL Erlenmeyer flask and see if it perfectly fits.
Cork Stopper # 16 with 2 holes	<ul style="list-style-type: none"> (a) Conduct visual inspection. There must be two holes, no cracks, no scratches, and other deficiencies/defects on the item. (b) Do dimensional inspection. Measure the height; 38 mm, top Ø:35 mm and bottom diameter: 28 mm, of the item; with dimension tolerance: $\pm 0.5\text{mm}$ (c) Do the fitting test; to validate the level of performance and accuracy of the item by inserting it into the mouth of a 250 mL Erlenmeyer flask and if it perfectly fits .

Cork Stopper # 5 (for Ø 16mm test tube)	<ul style="list-style-type: none"> (a) Conduct visual inspection. There must be no cracks, no scratches, and other deficiencies/defects on the item. (b) Do dimensional inspection. Measure the height; 38 mm, top Ø:35 mm and bottom diameter: 28 mm, of the item; with dimension tolerance: $\pm 0.5\text{mm}$ (c) Do the fitting test; to validate the level of performance and accuracy of the item by inserting it into the mouth of 16 mm test tube and if it perfectly fits.
Dry Cell, 9 V	<ul style="list-style-type: none"> (a) The dry cell shall be first subjected to visual inspection to check for cracks, broken/detached parts and other defects. (b) The item then will be crossed checked against the specifications set by the end user. (c) Functionality test: The dry cell should show not less than 9 volts when measured using BLR reference multi meter.
Dry Cell. 1.5 V, size D	<ul style="list-style-type: none"> (a) The dry cell shall be first subjected to visual inspection to check for cracks, broken/ detached parts and other defects. (b) The item then will be crossed checked against the specifications set by the end user. (c) Functionality test: The dry cell should show not less than 1.5 volts (fresh) when measured using BLR reference multi meter.
Hand Lens, 10x magnification (Loupe 10x magnifier)	<ul style="list-style-type: none"> (a) Do dimensional inspection. Measure the diameter of the lens. (b) Do functionality test by determining the focal length through magnification. It is by placing the magnifying lens between a distant object and screen (or wall), moving either the lens or screen until a sharp focused image of the distant object is attained, and such distance between the lens and focused image is the focal length which should not greater than 2.5 cm as already mentioned above.
Hand Lens, at least 5x magnification (Minimum Lens Diameter: 50 mm)	<ul style="list-style-type: none"> (a) Perform dimensional inspection as to the diameter of the lens. (b) To verify 5x magnification power, the focal length should not be greater than 60 mm. The focal length is the distance from the magnifying lens to the object behind the lens when the object is in focus. (c) To verify glass lens, gently tap with a small rounded metal object (like a penny or wedding ring), the sound must be clear and high-pitched “tink” (plastics will render a soft “thud”). Temperature can also be a method of distinguishing between glass and plastic. When exposed

	<p>to a cold surroundings, glass lenses will be noticeably cold to the touch while plastic will seem like a neutral temperature. As to weight, glass is heavier than plastic.</p>
Rubber Stopper # 0 (for Ø 16mm test tube)	<ul style="list-style-type: none"> (a) Conduct visual inspection. There must be no cracks, no scratches, and other deficiencies/defects on the item. (b) Do dimensional inspection. Measure the height: 25 mm, top Ø: 17 mm and bottom Ø: 13 mm. Dimension tolerance on height, top and bottom diameter: ± 0.5 mm (c) Do hardness test by using the durometer. Hardness: 55-65 Duro (d) Do fitting test to validate the level of performance and accuracy of the item by placing the bottom part of the rubber stopper into the mouth of a 16 mm x 150 mm test tube, and see if it fits well.
Rubber Stopper # 6 with 1 hole	<ul style="list-style-type: none"> (a) Conduct visual inspection. There must be one hole in the stopper, no cracks, no scratches, and other deficiencies/defects on the item. (b) Do dimensional inspection. Measure the height: 25mm, top Ø: 32mm, bottom diameter: 26 mm, and hole diameter: 5 mm. Dimension tolerance on height, top and bottom diameter: ± 0.5 mm (c) Do hardness test by using the durometer. Hardness: 55-65 Duro (d) Do fitting test to validate the level of performance and accuracy of the item by placing the bottom part of the rubber stopper into the mouth of 250 mL Erlenmeyer flask, and see if it fits well.
Rubber Stopper # 6 with 2 holes	<ul style="list-style-type: none"> (a) Conduct visual inspection. There must be two holes in the stopper, no cracks, no scratches, and other deficiencies/defects on the item. (b) Do dimensional inspection. Measure the height: 25 mm, top Ø: 32 mm, bottom diameter: 26 mm, and hole diameter: 5 mm. Dimension tolerance on height, top and bottom diameter: ± 0.5 mm (c) Do hardness test by using the durometer. Hardness: 55-65 Duro (d) Do the fitting test to validate the level of performance and accuracy of the item by placing the bottom part of the rubber stopper into the mouth of a 250 mL distilling flask/ Erlenmeyer flask and see if it fits well.
Set of Connectors (# 18 copper, AWG stranded):	<ul style="list-style-type: none"> (a) The set of connectors shall be first subjected to visual inspection to check for quality of solder connections, broken connections or detached parts, and other defects.
Black, 350mm long with alligator clip on one end and banana plug on the other end	

Red, 350mm long with alligator clip on one end and banana plug on the other end	(b) The item then will be crossed checked against the specifications set by the end user (c) The set of connectors will be simultaneously tested with the light bulb, light holder assembly, and dry cells with holders.
White, 350mm long with alligator clip on one end and banana plug on the other end	
Blue, 350mm long with alligator clip on one end and banana plug on the other end.	
Set of Tools:	(a) Each tool in the set shall be first subjected to visual inspection to check for cracks, broken joints or detached parts, and other defects. (b) The item then will be crossed checked against the specifications set by the end user. (c) Functionality: Each tool will be tried out for the function it is intended to do.
Screwdriver, flat, 6", 1 pc/set	
Screwdriver, phillips, 6", 1 pc/set	
Long Nose Pliers, 6", 1 pair/set	
Mechanical Wire Cutter and Pliers, 6.5", 1 pair/set	
Soldering Iron, 60 watts, 1 pc/set	
Ball Peen Hammer, handle length is 11", 350g approx. weight, 1 pc/set	
Precision Screwdrivers Set, 6 pcs/set, with plastic casing, 1 set/set	
Tweezers, stainless steel, with curved tips, 6.5" long, 1 pair/set	
Soldering Lead, Ø1mm, Grade 60/40, Wt.: 1 lb/spool, 1 spool/set	
Soldering Paste, 50 grams/can, 1 can/set	

Beaker, 100 ml, borosilicate	(a) Conduct visual inspection. Check for: <ol style="list-style-type: none"> 1. clear and transparent bubble-free glass 2. permanent white graduations and large white marking spot 3. with easy pour spout 4. permanent white marking of 100 mL; ± 5% enamelled onto the glass 5. with single graduated metric scale 6. graduation starts at 20 mL in 10 mL increments, and 7. graduation range of 20-80 mL 8. scratch test: scratch using your nails the white graduations and large white markings to test for the
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	<p>peel and adhesion properties of embossed brand and permanency of graduations, and other markings</p> <p>9. There must be no breakage, no bubbles, no chipped rims, no sharp rims, no cracks, no scratches, and other deficiencies/defects on the item.</p> <p>10. dimensional inspection. Measure the thickness range: 1.5 to 2.0 mm, and height range: 70-72 mm, and outside diameter range:50-52 mm.</p> <p>(b) Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index, the glass can no longer be seen or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass</p> <p>(c) Do volumetric test, by measuring 100 mL of water using a standard 100 mL graduated cylinder, and pour into it; to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. The capacity must be 100 mL, $\pm 5\%$</p> <p>(d) Inspect if it has a brand</p>
Beaker, 1000 ml., borosilicate	<p>(a) Conduct visual inspection as to bubbles, cracks, scratches and sharp edges;</p> <p>(b) Perform dimensional measurements as to diameter, height and thickness;</p> <p>(c) Perform volumetric tests using a standard tool in measuring its capacity;</p> <p>(d) Perform functionality test by subjecting the glassware to heat up to the boiling point of water (100°C);</p> <p>(e) Perform borosilicate test. Borosilicate glass can be readily identified by its refractive index, 1.474. By immersing the glass in a container of liquid of similar refractive index, the glass will disappear. (Liquids with similar refractive index as to borosilicate glass are vegetable oil, 1.47 and glycerine, 1.473).</p>
Beaker, 250 ml., borosilicate	<p>1. Conduct visual inspection. Check for:</p> <p>(a) clear and transparent bubble-free glass</p> <p>(b) permanent white graduations and large white marking spot</p>

