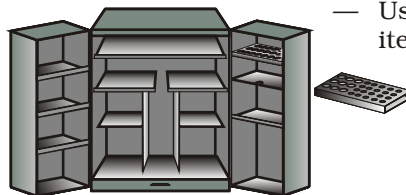


List Of Science Kit Items for Upper Primary Stage

Sl. No.	Item Name (No. of Items)	Figure/Setup	Uses
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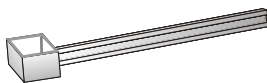
GENERAL ITEMS (Category A)

1. Kit Box
(1)



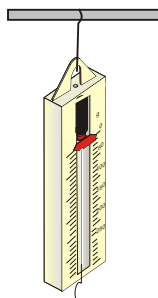
— Used for keeping kit items

2. 1 C.C. Spoon
(2)



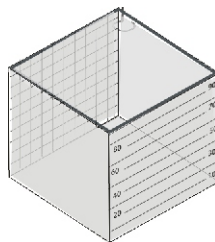
— Used for measurement (volume)
— Calibration of small vessel.
— Used as spoon for chemical.

3. Spring Balance
(1)



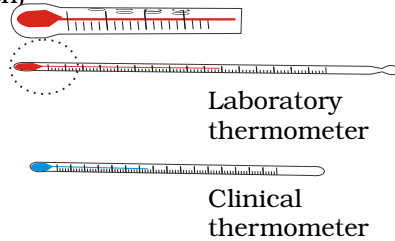
— Weight measurement up to 250 g.
— Measuring the force of pull applied for pulling object on plain/rough surfaces.
— To show the ease in pulling object on roller. To introduce the concept of density of different metals.

4. Decimeter cube vessel
(1)



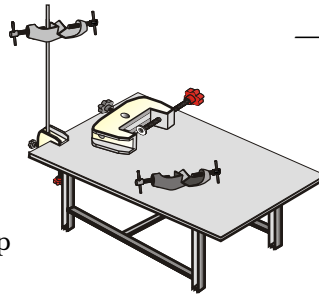
— To give an idea of cuboid.
— Used as container.
— To understand inter relationship of length area, volume and unit of litre (L).
— To measure liquid upto 1L.
— To find area of small irregular paper, leaf etc.

5. Thermometer
 — Laboratory (Alcohol)
 — Clinical
 (1 each)



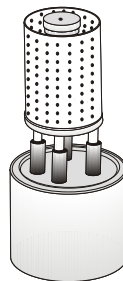
- Laboratory thermometer
 — To understand inter relationship of units for measuring temp.
 — Used for measuring temp of hot and cold liquids, soil, water etc.
- Clinical thermometer
 — For recording human body temperature.

6. Laboratory stand
 Plastic Vice/
 G-clamp
 (1)
 and Boss
 (2)
 head and Clamp
 (1)



- A collapsible stand/arrangement for performing various experiments.

7. Kerosene burner
 (1)



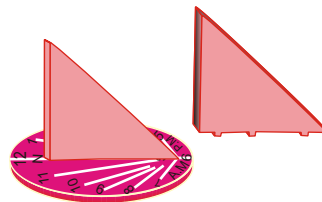
- Used as heat source in various experiments .
 — To understand principle of wick/ chimney as alternate to gas burner.

8. Tripod stand
 (1)



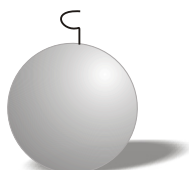
- Used as stand for various experiments including heating liquids in beaker, Can China dish etc.

9. Sun dial
 (1)



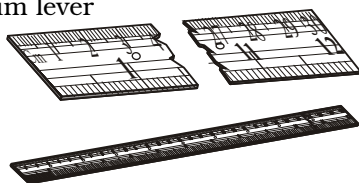
- To understand principle of old days time measuring device/system/ Principle.

10. Steel ball
(with a hole
for hook
arrangement)
(1)



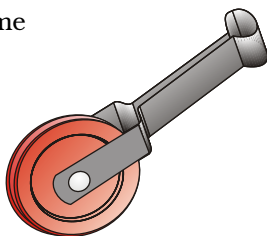
- To show experiments on friction (rolling).
- To show oscillating motion.
- To show time period of simple pendulum.