	<ul style="list-style-type: none"> (c) with easy pour spout (d) permanent white marking of 250 mL; $\pm 5\%$ enamelled onto the glass (e) with double graduated metric scale (f) marking graduation to fill: starts at 25 mL in 25mL increments (g) marking graduation to empty : starts at 0 mL-150 mL in 25 mL increments (h) graduation range of 25-200 mL (i) scratch test: scratch using your nails the white graduations and large white markings to test for the peel and adhesion properties of embossed brand and permanency of graduations, and other markings (j) There must be no breakage, no chipped rims, no sharp edges, no crack rims, no scratches, and other deficiencies/defects on the item. <ol style="list-style-type: none"> 2. Do dimensional inspection. Measure the thickness range:1.5 to 2.0 mm, height range: 90-92mm, and outside diameter range: 70-72 mm. 3. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index, makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass 4. Do volumetric test, by measuring 250 mL of water using a standard 100 mL graduated cylinder, and pour into it to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. The capacity must be 250mL; $\pm 5\%$ 5. Inspect if it has a brand
Beaker, 50 ml, borosilicate	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ul style="list-style-type: none"> (a) clear and transparent bubble-free glass; (b) permanent white graduations and large white marking spot (c) with easy-pour spout (d) permanent white marking of 50 mL; $\pm 5\%$ embossed onto the glass (e) with single graduated metric scale graduation starts at 10 mL in 10 mL increments, (f) graduation range of 0-40 mL (g) scratch test: scratch using your nails the white graduations and large white markings to test for the

	<p>peel and adhesion properties of embossed brand and permanence of graduations, and other markings</p> <p>(h) There must be no breakage, no bubbles, no chipped rims, no sharp rims, no cracks, no scratches, and other deficiencies/defects on the item.</p> <ol style="list-style-type: none"> 2. Do dimensional inspection. Measure the height range: 52-55mm, outside diameter range: 40 to 42 mm, and thickness range: 1.5 to 2.0 mm. 3. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index, makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass) 4. Do volumetric test, by measuring 50 mL of water using a standard 10 mL graduated cylinder, and pour into it; to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. The capacity must be 50mL; $\pm 5\%$ 5. Inspect if it has a brand
Beaker, 500 ml, borosilicate	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) clear and transparent bubble-free glass (b) permanent white graduations and large white marking spot (c) with spout (d) permanent white marking of 500 mL; $\pm 5\%$ embossed onto the glass (e) with double graduated metric scale (f) marking graduation to fill starts at 50 mL in 50 mL increments (g) mark to empty: graduation to empty starts at 0 mL in 50 mL increments (h) graduation range: 50-450 mL (i) scratch test: scratch using your nails the white graduations and large white markings to test for the peel and adhesion properties of embossed brand and permanency of graduations, and other markings (j) There must be no breakage, no bubbles, no chipped rims, no sharp rims, no cracks, no scratches, and other deficiencies/defects on the item.

	<ol style="list-style-type: none"> 2. Do dimensional inspection. Measure the height range: 136-138 mm, outside diameter range: 75-78 mm, and thickness: 1.5 to 2.0 mm. 3. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass. 4. Do volumetric test, by measuring 500 mL of water using a standard 100 mL graduated cylinder and pour into it, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 5. Inspect if it has a brand
<p>Graduated Cylinder, 10 ml. capacity</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It must be of bubble-free, clear and transparent glass (b) All markings are in permanent white enamel; scale never washes out (c) With funnel top (d) With single metric scale with plastic bumper guard (e) It must have a non- detachable glass hexagonal base (f) With capacity: 10 mL and Tolerance: ± 0.05 enameled onto the glass (g) graduation range: 1 to 10 mL (h) graduation interval: 0.10 mL (i) scratch test: scratch using your nails the white graduations and large white markings of the graduated test tubes to test for the peel and adhesion properties of enamelled brand and permanency of graduations, and other markings (j) There must be no breakage, no bubbles, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects/deformities on the item 1. Do dimensional assessment. Check the height range: 178-180 mm, outside diameter range: 13-15 mm and thickness range: 1.3-1.4 mm measurements. 2. It should be stable and level when laid on a flat surface.

	<p>3. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass.</p> <p>4. Do volumetric test, by measuring 10 mL of water using a standard 10 mL graduated cylinder, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. The capacity must be 10 mL; tolerance: ± 0.05</p> <p>e) Inspect if it has a brand</p>
<p>Graduated Cylinder, 100 ml. capacity</p>	<p>1. Conduct visual inspection.</p> <ul style="list-style-type: none"> (a) It must be bubble-free, borosilicate, clear and transparent glass (b) All markings are in permanent white enamel; scale never washes out (c) Full ring marks at major graduations only; Graduation marks for subgraduates must not be in full ring marking (d) with single metric scale with plastic bumper guard with single graduated metric scale (e) with plastic bumper guard (f) with spout and must have a non-detachable glass hexagonal base (g) with permanent white enamel marking of 100 mL ; tolerance: ± 0.5 mL enamelled onto the glass and (h) with graduation range from 5 to 100 mL; graduation interval: 1.0 mL (i) scratch test: scratch using your nails the white graduations and large white markings of the graduated test tubes to test for the peel and adhesion properties of embossed brand and permanency of graduations, and other markings (j) There must be no breakage, no bubbles, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects/deformities on the item <p>2. Dimensional assessment. Check the thickness range: 1.3-1.4 mm, outside</p>

	<p>diameter range: 29-30 mm and height range: 254-255 mm, measurements. It should be stable and level when laid on a flat surface.</p> <ol style="list-style-type: none"> 3. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass. 4. Do volumetric test, by measuring 100 mL of water using a standard 100 mL graduated cylinder and pour into it, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. The capacity must be 100 mL, tolerance: ± 0.60 mL 5. Inspect the plastic parts as to its surface finish. The color should conform to what is specified in the technical specifications. There must be no warping of material. 6. Inspect if it has a brand
<p>Reagent Bottle, narrow-mouth, amber glass (250 ml, capacity)</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) clear, amber colored glass, (b) narrow mouth with ground-in plastic stopper (c) There must be no breakage, bubble-free, no chipped rims, no sharp rims, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do dimensional inspection. Measure the over-all height range: 134 to 142 mm, bottle diameter range: 68 to 70 mm and neck inside diameter range: 24 to 28 mm. 3. Do volumetric test, by measuring 250 mL of water using a standard 100 mL graduated cylinder, and pouring into it; to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 4. Inspect if it has a brand
<p>Reagent Bottle, wide-mouth, transparent glass (250 ml, capacity)</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) clear, transparent glass (b) wide-mouth with ground-in glass stopper; (c) with air tight seal (d) There must be no breakage, bubble-free, no chipped rims, no sharp rims, cracks, no scratches,

	<p>and other deficiencies/defects on the item.</p> <ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the height range: 132 to 142 mm, bottle diameter range: 69 to 73mm, and mouth diameter range: 40 to 44 mm. 2. Do volumetric test, by measuring 250 mL of water using a standard 100 mL graduated cylinder, and pouring into it; to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 3. Inspect if it has a brand
Vial, screw-neck, 25 ml. (with screw-type plastic cap)	<ol style="list-style-type: none"> 1. Conduct Visual inspection. Check for: <ol style="list-style-type: none"> (a) screw neck vials with screw-type plastic cap (b) clear and bubble-free glass (c) There must be no breakage, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do dimensional inspection. Measure the length: 70-76 mm, and outside diameter: 26 to 30 mm 3. Do volumetric test, by measuring 25 mL of water using a standard 10 mL graduated cylinder and pour into it, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 4. Inspect if it has a brand
Vial, screw-neck, 50 ml. (with screw-type plastic cap)	<ol style="list-style-type: none"> 1. Conduct Visual inspection. Check for: <ol style="list-style-type: none"> (a) screw neck vials with screw-type plastic cap (b) clear and bubble-free glass (c) There must be no breakage, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do dimensional inspection. Measure the length: 100-120 mm, and outside diameter: 26 to 30 mm 3. Do volumetric test, by measuring 50 mL of water using a standard 10 mL graduated cylinder and pour into it, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 4. Inspect if it has a brand
Balance, triple-beam	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) the presence of lead counterweights

	<ul style="list-style-type: none"> (b) rust free single pan, triple beams magnetically damped and with spring- loaded zero adjust compensator (c) balance is constructed on a cast metal base with corrosion resistant finish. Main beam is made of aluminum alloy, stainless steel weighing pan with self-aligning agate bearings, precision ground steel knife edges and fixed adjustment knob (d) with iron stand assembly as an accessory for fastening on the table (e) capacity: 2610 g /0.1 g readability (f) with three beam graduations: rear beam: 100g x 10g; center beam:500g x 100g; front beam:10g x 0.1 g (g) with three separate masses: 2 pc counter weights for 1,000 grams and 1 pc counter weight for 500 grams (h) There must be no chipped edges, no sharp edges, no cracks, no scratches, rust-free and other deficiencies/defects on the item. (i) For durability and sensitivity, parts must withstand corrosive environment/solutions <ol style="list-style-type: none"> 2. Measure its weighing platform dimension: 150 mm diameter. 3. Do function test, by measuring a sample to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 4. Check the User's Manual and assembly guides in English 5. Inspect if it has a brand
Electrical Conductivity Apparatus	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ul style="list-style-type: none"> (a) molded plastic lamp socket on a PVC cover, provided with two (2) binding posts (1 red, 1 black) for connection of two connecting wires (b) with cover designed to fit a clear bubble free glass jar/container. (c) two electrodes internally connected to the lamp circuit, a carbon rod (anode) and a copper wire (cathode) Length of electrodes: 60 mm (d) with a clear bubble free glass jar/ tumbler/container with 200 mL cap. (e) inspect the glass jar. There must be no breakage, no bubbles, no chipped rims, no sharp rims, no

	<p>cracks, no scratches, and other deficiencies/defects on the item</p> <ul style="list-style-type: none"> (f) with 10 pc light bulb, miniature type, 3.8 V/0.3A (g) with a small lamp connected in series into the lead to the copper electrode as an indicator that a current is flowing. (h) With Power Supply: Input voltage:220/240 V AC; Output voltage: With (0,3.0,4.5, 6.0, 9.0) V with switch selector) With 4 AA batteries with 1 chamber battery holder (i) With two stranded connecting wires (1 red, 1 black); with alligator clips (1 red, 1 black) soldered on one end of each wire with banana plugs (1 red, 1 black) soldered on the other end of each wire <p>2. Do dimensional assessment:</p> <p>Measure dimensions: 75-80 mm x 75-80 mm x 130 mm of the glass Measure the length of the stranded wire: 12 “, Gauge no. 20</p> <p>3. Complete with a padded storage box to help prevent glass breakage.</p> <p>4. Do function test, by performing the Electrical Conductivity of Substances, wherein conductors/electrolytes cause the bulbs to light while non-conductors/non-electrolyte will not cause the bulbs to light; to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met.</p> <p>5. Do volumetric test, by measuring 200 mL of water using a standard 100 mL graduated cylinder and pour into glass jar, to verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met.</p> <p>6. Check operations manual, assembly guide and activity sheets in English</p> <p>7. Inspect if it has a brand</p>
Microscope Prepared Slide Set, 25's	<ul style="list-style-type: none"> 1. In the evaluation of the item, the technical specifications will be used as reference. 2. Inspect the quality of specimen slides and packing requirement.
Microscope, Compound, 4 Objectives	<ul style="list-style-type: none"> (a) Inspect the completeness of its parts and the quality of eyepiece and objective lenses; (b) Inspect the availability of the English User's manual;

	<p>(c) To verify glass lens, compute its specific gravity in g/cm^3. Specific gravity is the ratio of the density of a substance to the density of a standard, usually water for a liquid or solid. Glass lens has a minimum specific gravity of 2.5 depending on the type of glass. (https://www.abdo.org.uk/wp-content/uploads/2012/06/CET139.pdf)</p> <p>(d) Perform functionality test to validate the following:</p> <ul style="list-style-type: none"> d.1) sharp, clear and well lighted images on viewed specimens; d.2) easy to turn nosepiece with accurate centering and click stops; d.3) no loosened arm or inclination joint; d.4) stable and properly aligned stage; d.5) efficient performance of mechanical stage clips d.6) not defective fine focus and coarse adjustment knobs d.7) not defective mirror d.8) body tube must not slide down on its own (the rack and pinion gear assembly should not be loose)
Optical Bench Set	<ol style="list-style-type: none"> 1. Each component of the optical bench set shall be first subjected to visual inspection to check for cracks, broken/detached parts and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. The optical bench components will be assembled as per activity requirement to check the stability of the components. This is very important for the functional application of the optical bench set.
Telescope, Astronomical (Reflecting)	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the length, width, and thickness. 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 3. Do functionality test to validate the level of performance through observing clearly far locating objects.

Basic Lens Set, acrylic	<ol style="list-style-type: none"> 1. Each lens in the set shall be first subjected to visual inspection to check for cracks, stained surfaces, scratches and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. The lens will be tested for density using displacement method to verify the kind of material the lens is made of.
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Beaker Tong	<ol style="list-style-type: none"> 1. Inspect the quality of material. Nickel plated looks yellowish (tinge). 2. Perform dimensional measurement. 3. Perform functionality test to validate the holding capacity of the tong
Cork Borers	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) the nickel plated steel borers with teeth and plastic handle (b) set of 6 (4.7- 12.7 mm) (c) handles of cork borers are individually and permanently numbered (d) presence of steel ramrod /eject rod (e) rust-free; no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do function test, by boring a hole in the rubber or cork stopper 3. Do dimensional inspection. Measure the diameters of the six (6) borers ranging from .7 mm, 6.3 mm, 7.8 mm and 12.7 mm) 4. Inspect if it has a brand
DC Ammeter	<ol style="list-style-type: none"> 1. The DC Ammeter shall be first subjected to visual inspection to check for cracks, broken connections or detached parts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. Functionality: The ammeter undergoing evaluation will be used to measure current through a 100 Ohm resistor powered by 1, 2, 3, and 4 dry cells. 4. The evaluated ammeter reading will be crossed checked against the BLR reference digital ammeter. 5. Deviation should not go beyond 5%.
DC Voltmeter	<ol style="list-style-type: none"> 1. The DC Voltmeter shall be first subjected to visual inspection to check for cracks, broken connections or detached parts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. Functionality: The voltmeter undergoing evaluation will be used to measure voltages of 1, 2, 3, and 4 dry cells (connected in series if more than 1). 4. The evaluated voltmeter reading will be crossed checked against the BLR reference voltmeter. 5. Deviation should not go beyond 5%.
Desk Lamp, Heavy Base	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the length of the model.

	<ol style="list-style-type: none"> 2. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item. 3. Inspect the cord and ungrounded plug. If the plug is grounded, an adapter should include in the item. 4. Do functionality test to validate the level of performance and accuracy of the item by exposing the alcohol thermometer to the light lamp. Increase of temperature should be observed within an hour. It should be sturdy stand by itself for the entire test.
Dissecting Set with pan	<ol style="list-style-type: none"> 1. Inspect the quality of stainless steel material by magnetic and visual inspection. 2. Inspect completeness of the set. 3. Perform dimensional measurement.
Dry Cell Holder, for single size D dry cell	<ol style="list-style-type: none"> 1. The dry cell holder shall be first subjected to visual inspection to check for cracks, broken or detached parts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. The dry cell holder shall go through at least 5 replacement cycles by inserting, removing, re-inserting size D dry cell to find out how well the holder can accommodate the dry cell. 4. The dry cell holder assembly will be simultaneously tested with the light bulb, light holder assembly.
Electronic Pocket Scale, 120g capacity	<ol style="list-style-type: none"> 1. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 2. Do functionality test to validate the level of performance and accuracy of item, especially when used for weighing in the Laboratory or Field Experiment.
Filter Paper, ordinary, 600mm x 600mm sheet	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) There must be no dirt, no tear, no scratches, and other deficiencies/defects on the item. 2. Do dimensional assessment. Measure the length and width, 600 mm x 600 mm. 3. Check if the initial filtration speed: 150 sec/100mL by measuring 150 mL water using a standard graduated cylinder. All (250 mL) of its contents must be transferred to the flask with the filter paper in the funnel in 150 seconds. 4. Inspect if it has a brand
Galvanometer	<ol style="list-style-type: none"> 1. The Galvanometer shall be first subjected to visual inspection to check for cracks, broken connections or detached parts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user.

	<ol style="list-style-type: none"> 3. Functionality: The galvanometer undergoing evaluation will be used to measure current through a 100 K-Ohm or 1M-Ohm resistor powered by 1, 2, 3, and 4 dry cells. 4. The evaluated galvanometer reading will be crossed checked against the BLR reference digital ammeter. 5. Deviation should not go beyond 5%.
Hand Gloves, acid/solvent-resistant, super nitrile	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) Must be in medium or size 8 (b) Super nitrile, flocklined interior (acid/solvent resistant) (c) Individually packed 2. Do Waterproof test by wearing it on one's hands and then immersing your hands in water with the gloves on. If your hand does not get wet, it passed. If not, it failed. 3. Do Water retention test checks how watertight protective gloves are. The glove is filled with water and must remain completely leak-proof over a precisely defined period of time. 4. Inspect if it has a brand
Hexagonal Weigh Dishes Set, 50mL, 500 pcs/pack	<ol style="list-style-type: none"> 1. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 2. Do functionality test to validate the level of performance and accuracy of item, especially when used for sample transfer and accessory in weighing in the Laboratory or Field Experiment.
Laboratory Hot Plate	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> i. Check <ol style="list-style-type: none"> (a) Chemical resistant white ceramic flat surface top plate (b) Maximum operating temperature: 380°C (c) Aluminum casting body with powder coating (d) Check if adjustment knob is working (e) Safety LEDs must light when heating function has been activated (f) Power: 220-240V AC, 50/60 Hz, 800W (g) with built-in support rod mount, thumbscrew, accommodates rods up to 13mm in dia. (h) with aluminum casting body with powder coating ii. There must be no dirt, no unwanted marks, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do dimensional assessment. Measure the top plate dimensions. 180 mm x 180 mm; with digital display

	<ol style="list-style-type: none"> 3. Do function test by heating water to its boiling point, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 4. monitor the motor temperature based on NEMA Standards MG 1-2011, 12.43, defines temperature rise for motors in a maximum ambient of 40°C. *Its vibration is within the tolerance of the given motor rating without irregular noise in motor bearing and in other moving mechanical parts; 5. execute Endurance Testing for a series of five Test Runs with one minute each to determine how the machine behaves under sustained use. Turn On and Off method is applied. 6. With Operations/User's Manuals in English 7. Inspect if it has a brand
Landform Demonstration Kit	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the length, width, and thickness of the item. 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item.
Laser Light, line laser type	<ol style="list-style-type: none"> 1. The Laser Light, line laser type unit shall be first subjected to visual inspection to check for cracks, broken/ detached parts and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. Functionality test: With the unit ON Laser Light, line laser type unit should project a laser spot clearly on a wall at 5 meters distance.
Lens Paper, 50's/pack	<ol style="list-style-type: none"> 1. Perform dimensional measurements. 2. Perform functional test as to cleaning performance.
Miniature Light Bulb Holder Assembly	<ol style="list-style-type: none"> 1. The light bulb assembly shall be first subjected to visual inspection to check for cracks, broken or Detached parts, and other defects 2. The item then will be crossed checked against these specifications set by the end user. 3. The bulb will be connected to appropriate power supply as per specs. 4. The bulb should produce the correct brightness and will be continuously be powered for 5 minutes minimum. During pre-delivery random test will be done while maintaining quick test to check if the bulb is not busted.