11. Aluminium
Ruler cum lever
(1)



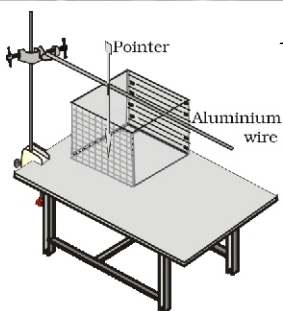
- To measure growth of plants
- To draw straight lines.
- As a measure of length, breadth etc or distance between 2 points.

12. Pulley with frame
(2)



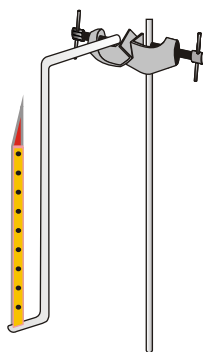
- To understand concept of pulley as a simple machine/lever.
- To demonstrate how pulley help us in doing work

13. Aluminium
wire and
pointer
(1)



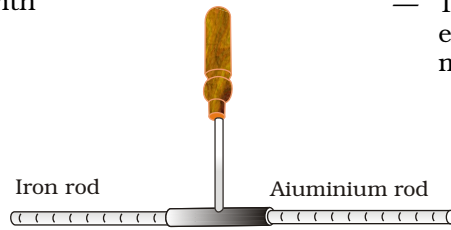
- To show expansion of Aluminium wire on heating.

14. Bimetallic
strip
(1)



- To understand the concept of thermostat (expansion of metals).

15. Rods with holder (1)



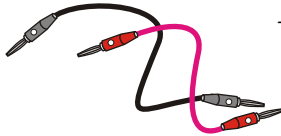
— To show variation in expansion of different metals.

16. Sitar String (Steel wire) (1)



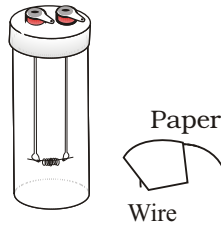
— Solid allows the sound to be transmitted through it
— To show that sound is produced by the to and fro motion of wire

17. Banana clips Connecting wire (2 sets)



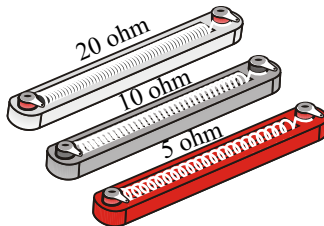
— Used as connectors on the circuit board during various electrical activities.

18. Fuses- (small roll) and Model showing heating effect of current (1)



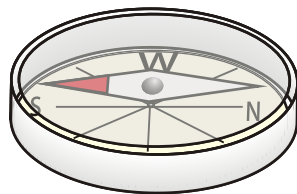
— Conversion of electric energy into heat energy.
— Function of fuse.

19. Set of four resistors 5 ohm, 10 ohm (2Nos.) 20 ohm. (4)



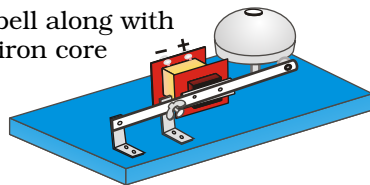
— To show resistance in series and parallel.
— To study the factors on which resistance of wire depends (Ohm's law) or current in a circuit depends upon the resistance.

19. Magnetic compass (1)



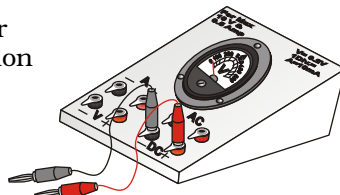
— To show how direction was known during travel around earth in olden days.
— To show effect of N.S pole on magnetic compass.

21. Electric bell along with coil and iron core (1)



- To study open model of bell.
- To show electromagnet and its application.

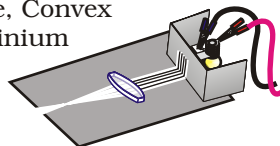
22. Panel for connection (1)



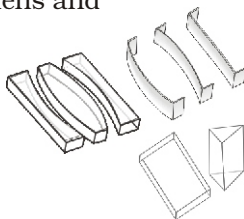
- Used as voltmeter, ammeter and for various reading.

23. Ray Streak apparatus and accessories

- (a) Cover with slits (1)
- (b) Screw type torch bulb (2) 6V
- (c) Plane, Concave, Convex mirror of aluminium sheet (1 each)



- (d) Double Convex lens (1)
- (e) Plane Concave lens and counter part of (d) 2 Nos.
- (f) Glass slab 92)
- (g) Triangular Glass prism (1)



- To find out focal length of convex and concave lens.
- To study that light travel in straight line.
- Observing convergence and divergence of ray through lens.
- Image formation by concave and convex mirror.
- To study refraction of through slab and prism.
- Dispersion of white(spectrum) light into constituent colours by prism.

24. Colour disk (1)



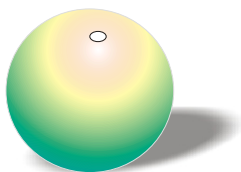
- Mixing of seven colours to form white.

25. Aluminium Disc with rubber cork (1)



- To show various application of electroscope in use with belljar.
- To produce , transfer, preserve and identify electric charge.
- Transfer of charges.

26. Thermocole
(Styrofoam ball)
(1)



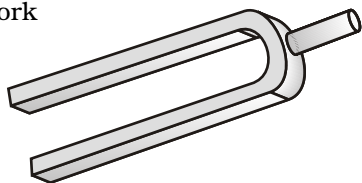
— For use in showing static changes

27. Transparent
PVC tube
(6 mm diameter)
(1)



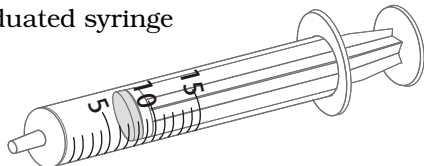
— To be used with funnel for stethoscope.

28. Tuning fork
(1)



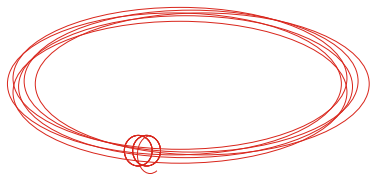
— To show sound is produced by vibrating objects.
— To show vibration of prongs with item No. 35

29. Graduated syringe
(1)



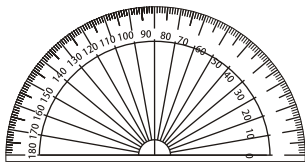
— As a measure of liquids 5-10 ml.
— To transfer liquids during experiments.

30. Copper wire
(1)



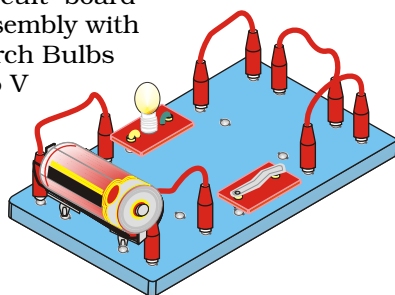
— As conducting wire in electricity related experiments.
— To make electromagnet connection .
— To show corrosive and non corrosive material, prevention etc.

31. Protactor
(1)



— To draw angle 0°-180°

32. Circuit board assembly with Torch Bulbs
1.5 V
(1)



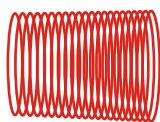
- To illustrate essential components of simple circuit.
- To show make and break of circuit.
- To show how electricity can be used to do work.
- To show electromagnet.

33. LED
(Light emitting diode)
(1)



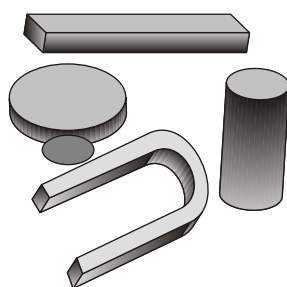
- used as indicator in test lamps.

34. Slinky
(1)



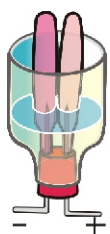
- To show longitudinal and traverse waves.

35. Magnets
(1 each)



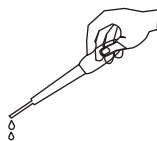
- To show that the attraction for iron is intense at end but poor at middle.
- To show existence of poles
- Freely suspended magnets always point N-S direction.
- Attraction of same pole
- repulsion of opposite poles.
- Existence magnetic field.