Mirror Set, acrylic	<ol style="list-style-type: none"> 1. Each mirror in the set shall be first subjected to visual inspection to check for cracks, stained surfaces, scratches and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. The mirror will be tested for density using displacement method to verify the kind of material the mirror is made of.
Pair of Bar Magnets	<ol style="list-style-type: none"> a) Do dimensional inspection. Measure the length, width, and thickness of each bar magnet. b) Check the marked polarity of each bar magnet. The marked polarity should be permanent and could not be easily scratched off. The North pole should be painted red and the South pole should be painted blue. c) Do visual inspection. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the magnets. d) Do functionality test. Each bar magnet should have an attractive force that can carry a load twice its weight.
Prism	<ol style="list-style-type: none"> 1. The prism shall be first subjected to visual inspection to check for cracks, stained surfaces, scratches and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. The prism will be tested for density using displacement method to verify the kind of material the prism is made of.
Reaction Plates with 6 Wells	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the deep of the well. 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 3. Do functionality test to validate the performance and the item should be leak free during the entire duration of the test.
Ring and Ball Apparatus	<ol style="list-style-type: none"> 1. Each ring and ball shall be first subjected to visual inspection to check for cracks, broken/ detached parts and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. Functionality test: The ball will be made to pass though the ring; the ball will be heated by open flame for several minutes; immediately thereafter the ball will be made to pass through the ring; the ball should be stuck and cannot pass through the ring until it has cooled down.
Safety Goggles, polycarbonate	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for:

	<ul style="list-style-type: none"> (a) polycarbonate goggle lens with 180° panoramic view (b) with firm comfortable seal around forehead, cheeks, nose and temples protects against chemicals, dust and grindings (c) with medium strap slotted to prevent slippage and holds the goggle more securely (d) shall bear mark Z87+ to indicate an impact protector type (e) Inspect the quality and brand markings (ANSI Z87.1, EN 166 or CSA Z94.3 certification compliance) (f) The manufacturer or supplier certification mark must be present on all approved safety lenses, frames (front and temple), removable side shields, and other parts of the glasses, or goggles. <ol style="list-style-type: none"> 2. Do the fitting test to validate the level of performance and accuracy of the sample. Ensure your safety eye wear fits properly. Eye wear should cover from the eyebrow to the cheekbone, and across from the nose to the boney area on the outside of the face and eyes. Eye size, bridge size and temple length all vary. Eye wear should fit over the temples comfortably and over the ears. The frame should be as close to the face as possible and adequately supported by the bridge of the nose. 3. With certification from the manufacturer as to the material used is polycarbonate goggle lens 4. Inspect if it has a brand
Slinky Coil, metal	<ol style="list-style-type: none"> 1. The Slinky Coil, metal shall be first subjected to visual inspection to check for deformed portion, broken or detached parts, no sign of corrosion, rusts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. Functionality test: <ul style="list-style-type: none"> (a) The Slinky Coil, should be able to “walk down” at least two levels on stairs; (b) the slinky coil should be able to simulate compression and rarefaction during longitudinal waves simulation
Stopwatch, digital	<ul style="list-style-type: none"> a) Do visual and dimensional inspections. b) There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies on the item. c) Test the item if it is water-resistant.

	<ul style="list-style-type: none"> d) Test the item's Start, Stop, and Reset operations. e) Test the working range of the item in terms of hours, minutes, and seconds. f) Check the display number size. g) Do functionality test to determine the level of performance and accuracy of the item.
Surgical Gloves	<ol style="list-style-type: none"> 1. Inspect the stretching capacity of the gloves, must be tear-free cuff.
Test Tube Brush	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check the: <ul style="list-style-type: none"> (a) stiff, white nylon bristles with a radial-tufted tip bristles fastened to galvanized wire 2. Conduct dimensional assessment. Measure the diameter=18 mm and length= 76 mm of the brush portion and its over-all length = 240 ± 1 mm.
Toploading Electronic Balance	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ul style="list-style-type: none"> (a) load/Capacity: 500g (b) with standard 500g mass provided (c) Power Supply: 220-240V/ 50Hz (d) with large LCD display; Stainless steel pan (e) with multiple weighing units and overload protection (f) with automatic calibration; Standard RS 232 interface (g) parts counting and percentage weighing (h) There must be no stain, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do function test, by calibrating the unit first and then measuring 500 g mass with 0.01 g readability; after calibration, to check the accuracy and preciseness of the item and verify whether the required as stipulated in the technical specifications, is met 3. monitor the motor temperature based on NEMA Standards MG 1-2011, 12.43, defines temperature rise for motors in a maximum ambient of 40°C. *Its vibration is within the tolerance of the given motor rating without irregular noise in motor bearing and in other moving mechanical parts; 4. execute Endurance Testing for a series of five Test Runs with one minute each to determine how the machine behaves under sustained use. Turn On and Off method is applied. 5. Inspect if it has a brand
Tornado Vortex Bottle Connector	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the diameter of the item. 2. It must fit to 1.5L or 2 Litter local plastic soda bottle.

	<ol style="list-style-type: none"> 3. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 4. Do functionality test to validate the performance and the item should be leak free during the entire duration of the test.
Universal pH Paper, pH 0-14, 100 strips/pack	<ol style="list-style-type: none"> 1. Conduct visual inspection <ol style="list-style-type: none"> (a) Indicator test strip in four colors to test pH values (b) Count if 100 pc strips in the transparent Box (c) With complete color chart. 2. Conduct dimensional assessment. Measure its length: 69 mm and width: 6 mm. 3. Conduct function test by immersing the pH strip in an acid or base sample and then compare the color change in the color chart; to validate its performance in identifying the acidity and basicity of the substance. 4. Inspect if it has a brand.

Bunsen Burner, gas-type	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) aluminum burner tube (b) stabilizer top and serrated inlet tube (c) air regulator collar (d) threaded gas needle valve (e) rustproof 3-1/2" octagon shaped nickel plated zinc alloy base (f) There must be no sharp edges, no cracks, no scratches, rust-free, and other deficiencies/defects on the item. 2. Do dimensional inspection. Measure the over-all height=152-155 mm, and the inside diameter of the aluminum burner tube = 11-13 mm 3. Do function test by performing the Bunsen Burner Flame” using a wire loop, wherein there are two combustion zones; the oxidizing and reducing zone; locating the hottest portion of the flame which is at the tip of the first zone. 4. Inspect if it has a brand
Cup Anemometer with Wind Vane, handheld, digital direct reading	<ol style="list-style-type: none"> 1. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item. 2. Do functionality test to validate the level of performance and accuracy of item, especially when the item used to record the wind direction and wind speed.
Helical Spring	<ol style="list-style-type: none"> 1. The Helical Spring shall be first subjected to visual inspection to check for deformed parts, broken or detached parts, no sign of corrosion, rusts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user.

	<p>3. Functionality test: The Helical Spring should be able to simulate transverse wave.</p>
<p>LPG tank with Gas, 11 kg. capacity, with accessories</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check <ol style="list-style-type: none"> (a) steel made cylinder and inspect the capacity of the cylinder if it is 11 kg (b) the cylinder must be in good condition; newly painted, rustproof, no dents, no cracks, no scratches, and other deficiencies/defects on the item. (c) With tank regulator securely connected to the cylinder valve and which fits perfectly the heavy duty 1/4 " LPG rubber hose = 1.5 m long (d) with control valve regulator which screws directly onto a standard 11 kg LPG tank. Protruding from the side is a 1/4" serrated brass barb to attach the gas line and has a high-med-low range (e) with gas pressure gauge (f) The regulator features a safety pin, automatic shut off safety feature and built in Excess Flow safety device as an anti-leak feature. (g) Inspect the rubber O-ring inside the valve. Ensure that it is free from scratches or cracks. (h) With 2 pc stainless steel hose clamp set to attach the heavy duty LPG hose to the regulator and Bunsen burner 2. Do dimensional assessment. Measure the length and diameter (ID=1/4") of the heavy duty LPG Hose= 1.5 m long which must be securely connected to the cylinder 3. Do function test, by connecting it to the Bunsen burner and LPG gas tanks, and applying fuel to it, and then, bending a glass tubing, to check the accuracy and preciseness of the item, as stipulated in the technical specifications, is met. 4. Check <ol style="list-style-type: none"> (a) the completeness of all the items including its accessories, in the set (regulator connection must be compatible with the gas tank (b) if it has a brand
<p>Magnetic Compass</p>	<ol style="list-style-type: none"> 1. The Advanced Electromagnetism Kit shall be first subjected to visual inspection to check for cracks, broken connections or detached parts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. Functionality:

	<p>(a) The magnetic compasses need to be examined if the needles are correctly oriented north to south.</p>
pH Meter, range 0 to 14 Ph	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) portable digital pen type; with retractable electrode; waterproof (b) pH range:0-14 with automatic temperature compensation, (c) with one bottle of pH 7 buffer solution, (d) with a bold LCD display of pH (e) with protective cap, calibration screwdriver, hard carry case and 9V battery (f) There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Do function test by standardizing it first.to check the accuracy and preciseness of the item, is met. <p>Standardize the pH meter first. Place the 9V battery in the battery holder at the back of the pH meter. Turn it on. Do not place the pH probe into the stock buffer solutions. Always pour the stock solution into a smaller beaker. Immerse the tip of the electrode in the pH 7 buffer solution. Adjust the pH reading in the LCD display using the trimmer to pH 7.0. Rinse in distilled water before proceeding to measure the pH of the sample solutions.</p> <p>After every test, rinse the electrode in between the tests. Standardize again, using the pH 7 buffer solution, only after twenty samples has been taken.</p> <p>If the sample is an acid, the pH meter reading is from pH0-pH 6.999; if the sample is a base, the pH meter reading is pH7.01-pH14</p> 3. With User's manual and standardization procedure Inside the box 4. Inspect if it has a brand
Rain Gauge	<ol style="list-style-type: none"> 1. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 2. Measure the accuracy of the scale and capacity of the inner tube.
Resistance Board	<ol style="list-style-type: none"> 1. The resistance board shall be first subjected to visual inspection to check for cracks, broken connections or detached parts, and other defects.