36. Stainless Steel electrodes fixed in cork



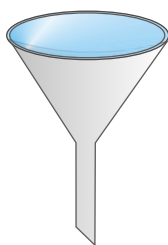
- To show concept of electrolysis, used with belljar.
- Water is made up of oxygen and hydrogen.
- know ratio of two gases.
- Testing of Hydrogen and oxygen.

37. Plastic (3mL) Pasteur pipette
(10)



- To transfer drops of chemicals.

38. Plastic funnel
(1)



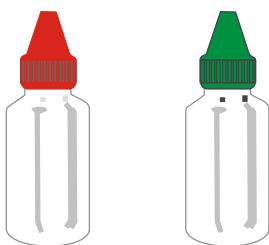
- For pouring liquids into container.
- To show filtration.
- Exhale and inhale of air /functioning of human lungs.
- To show effect of sunlight on photosynthesis.

39. Filter paper
(10 pieces)



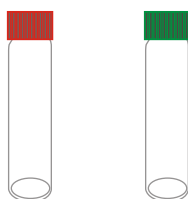
- Used for filtering the substances or product of a chemical reaction or in chromatography, etc.

40. Dispensing bottles
(20)



- Used to keep the chemical reagents.
- Open the cap and squeeze the bottle to dispense one or two drop.
- Label the dispensing bottle.

41. Vials
(20)



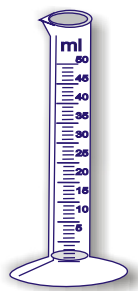
- Use as a container to store the solid chemicals.

42. Compound Microscope
(1)



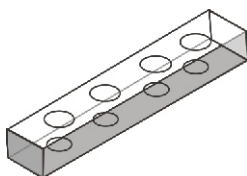
- For assisting eyes in the vision of minute objects or features of objects which can't be seen with naked eye.
- To observe slides, feature of insects.
- To study structures.

43. Measuring cylinder
(1)



- To measure liquids during experiments.
- As container

44. Micro test tube rack
(2)



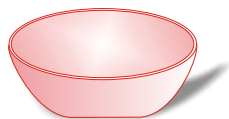
- The test tube rack is used to hold test tubes while reactions happen in them or while they are not needed.

45. Deflagrating spoon
(1)



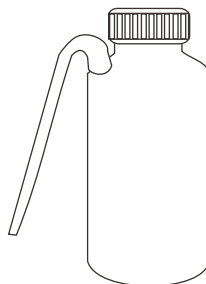
- For burning Magnesium ribbon during experiment
- Percentage of oxygen in air.

46. China dish
(1)



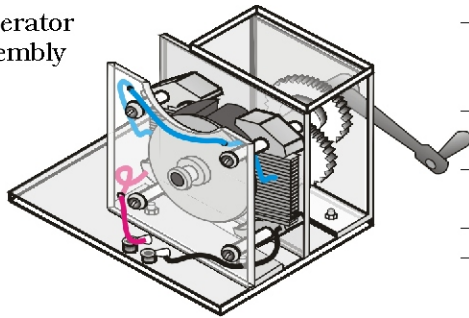
- Heating of chemical during experiment
- As container

47. Wash bottle
(1)



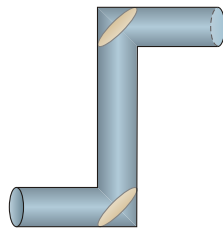
- Used to contain water to wash the apparatus.

48. Generator Assembly
(1)



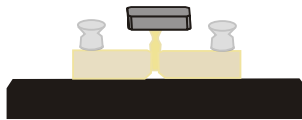
- As mini power house(15V, 500 mA) for experiments.
- To show conversion of energy.
- Lighting bulb for expt with light.
- Electrolysis of water.
- Experiment with set of resistors.

49. Periscope Frame with mirror
(1)



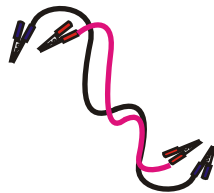
- Used to fit the plane mirror strips and work as Periscope.