	<ol style="list-style-type: none"> 2. The item then will be crossed checked against the specifications set by the end user. 3. Resistance for each wire in the resistance board will be measured using a digital multi meter. 4. Resistance values should be consistent with existing knowledge for example if the length of the wire is doubled the resistance is doubled, if the wire diameter is doubled the resistance is halved etc., etc.
Rock Samples, 24 pcs/set, (minerals of 3 rock types)	<ol style="list-style-type: none"> 1. Do a water displacement test. 2. Identify the quantity of rock sample.
Sedimentator Tube	<ol style="list-style-type: none"> 1. Do dimensional test of the item. Measure the height and diameter. 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 3. The items should be spill/ leak proof. 4. Do functionality test by measuring the capacity of the item and ability to handle the shaking of soil solution without breakage of spill/ leak to the entire test.
Sling Psychrometer	<ol style="list-style-type: none"> 1. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 2. The thermometer should be alcohol thermometer. 3. Do functionality test to validate the level of performance and accuracy of item by determining the humidity in the Laboratory or Field Experiment. Comparing reading from the item to the reading from the alcohol thermometer.
Soil pH, Moisture, Sunlight Meter	<ol style="list-style-type: none"> 1. Measure the length of the electrode. 2. Do functionality test to validate the level of performance and accuracy of item: identifying a basic or acidic substance; for moisture comparing the reading from the dry soil sample to wet soil sample; and comparing reading from different locations such as a shaded area to land area directed hit by the sunlight.
Soil Sieve	<ol style="list-style-type: none"> 1. Measure the diameter and mesh sizes with $\pm 0.50\text{mm}$: <ol style="list-style-type: none"> a. 5 mesh-4mm; b. 10mesh- 2mm; c. 35mesh-0.250mm; d. 60mesh 0.125mm; e. 120mesh- 0.125mm; and f. 230 mesh-0.063mm. 2. Do functionality test to validate the level of performance and accuracy of the sieve by comparing it's a catch soil sample.

Switch, knife-type	<ol style="list-style-type: none"> 1. The Switch, knife-type shall be first subjected to visual inspection to check for cracks, broken connections or detached parts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. The switch will be tested for 100 continuous ON-OFF cycles 4. Continuity of the switch will be checked using multimeter
Tectonics Demonstrator Model (Demonstration Kit)	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the length, width, and thickness. 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 3. Do functionality test to validate the level performance by using the item through experiment which will demonstrate and simulate the different tectonic process.
Ticker Timer Set	<ol style="list-style-type: none"> 1. Each ticker timer shall be first subjected to visual inspection to check for cracks, broken/ detached parts and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. Functionality test: The ticker timer will be connected to appropriate power supply as per specs and subsequently operated; the ticker timer should clearly print “ticks” on the supplied paper tape and as the tape is pulled at different speeds, the printed “ticks” should correspondingly spaced apart for varying speeds the paper tape is pulled (closely spaced “ticks” for slower speeds and farther spaced “ticks” for faster speeds the tape is pulled.

Beam Balance, double platform, 2000-gram capacity	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Test for metal material - Use magnet and/or by the sound produced on material tap with metal. 3. Conduct stainless steel test by magnet attraction comparison, i.e., magnet attracts stainless steel less than iron and etc. 4. Measure the overall dimensions. 5. Conduct proper weighing and determine precision, accuracy, capacity, and readability (specifications 8, 5, and 11). As the system is in balanced state, the unit’s beams should rest in parallel to the surface on which the unit sits.
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	<ol style="list-style-type: none"> The four (4) accompanying weights should be precise (with tolerance of +/- 1%).
Compass (for Student)	<ol style="list-style-type: none"> Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. Conduct stainless steel tests. Measure the overall length, it should not be less than 150 mm (with length of handle is as the average width of the thumbs) Use the compass to draw circle in which the start and endpoint of the line should meet in the same point for three (3) consecutive trials.
Geoboard, 11 x 11	<ol style="list-style-type: none"> Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. Conduct dimensional measurement.
Graphing board, 1.2m x 1m, green, movable	<ol style="list-style-type: none"> Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. Conduct material identification/tests of the board by accessing the side portion covered with aluminum frame. Measure dimensions and line spacing. Check grid lines, it should be like a small groove on the board. Push or pull the board to move it to another place, the legs should not twist nor bend/sway.
Graphing Calculator, non-projectable	<ol style="list-style-type: none"> Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. Operate or run the calculator and validate the given functions and other functions included in the system through/by executing the instructions in the user's/operation manual.
Probability Kit	<ol style="list-style-type: none"> Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. Material: plastic (except for the activities and demonstration on cards) Spinner can spin at least for a second.
Protractor, (for Student)	<p>Conduct visual inspection –</p> <ol style="list-style-type: none"> There must be no breakage, chipped edges, sharp edges, cracks, and other deficiencies/defects on the item. Graduation markings are crisps and clear (not blurry), will not peel off from finger rubs.
Scientific Calculator	<ol style="list-style-type: none"> Conduct visual inspection - There must be no breakage, chipped edges, sharp edges,

	<p>cracks, scratches, and other deficiencies/defects on the item.</p> <ol style="list-style-type: none"> Operate or run the calculator and validate the given functions and other functions included in the system through/by executing the instructions in the user's/operation manual
Utility Kitchen/Spring Scale	<ol style="list-style-type: none"> Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. Conduct dimensional measurement. Conduct proper weighing and use standard masses to check precision, accuracy, capacity, and division (specifications 5, 4).
Weighing Scale	<ol style="list-style-type: none"> Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, & other deficiencies/defects on the item. Test for metal material - Use magnet and/or by the sound produced on material tap with metal. Conduct stainless steel tests by magnet attraction comparison, i.e., magnet attracts stainless steel less than iron. Conduct dimensional measurement. Conduct proper weighing and use standard masses to check precision, accuracy, capacity, and division (specifications 1, 2, 6).

Animal Cell Model	<ol style="list-style-type: none"> Perform dimensional measurement as to height, width and thickness; Check the availability of English User's manual; Inspect the completeness of the colorful cell structures and organelles; Inspect the type of material used; Mounted on a base.
Celestial Globe	<ol style="list-style-type: none"> Do dimensional inspection. Measure the diameter of the model. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item.
Cross section Volcano Model	<ol style="list-style-type: none"> Do dimensional inspection. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item. The parts of the volcano correctly spell and label as Sill, Strata, Dike, Crust, Magma Chamber, Upper Mantle, Lower Mantle, and Vent.
DNA Model	<ol style="list-style-type: none"> Perform dimensional inspection by measuring the height; Inspect the completeness of the parts;

	<ol style="list-style-type: none"> 3. Check the availability of English User's manual. 4. The color-coded plastic shape parts and a minimum of 16 base pair DNA should be followed.
Earth Globe, ordinary	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the diameter of the item. 2. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item. 3. The Nine Dashed Line should not appear.
Geometrical model set, 2 types of cones	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Conduct dimension and angle measurement. 3. Establish the presence of wood coating.
Geometrical model set, 2 types of cylinders	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Conduct dimension and angle measurement. 3. Establish the presence of wood coating.
Geometrical model set, 3 types of prisms	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Measure dimensions and angles. 3. Establish the presence of wood coating.
Geometrical model set, 3 types of pyramids	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Conduct dimension and angle measurement. 3. Establish the presence of wood coating.
Geometrical model set, Spheres	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Conduct dimensional measurement. 3. Establish the presence of wood coating.
Model of Cone in a Cylinder	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Conduct dimension and volume measurement, and leak test. 3. Establish the presence of wood coating.
Model of Earth Internal Structure, 1/4 part detachable, Ø 12" minimum	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the diameter of the item.