50. Plug Key
(1)

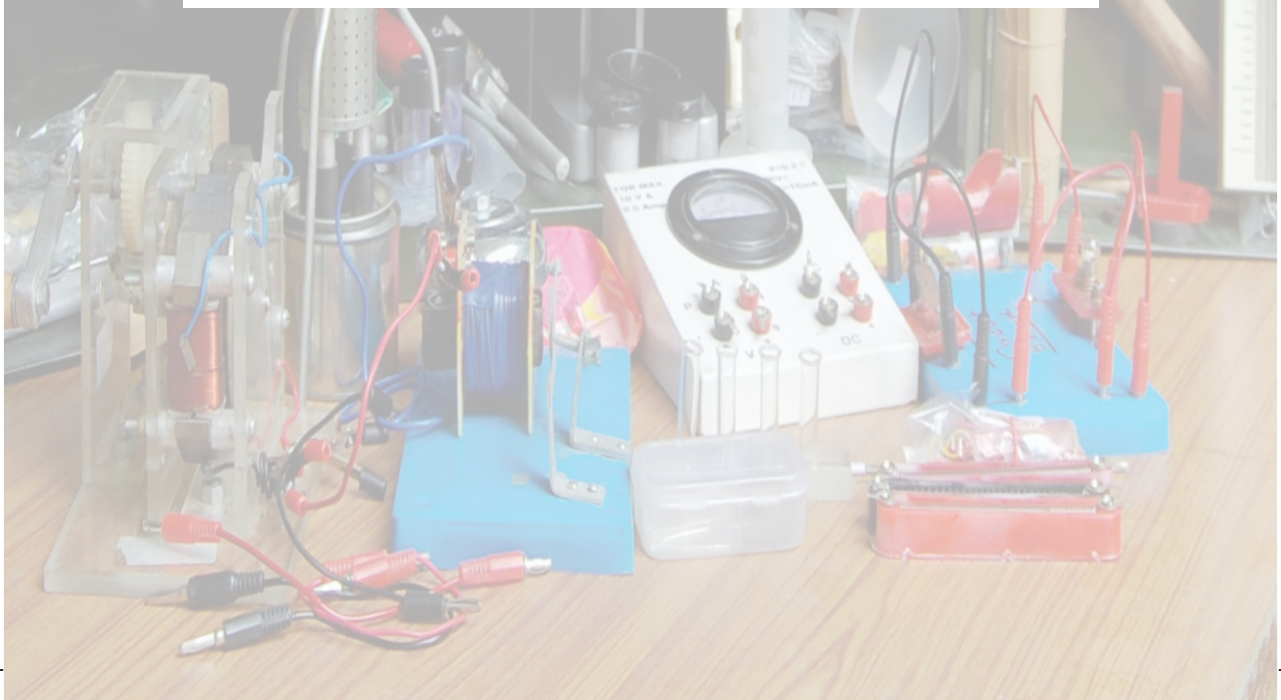


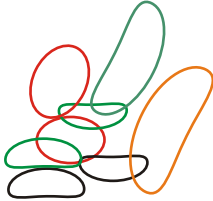

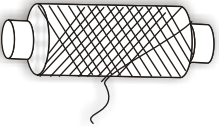
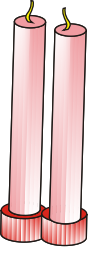
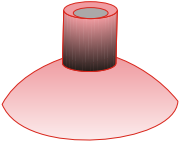

- Used to one way key in an electrical circuit.

51. Crocodile clips
(5 set)

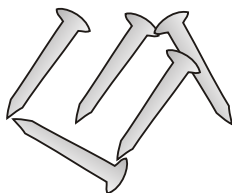


- Used as connectors on the circuit board during various electrical activities.



Sl. No.	Item Name (No. of item)	Figure/Setup	Uses
GENERAL ITEMS (Category - B)			
1.	Rubber bands (assorted size)		<ul style="list-style-type: none"> — To produce vibration, sound etc. — Miscellaneous use.
2.	Rubber balloons (assorted size)		<ul style="list-style-type: none"> — To show sound can travel in water. — Used diaphragm in expt to show inspiration and expiration. — Diaphragm in experiments show an improvised pressure detector miscellaneous use.
3.	Cotton thread (1)		<ul style="list-style-type: none"> — To show oscillation of simple pendulum. — Miscellaneous use.
4.	Candle (2)		<ul style="list-style-type: none"> — As a heat source if no alternative available. — To differentiate between burner and candle flame.
5.	Rubber suckers (2)		<ul style="list-style-type: none"> — To show difference of pressure.
6.	Forceps (1)		<ul style="list-style-type: none"> — Used to pick and hold the subject while experimenting.

7. Iron Nails
(assorted size)
(10)



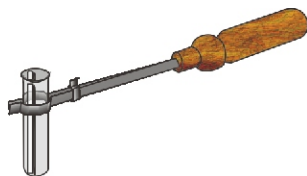
— To test the strength of the magnetic pole of a bar magnet.

8. Test tube brush
(1)



— For collecting and cleaning chemical etc.

9. Test tube holder
(1)



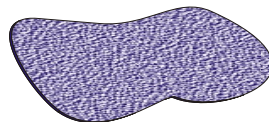
— To hold test tube while performing (expts).
— Heating chemicals during expts.

10. Polyester cloth
(150 × 150 mm)



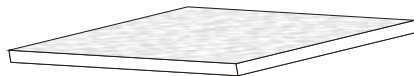
— Used for rubbing with balloons/plastic strips to get electric charge.

11. Woolen cloth
(150 × 150 mm)



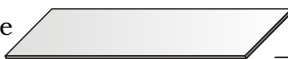
— Used for rubbing with 30 to get electric charge.

12. Thermocole sheet
(1no.)



— Used as mounting board.
— for study experiment with electrostrobe.

13. Plastic strip with
woollen cloth
attached at one side
(100 × 100 mm)
(1)



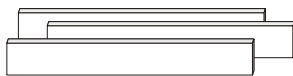
— To show difference between transparent, translucent and opaques medium.
— To generate static charges.

14. Glazed glass sheet
(100 × 100 mm)
(1)



— Used for mixing dry paste type chemical during experiment.

15. Plane mirror strips (3)



— For preparing Kaleidoscope.

16. Copper strip (2 × 10 mm) (2no.)



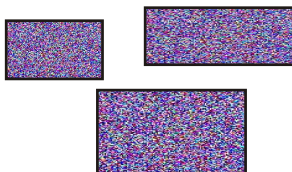
— Cu as electrodes for electrolysis.

18. Emery paper (1 piece)



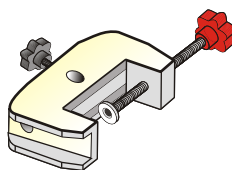
— General use.

22. Sand paper of different numbers (3 pieces)



— General use.

23. G-Clamp (1)



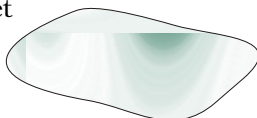
— Used as vice.

24. Lens and spherical mirror stand (1)



— Used to hold the lens and spherical mirror.

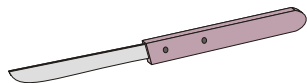
25. Thin rubber sheet (100 × 100 mm) (1 piece)



— General use.

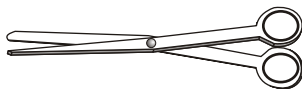
TOOL ITEMS

1. Knife
(1)



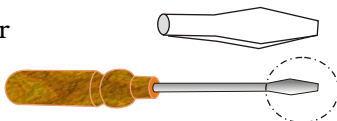
- Used for cutting during experiments
- Used for pruning plants and paper.

2. Surgical scissor
(1)



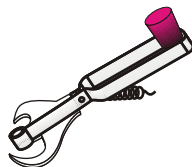
- Used for cutting thin metal/plastic foil.
- for pruning plants etc.

3. Screw driver
(1)



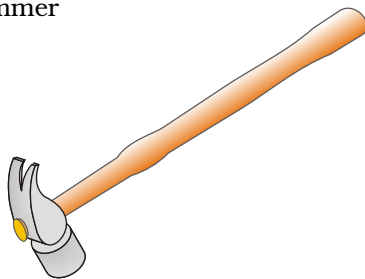
- Used for screwing/Un screwing.

4. Bottle opener with corkscrew and screwdriver
(1)



- Used as striker for tuning fork.
- Used as bottle opener.
- As screw driver.

5. Claw hammer
(1)



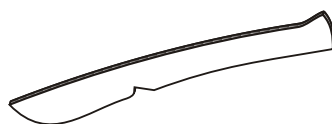
- To remove inserted nails.
- For inserting nails in table/wall.
- For breaking solid chemical.
- To feel hardness/softness of metal.
- To show simple lever.