	<ol style="list-style-type: none"> 2. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item.
Model of Pyramid in a Prism	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Conduct dimension and volume measurement, and leak test. 3. Establish the presence of wood coating.
Model of Sphere in a Cylinder	<ol style="list-style-type: none"> 1. Conduct visual inspection - There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Conduct dimension and volume measurement, and leak test. 3. Establish the presence of wood coating.
Model, Animal Meiosis	<ol style="list-style-type: none"> 1. Check the correct spelling of the labels. 2. Inspect the completeness of the cell models and structures found in the cell 3. Inspect that cell models are magnetic, detachable, and should not fall when the board/frame is vertically mounted. Magnets should not separate from the cell models. 4. Check the availability of English User's manual 5. Perform dimensional measurement as to length, width and thickness
Model, Animal Mitosis	<ol style="list-style-type: none"> 1. Inspect the correct spelling of the labels. 2. Inspect the completeness of the cell models and structures found in the cell . 3. Inspect that cell models are magnetic, detachable, and should not fall when the board/frame is vertically mounted. Magnets should not separate from the cell models. 4. Check the availability of English User's manual. 5. Perform dimensional measurement as to length, width and thickness.
Model, Human Skeleton	<ol style="list-style-type: none"> 1. A certificate must be submitted by the manufacturer/supplier attesting the conformity of non-toxic plastic material; 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item; 3. Perform dimensional inspection by measuring the height and the diameter of the stainless steel rod; 4. Inspect the completeness of the parts and that labels of the diagram in the manual should be consistent with the numbered parts in the actual model; 5. Inspect that all joints are interconnected with a stainless steel material; 6. Inspect the quality of stainless steel material by magnetic and visual inspection;

	<ol style="list-style-type: none"> 7. Check the availability of the English User's manual.
<p>Model, Human Torso</p>	<ol style="list-style-type: none"> 1. A certificate must be submitted by the manufacturer/supplier attesting the conformity of non-toxic plastic material; 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item; 3. Inspect that labels of the diagram in the manual should be consistent with the numbered parts in the actual model; 4. Inspect that markings of the numbered parts of the model are permanent; 5. Inspect the completeness of the required minimum dissectible parts; 6. Check the availability of the English User's Manual; 7. Perform dimensional inspection by measuring the height; 8. Perform functional inspection on the following: <ol style="list-style-type: none"> (a) model should stand upright with removable parts intact and not falling; (b) detachable head; (c) 2 to 3 removable vertebra and spinal cord segments; and (d) interchangeable reproductive organs
<p>Motor-Generator Model Experiment Set</p>	<ol style="list-style-type: none"> 1. The Motor-Generator shall be first subjected to visual inspection to check for cracks, broken connections or detached parts, and other defects. 2. The item then will be crossed checked against the specifications set by the end user. 3. Functionality: <ol style="list-style-type: none"> (a) The motor function will be tested by making the necessary settings and connecting the motor to appropriate power supply (as per specs), the rotor should rotate. (b) The DC generator function will be tested by setting the split ring commutator to DC position; the rotor will be made to rotate by turning the hand crank; the output will be measured using a voltmeter (dedicated or digital multi meter);reversing the direction of rotation of the rotor the voltmeter will register a negative value (c) The AC function will be tested by setting the split ring commutator to AC position; the rotor will be made to rotate; the output will be measured using a dedicated analog

	voltmeter; the voltmeter needle should swing back and forth
Plant Cell Model	<ol style="list-style-type: none"> 1. Perform dimensional measurement as to height, width and thickness; 2. Check the availability of English User's manual; 3. Inspect the completeness of the colorful cell structures and organelles; 4. Inspect the type of material used; 5. Stands freely (no separate base).
Relief Globe	<p>A. In the evaluation of item, the technical specifications, as part of the Contract, will be used as reference.</p> <p>B. Do dimensional inspection.</p> <p>C. There must be no breakage, cracks, scratches, and other deficiencies/ defect on the item.</p> <p>D. The Nine Dashed Line should not appear.</p> <p>E. Mountain areas are in raised-relief, proportionate to each other with Mount Everest minimum height of 1.5 mm from Sea level surface of the Globe. Mountain areas are shaded three-dimensionally.</p>
Seismograph Model	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the length, width, base dimension. 2. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item. 3. Do functionality test to validate the level of performance and accuracy of item, especially when the item used to record the simulated earthquake.
Solar System Model	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the diameter of the model. 2. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item. 3. Inspect the cord and ungrounded plug. If the plug is grounded, an adapter should include in the item.
Student Organic Chemistry Molecular Model Set	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check <ol style="list-style-type: none"> (a) Atoms parts are made of durable solid poly propylene plastic spheres and are available with 1-6 holes in the usual angular orientations (b) Each sphere/ball has holes at correct angles to be connected with flexible plastic "bonds" (c) Sphere/atom parts range from 17mm to 23mm in diameter <ul style="list-style-type: none"> ➤ Diameter of hydrogen, halogen, and metal sphere/atom : 17 mm ➤ Other atoms diameter: 23 mm (d) Count the 114 pieces : Standard color coded plastic (polypropylene) sphere/atom parts:

- 12 carbon atoms (Black, 4 holes, tetrahedral)
- 20 hydrogen atoms (white, 1 hole)
- 6 Oxygen atoms (red, 2 holes, angular)
- 2 nitrogen atoms (blue, 3 holes, trigonal)
- 2 nitrogen atoms (blue, 2 holes, angular)
- 1 sulfur atom (yellow, 4 holes, tetrahedral)
- 1 sulfur atom (yellow, 6 holes, octahedral)
- 4 halogen atoms (green, 1 hole)
- 1 phosphorus atom (purple, 4 holes, tetrahedral)
- 1 metal atom (gray, 1 hole)
- Bonds: 26 pc short, rigid 28 mm white links
- 26 pc medium-length 28 mm gray links
- 12 pc long flexible 43 mm gray links (double/triple)
- Link remover tool/Assembly tool
- Compartmentalized hard ABS plastic storage box with 4 compartments

(e) There must be no breakage, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item.

(f) Check the completeness of all the items included in the set

6. Do dimensional assessment. Measure the dimensions of the plastic box for storage.

Length: 280-281mm

Width: 200-201mm

Thickness: 50-51 mm

Weight: 1.22-1.32 kg

7. With contents list in table form, as to:

For atoms: quantity, name of element(symbol), color code, (number of holes, type of bond angles), diameter of the sphere

For links: bond types and use

8. Do function test by constructing VSEPR shapes to check the accuracy and

	<p>preciseness of items, as stipulated in the technical specifications, is met.</p> <p>9. Check for the:</p> <p>Assembly guides, individual worksheets and instructional leaflets;</p> <p>Teacher's instruction manual with full background information</p> <p>10. Check if it has a brand</p>
Sublevel Orbitals of the Atom Models (Quantum Models)	
Sun Internal Structure Model, 1/4 part detachable, 32cm diameter	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the diameter of the item. 2. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item. 3. The different layer correctly spells and label as: <ol style="list-style-type: none"> a. Core b. Chromosphere c. Photosphere d. Prominence
Sun-Earth-Moon Model	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure the diameter of the model. 2. There must be no breakage, cracks, scratches, and other deficiencies/ defect in the item. Inspect the cord and ungrounded plug. If the plug is grounded, an adapter should include in the item. 3. Do functionality test to validate the level of performance of the item, especially when used to demonstrate the Sun-Earth-Moon relationships. 4. It should be sturdy standing while performing the test.

Alcohol Burner, glass, 150 ml. Capacity	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check <ol style="list-style-type: none"> (a) clear, transparent and bubble free glass, threaded mouth (b) the globe-shaped body with flat base (c) wick holder is made of the nickel-plated steel (d) the wick tube is permanently attached to the threaded base (e) with nickel-plated steel snuff cover/cap (f) wick is made of $\varnothing=3/16$ ", 7" long braided cotton fiber/ strand which must perfectly fit the wick holder (g) with 6 pc (3/16 ") x 7" long, replacement wicks that fits perfectly to the wick tube
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	<p>(h) There must be no breakage, no bubbles, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on its glass body.</p> <p>2. Do dimensional inspection. Measure the outside diameter: 81.0-82.5 mm; empty weight: 188-190 g, and its total height: 101.6- 102.6 mm</p> <p>3. Do volumetric test, by measuring 150 mL of denatured alcohol using a standard 100 mL graduated cylinder, and pour into it; to verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met.</p>
Alcohol Thermometer, -20°C to 110°C	<p>1. Conduct visual inspection. Check for:</p> <ul style="list-style-type: none"> (a) presence of the partial immersion line indicator ring top (b) precision red-alcohol filled, reinforced bulbs, expansion chamber (c) white back non-roll sleeve and non-roll plastic case (d) clear and permanent markings; scale never washes out (e) provided with non-roll plastic case. (f) continuous alcohol column (g) range: -20°C to 110°C (h) division: 1°C <p>2. Dimensional assessment. Check its Length = 300-301mm and its diameter= 5.8 to 6.2mm</p> <p>3. scratch test: scratch using your nails the white graduations and large white markings of the graduated test tubes to test for the peel and adhesion properties of embossed brand and permanency of graduations, and other markings</p> <p>4. Do function test to validate the accuracy and preciseness of the printed graduations by conducting a boiling point test; wherein the alcohol thermometer and a standard reference mercury thermometer are, together, immersed into water (up to their immersion lines), and the water is, then, heated to its boiling point. The accuracy obtained must be 100°C ±1°C</p> <p>5. Inspect if it has a brand</p>
Electrolysis Apparatus, student-type	<p>1. Conduct visual inspection. Check for:</p> <ul style="list-style-type: none"> (a) glass jar (b) with two platinum electrodes (c) with an acid-proof insulating support to hold the apparatus over the jar and with two binding posts (1 red, 1 black)

with two spring clips to hold two reusable **graduated** glass test tubes (20 mm diameter and 150mm long); capacity: 28mL (graduation: 0-25 mL)