6. Shaving blade
(1)



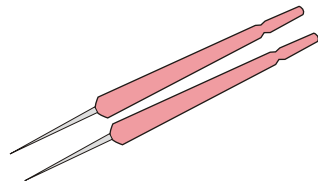
- For cutting wax, semisolid chemical, pruning of plants etc.

7. Scalpel
(1)



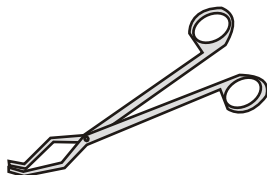
- Used in dissection.

8. Dissecting
Needle
(2)



- To point out different parts of biological specimen.
- To pierce paper or any other such item.

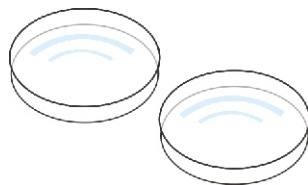
9. Pair of tongs
(1)



- For holding hot glass rod test tube etc. during experiments.

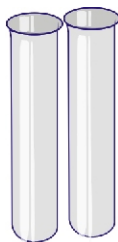
Glass Ware Apparatus and Metarials

1. Petridish
(1)



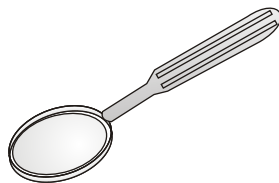
- Used with bell jar for getting distilled water.
- As container.
- used for germinating seeds.

2. Micro test tube
4/8 mL
(10)



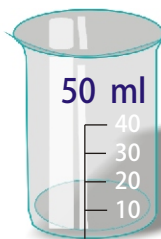
- For experiment requiring heating, holding of chemical etc.

3. Magnifying
glass
(1)



- Used to show magnification.
- To study structure of various chemical, granules etc.

4. Beaker
(1)



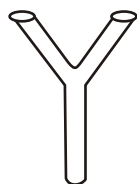
- As container for use in electro-chemical experiments, thermo-chemistry, preparation of salts, etc.

5. Glass Slides (10)



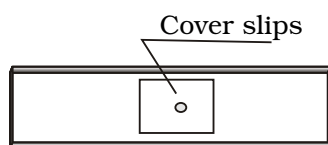
— Used to collect specimen.

6. Y - Tube Brosilicate (1)



— To show working of lungs.

7. Cover slips (20)



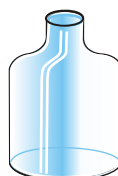
— For covering specimen that is being observed under a microscope.

8. Glass Rod (2)



— For covering specimen that is being observed under a microscope.

9. Bell Jar (1)



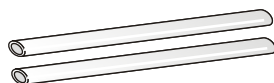
— To show function of lungs.
— To show electrolysis.

10. Double mouthed flask (1)



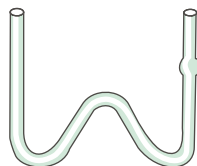
— To show percentage of oxygen in air.
— To Show acid and bases character of non metals.

11. Glass tube (1)



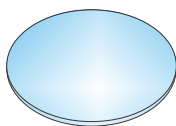
— For miscellaneous use in chemistry experiment.

12. W-Tube (5)



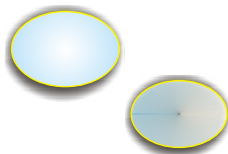
— To test properties of gases.

13. Watch Glass
(1)



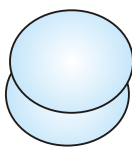
— The watch glass is used to hold solids when being weighed or transported. It should never be heated.