- (d) With additional two (2) borosilicate reusable graduated glass test tubes (20 mm diameter and 150 mm long); capacity: 28 mL (graduation: 0-25 mL)
- (e) scratch test: scratch using your nails the white graduations and large white markings of the graduated test tubes to test for the peel and adhesion properties of embossed brand and permanency of graduations, and other markings
- (f) With two rubber stoppers to fit perfectly the (20mm diameter and 150mm long) reusable borosilicate glass test tubes, capacity: 28mL (graduation = 0-25 mL)
- (g) With Power Supply:
Input voltage:220/240V AC;
Output voltage: With (0,3,4.5,6, 9) V with switch selector): 9V battery with battery snap
- (h) With two connecting stranded wires (1 red, 1 black); with alligator clips (2 red, 2 black) soldered on one end of each wire with banana plugs (1 red, 1 black) soldered on the other end of each wire
- (i) There must be no, breakage, no bubbles, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects/deformities on the whole assembly

2. Do dimensional inspection. Measure the length of the connecting wires= 12 in , and gauge number:20 and glass jar dimensions: Ø =4.5 inches (114.3 mm); Height = 5 inches (127 mm) and capacity of container: 200 mL
3. Do the refractive-index test for the four graduated 20 mL glass test tubes (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass.
4. Do the function test by performing the Electrolysis of Water experiment, to

	<p>separate water into its elements to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met</p> <ol style="list-style-type: none"> 5. Do volumetric test: <ul style="list-style-type: none"> ➤ by measuring 28 mL of water using a standard 10 mL graduated cylinder and pour into the test tube ➤ by measuring 500 mL of water using a standard 100 mL graduated cylinder and pour into the glass jar ➤ to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass test tube (capacity: 28 mL), as stipulated in the technical specifications, is met. 6. Check the User's Manual in English 7. Inspect if it has a brand
<p>Erlenmeyer Flask, 250 ml., borosilicate</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for <ol style="list-style-type: none"> (a) bubble-free, clear and transparent glass body (b) 250 mL cap mL capacity; $\pm 5\%$ enameled onto the glass (c) narrow mouth, neck inside diameter range 28 to 30mm (d) heavy duty and beaded rim; (e) permanent white graduations with durable white enamel marking spot (f) graduations start at 50 mL in 25 mL increments (g) graduation range: 50-200 mL (h) scratch test: scratch using your nails the white graduations and large white markings of the graduated test tubes to test for the peel and adhesion properties of embossed brand and permanency of graduations, and other markings (i) There must be no breakage, no bubbles, no chipped edges, no sharp rims, no cracks, no scratches, and other deficiencies/ defects/deformities on the item 2. Dimensional assessment. Measure the neck inside diameter=28-30 mm thickness=1.5 to 2 mm outside diameter= 82-84 mm, and its height = 132-134 mm 3. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible

	<p>or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass.</p> <ol style="list-style-type: none"> 4. Do volumetric test, by measuring 250 mL of water using a standard 100 mL graduated cylinder, and pouring into it; to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. The capacity must be 250 mL, $\pm 5\%$ 5. Inspect if it has a brand
Evaporating Dish, 75 ml. capacity	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It must be made of porcelain, shallow form with pouring lip, (b) with spout (c) uniformly glazed inside (except for rim) and partly glazed outside except the bottom surface (d) There must be no breakage, no chipped rims, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. Do dimensional assessment. Measure the height 32 mm – 34 mm and its rim diameter: 82 mm-84 mm 2. Do volumetric test, by measuring 75 mL of water using a standard 10 mL graduated cylinder, to check the accuracy and preciseness and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met
Glass Funnel	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for <ol style="list-style-type: none"> (a) transparent, clear, and bubble-free glass (b) It must be fluted; with beaded rim, (c) with slanted tip, and fire-polished rim and stem (d) There must be no breakage, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do dimensional inspection. Measure the stem length: 65-75mm and rim inside diameter: 65-75mm 3. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with

	<p>similar refractive index as to borosilicate glass.</p> <p>4. Check if it has a brand</p>
<p>Graduated Cup, 250 ml. capacity, plastic, transparent</p>	<ol style="list-style-type: none"> 1. Do crack resistance test by 1-meter distance fall of the item. 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 3. Do functionality test by measuring the capacity of the item and inspect the accuracy of the graduation marking of the item by adding 10mL of water. 4. The item should be leak free while performing the test.
<p>Graduated Pipette, 10 ml., with rubber pipettor</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) Serological, transfer type, bubble-free borosilicate glass, with TD marking (b) Clear and transparent and is graduated to tip, zero at top (c) Color code: orange (d) With permanent amber markings which are enameled onto the glass (e) Top end is constricted (f) Graduation interval: 0.1 mL (g) Graduation in descending scale (h) There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. (i) with rubber pipettor with 3-way safety bulb type pipet filler made of natural rubber, red (j) with pinch release valves that control air evacuation, liquid uptake, and liquid dispensing (k) filler fits standard size pipettes 2. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass. 3. Do volumetric test, measure 10 mL of water using a standard 10 mL graduated cylinder, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 4. Inspect if it has a brand
<p>Meterstick, plastic</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection.

	<ol style="list-style-type: none"> 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defects on the item. 3. Conduct dimensional measurement.
Mortar and Pestle, porcelain	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check <ol style="list-style-type: none"> (a) if the mortar is made from porcelain, with pouring lip, rough interior and uniformly glazed exterior (b) Check if the heavy bat-shaped pestle is made from porcelain, uniformly glazed on its handle and rough on opposite end (c) There must be no breakage, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do dimensional inspection. <ol style="list-style-type: none"> (a) Measure outside diameter of mortar: 130 mm \pm1 mm and thickness: 8-12 mm; of the mortar and (b) Measure the length of the pestle: 110-130 mm 3. volumetric test, by measuring 75 mL of water using a standard 100 mL graduated cylinder, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met.
Petri Dish	<ol style="list-style-type: none"> 1. Conduct visual inspection as to bubbles, cracks, scratches, sharp edges and warping. 2. Do dimensional measurements as to diameter, height and thickness.
Spatula, porcelain and glazed	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) Check the porcelain body and that it is uniformly glazed inside; (b) with spoon on one end, spatula on the other. (c) There must be no breakage, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item 2. Do dimensional inspection. Measure the over-all length: 140 mm (\pm1 mm). 3. Do functional test by transferring powder from one container to another
Stirring Rod, Ø 6mm x 250mm long	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) With rounded and fire-polished ends; (b) With transparent and clear glass (c) There must be no breakage, chipped ends, sharp ends, cracks, scratches, and other deficiencies/defects on the item.

	<ol style="list-style-type: none"> 2. Do dimensional inspection. Measure the length:250 mm and its diameter: 6 mm
<p>Test Tube, Ø 16mm x 150mm long</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) bubble-free glass (b) with white permanent enamel marking spot (c) with fire polished top and beaded rim (d) There must be no breakage, no chipped rims, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. It must have fire polished top and beaded rims. 2. Do dimensional inspection. Measure the length:150 mm, outside diameter: 16 mm, and its thickness: 1.0-1.1 mm 3. Do the refractive-index test (by submerging the glass into glycerine) to determine whether the glass material is borosilicate. 4. volumetric test, by measuring 20 mL of water using a standard 10 mL graduated cylinder, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. 5. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass. 6. Inspect if it has a brand
<p>Volumetric Flask, 250 mL</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) Plastic stopper with octagonal grip (b) Clear, transparent, and bubble-free glass (c) Calibrated "to contain" (marked "TC" or "IN") (d) Capacity: 250 mL, enameled onto the glass Tolerance: ±0.12 mL (e) Closure size: 14/23 (f) With single ground-in permanent, circular, white graduation marking (g) There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/defects on the item. 2. Do dimensional assessment. Measure the height: 220-222 mm, and outside diameter: 78-80 mm

	<ol style="list-style-type: none"> 3. Do volumetric test by measuring 250 mL using a standard 100 mL graduated cylinder and pour into it, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. The tolerance: ± 0.15 mL 4. Inspect if it has a brand
Wash Bottle, plastic, 250 ml.	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) translucent, plastic material (b) screw-type closure with its angled stem and draw tube molded in one piece (c) easy squeeze dispensing (d) There must be no scratches and other deficiencies/ defects on the item. 2. Do functionality test. There should be no leakage when it is filled with liquid; with easy squeeze dispensing power during rinsing activity. 3. Do volumetric test. by measuring 250 mL using a standard 100 mL graduated cylinder and pour into it, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the glass, as stipulated in the technical specifications, is met. L
Watch Glass	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) borosilicate, slightly-concave shape, clear and bubble-free glass (b) fire-polished edges (c) There must be no breakage, no chipped edges, no sharp edges, no cracks, no scratches, and other deficiencies/defects on the item. 2. Do dimensional assessment. Measure the outside diameter: 90-92 mm 3. Do the refractive-index test (by submerging the glass into vegetable oil or glycerine) to determine whether the glass material is borosilicate. Borosilicate glass is identified by its refractive index, 1.474. Immersing the glass in a container of liquid of similar refractive index makes the glass not visible or will disappear. (Vegetable oil, 1.47 and glycerine, 1.473 are some liquids with similar refractive index as to borosilicate glass. 4. Inspect if it has a brand.
Glass Tubing, \varnothing 6mm x \varnothing 4mm x 1220mm long	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) Soda lime glass with fire polished ends (b) There must be no breakage, no chipped edges, no sharp edges, no

	<p>cracks, no scratches, and other deficiencies/defects on the item.</p> <ol style="list-style-type: none"> 2. Do dimensional inspection. Measure the Ø 6 mm x Ø 4 mm x 1220 mm long (± 1 mm) 3. Do functional test by bending a glass tubing; to check the accuracy and preciseness of the item, as stipulated in the technical specifications, is met
Plastic Round Canister, 500 mL	<ol style="list-style-type: none"> 1. Do dimensional test of the item such as the opening diameter; body height; and thickness. 2. There must be no breakage, chipped edges, sharp edges, cracks, scratches, and other deficiencies/ defect in the item. 3. The items should be spill/ leak proof. 4. Do functionality test by measuring the capacity of the item.
Beral Pipette 1ml Capacity	<ol style="list-style-type: none"> 1. Do dimensional inspection. Measure its total length. 2. Conduct visual inspection. There must be no scratches, leaks and other deficiencies/defects on the item. 3. Do volumetric test, by measuring 1 mL of water using a standard 10 mL graduated cylinder, to check the accuracy and preciseness of the printed graduations and verify whether the required minimum/maximum volumetric capacity of the item, as stipulated in the technical specifications, is met. 4. Checking its molded graduations.

Copper Sulfate, CuSO_4 , 100 grams / bottle	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It is light blue, crystalline granules or powdered solid. (b) function test by performing the Flame Test experiment; by placing copper sulfate on the nichrome wire loop and ignite it in the clear or bluish part of the flame. The emission of green color in the flame is observed 2. Check if the item is placed in original packing, properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Account for the: <ol style="list-style-type: none"> (a) Certificate of Analysis (b) Materials Safety Data sheets
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	<p>4. Inspect if it has a brand</p>
<p>Hydrochloric Acid, HCl, laboratory grade, 500ml / bottle</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It is of clear, colorless or slightly yellow liquid with pungent odor. (b) function test 1: Place 200 mL water in a beaker and submerge the big vial with 10 mL hydrochloric acid in it. Add 0.50 g sodium hydroxide one pellet at a time into the vial with hydrochloric acid. A fizzing sound and a white solid is observed. (c) Look for Concentration: 6 M (d) Check specific gravity: 1.18 using a hydrometer 2. Check if the item is placed in original packing, properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Look for the Materials Safety Data sheets from the manufacturer and Certificate of Analysis 4. Inspect if it has a brand
<p>Hydrochloric Acid, HCl, technical grade, 500 ml / bottle</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It is of clear, colorless or slightly yellow liquid with pungent odor (b) function test: Cleaning of dirty glasswares 2. Check if the item is placed in original packing bottles, properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Look for the Materials Safety Data sheets from the manufacturer and Certificate of Analysis 4. Inspect if it has a brand
<p>Magnesium Ribbon, 25 grams/roll (60 to 75 feet long)</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It is of silvery-gray metal (b) Weigh the mass: 25 g /roll and length: 60-75feet long (c) function test by igniting a strip of magnesium ribbon in the clear or bluish part of the flame, in which, a white brilliant blinding white light is obtained 2. Check if the item is placed in original packing properly labeled with full chemical

	<p>name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection.</p> <ol style="list-style-type: none"> 3. Check for: Certificate of Analysis Materials Safety Data sheets from the manufacturer 4. Inspect if it has a brand
Manganese Dioxide, 50 grams / bottle	<ol style="list-style-type: none"> 1. Conduct visual inspection <ol style="list-style-type: none"> (a) It is of brown-black solid/ blackish or brown solid (b) function test: Add 2 g manganese dioxide to hydrogen peroxide. The result is the decomposition of hydrogen peroxide to oxygen by evolution of gas and release of water 2. Check if the item is placed in original packing properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Account for the: Certificate of Analysis Materials Safety Data sheets from the manufacturer 4. Inspect if it has a brand
Phenolphthalein Indicator, 100 grams / bottle	<ol style="list-style-type: none"> 1. Conduct visual inspection. It is of odorless white to cream powder <ol style="list-style-type: none"> (a) function test: add 5 mL ethanol and 5 mL water in a test tube. Dissolve a pinch of phenolphthalein in the test tube with the ethanol solution. Using a medicine dropper, place 3 drops of phenolphthalein indicator to a base; a pink solution is obtained. If it is an acid, no color change is observed. 2. Check if the chemical is contained in original packing; properly labeled with full chemical name, chemical formula, the name and address of the manufacturer and with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Account for the:

	<p>Certificate of Analysis Materials Safety Data sheets from the manufacturer</p> <p>4. Inspect if it has a brand</p>
Potassium Chloride, 100 grams / bottle	<ol style="list-style-type: none"> 1. Conduct visual inspection <ol style="list-style-type: none"> (a) It is a white, deliquescent hygroscopic crystalline solid (b) function test by performing the Flame Test experiment; by placing potassium iodide on the nichrome wire loop and ignite it in the clear or bluish part of the flame. The emission of very faint lilac color in the flame is observed 2. Check if the item is placed in original packing properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Account for: <ol style="list-style-type: none"> (a) the Certificate of Analysis (b) the Materials Safety Data sheet from the manufacturer 4. Inspect if it has a brand
Potassium Iodide, 100 grams / bottle	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It is of white, granules and crystals (b) function test by pouring 10 mL of 10 % hydrogen peroxide into a big vial. Add 1.0 g powdered potassium iodide into the solution. A foamy product shoots out very quickly in the vial; hence, the name elephant toothpaste. <p>function test 2 by performing the Flame Test experiment; by placing potassium iodide on the nichrome wire loop and ignite it in the clear or bluish part of the flame. The emission of very faint lilac color in the flame is observed</p> 2. Check if the item is placed in original packing properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Account for the: <ol style="list-style-type: none"> (a) Certificate of Analysis (b) Materials Safety Data sheet from the manufacturer 4. Inspect if it has a brand

<p>Sodium Hydroxide (Lye), 250 grams / bottle</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It is of odorless, white semi-transparent beads (b) function test: Place two to three beads of sodium hydroxide in 5 mL water in a test tube. Add three drops of phenolphthalein indicator in the sodium hydroxide solution in the test tube. A pink or fuschia color change is produced 2. Check if the item is placed in original packing, properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Account for: <ul style="list-style-type: none"> Certificate of Analysis Materials Safety Data sheets from the manufacturer 4. Inspect if it has a brand
<p>Sulfur Powder, 100 grams / bottle</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) It is of fine yellow crystalline powder, with a faint odor and taste; (b) function test: Place 0.5 g sulfur in the deflagrating/table spoon and heat directly over the flame. the sulfur melts and form a pale yellow liquid which gives off an irritating, toxic, and suffocating gas 2. Check if the item is placed in original packing, properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Account for: <ol style="list-style-type: none"> (a) Certificate of Analysis (b) Materials Safety Data sheets from the manufacturer 4. Inspect if it has a brand
<p>Sulfuric Acid, technical grade, 500 ml / bottle</p>	<ol style="list-style-type: none"> 1. Conduct visual inspection. Check for: <ol style="list-style-type: none"> (a) It is of colorless, clear to hazy, odorless, oily looking liquid. (b) function test: function test: Place 5 mL of the acid on a test tube and measure the pH using the pH meter, universal pH indicator. It must read below pH 7 2. Check if the item is placed in original packing, properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard

	<p>warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection.</p> <ol style="list-style-type: none"> 3. Account for: <ol style="list-style-type: none"> (a) Certificate of Analysis (b) Materials Safety Data sheet from the manufacturer 4. Inspect if it has a brand
Zinc Chloride, 100 grams / bottle	<ol style="list-style-type: none"> 1. Conduct visual inspection <ol style="list-style-type: none"> (a) It is of white powder, crystals or granules (b) function test by performing the Flame Test experiment; by placing zinc chloride on the nichrome wire loop and ignite it in the clear or bluish part of the flame. No color is emitted in the flame is observed 2. Check if the item is placed in original packing properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection. 3. Account for the: <ol style="list-style-type: none"> (a) Certificate of Analysis (b) Materials Safety Data sheets from the manufacturer 4. Inspect if it has a brand
Baking Soda (NaHCO ₃), 200 grams/bottle	<ol style="list-style-type: none"> 1. Do functionality test by mixing vinegar to the item. FBy doing so, the visibility of bubbles. 2. Inspect the availability of Material Safety Data Sheet 3. Inspect item is in original packing or packed in HDPE white threaded chemical seal pack bottles with inclusion as per “note” specified in technical specifications.
Boric Acid, 100 grams/bottle	<ol style="list-style-type: none"> 1. Conduct visual inspection. <ol style="list-style-type: none"> (a) It is a colorless or white odorless crystalline solid (b) function test. by performing the Flame Test experiment; by placing boric acid on the nichrome wire loop and ignite it in the clear or bluish part of the flame. The emission of green color in the flame is observed 2. Check if the item is placed in original packing, properly labeled with full chemical name, chemical formula, the name and address of the manufacturer, with appropriate hazard warning, with manufacturing and expiry dates, chemical assay, and other useful information regarding the product. Expiration should be at least two years after pre-delivery inspection.

	<ol style="list-style-type: none">3. Account for the: Certificate of Analysis Materials Safety Data sheets from the manufacturer4. Inspect if it has a brand
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