14. Double Concave and Double Convex Lens
(FL 20 cm, dia 50 mm)

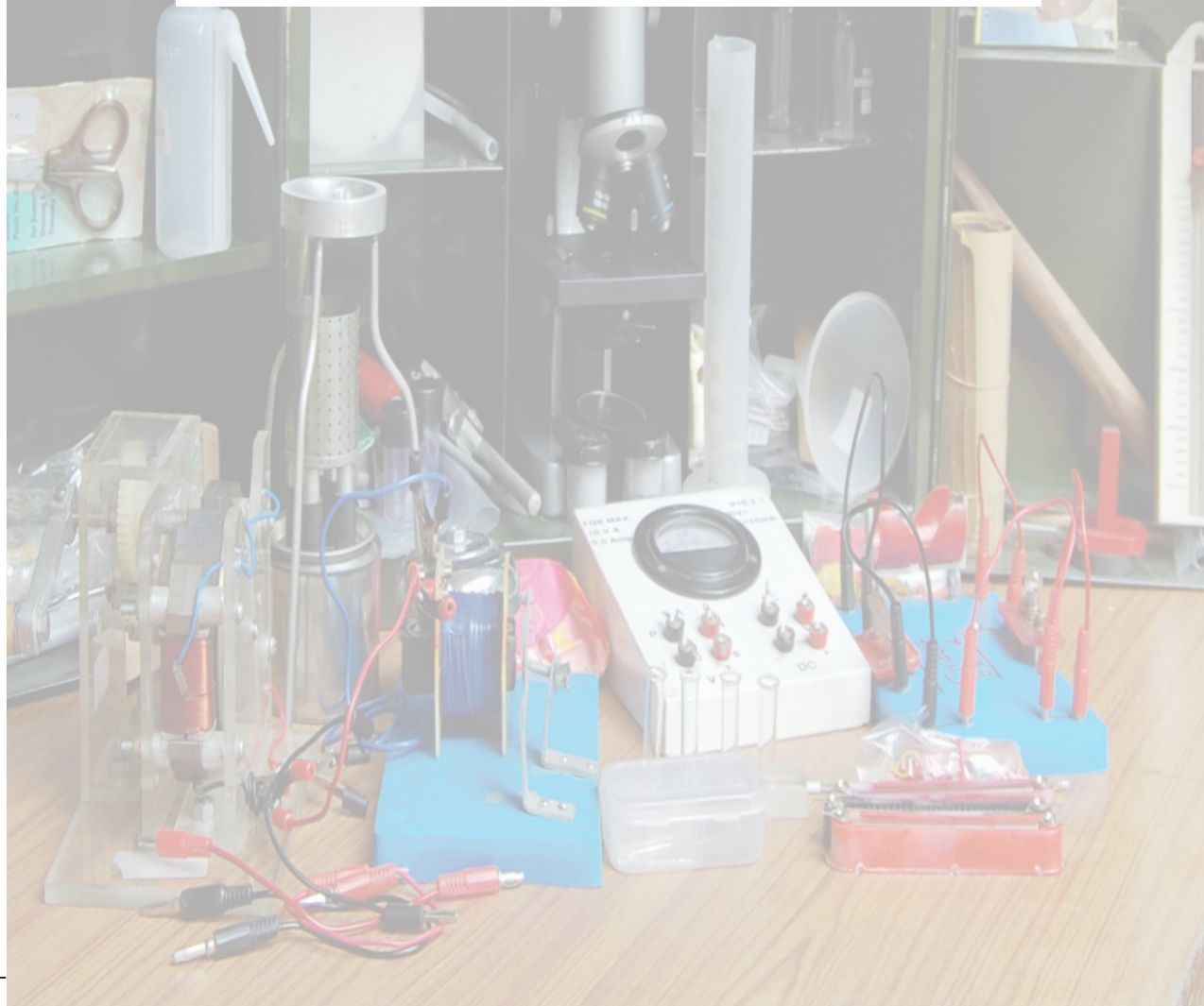


— Used to show the image formation on a screen.

15. Concave and Convex Mirror
(FL 20 cm, dia 50 mm)
(1)



— Used to show the image formation on a screen.



LIST OF CHEMICALS

1. Permanent Slides
 - (i) Hydro showing budding
 - (ii) Amoeba showing binary Fission
 - (iii) Paramecium (1 each)
2. Yeast Powder (10 g)
3. Urea (10 g)
4. Calcium Oxide (10 g)
5. Copper Sulphate (10 g)
6. Sodium Hydroxide (10 g)
7. Methylene Blue Solution (10 mL)
8. Universal Indicators Solution (10 mL)
9. Phenolphthalein (10 g)
10. Magnesium Ribbon (1)
11. Baking Soda (10 g)
12. Sodium Chloride (10 g)
13. Iron Fillings (1 vial)
14. Litmus Paper (Red And Blue)
15. Methylated spirit