



भारतीय शिक्षा बोर्ड (BSB)

(A National Board for School Education)

No.BSB/Affi./Guidelines/

Dated: 21.05.2026

All School Managers Principals
Provisional Affiliated Schools


Guidelines to Provisionally Affiliated Schools

Bhartiya Shiksha Board, Haridwar(Uttarakhand) is a National School Education board, established by the Government of India. Schools from various states and union territories across the country are continuously obtaining affiliation from the Board.

The school affiliation process is being conducted as per the provisions of the Affiliation By-laws of the Board. Among the schools applying for affiliation to the Board, the schools which fulfill the infrastructure criteria, safety certificate and all other criteria of the Board, permanent affiliation is provided but those schools which are in the process of fulfilling the infrastructure or any other criteria at the time of applying for affiliation and the school gives assurance that this work will be completed soon, such schools have been given conditional provisional affiliation.

All schools that have been granted provisional affiliation must fulfill all the infrastructure and other criteria within the stipulated time. Upon fulfilling all the criteria, the school must apply for permanent affiliation to the Board along with evidence of the completed work. Upon receiving the application, and verification of the work completed in the school, the school will be issued a permanent affiliation certificate in place of the provisional affiliation.

The guidelines for the infrastructure and other criteria are being annexed here with. All the provisionally affiliated schools have to ensure that these guidelines will be duly fulfilled as per the annexure given.


(Rajesh Pratap Singh)
I.P.S. (Retd.)
SECRETARY, BSB

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Computer Laboratory Setup Guidelines for Schools

These guidelines outline the requirements for setting up computer labs in BSB-affiliated schools. Based on NIELIT skill course standards, these guidelines have been designed to meet both current needs and ensure labs are prepared for the future.

1. Physical Infrastructure

Parameter	Requirement
Room Size (minimum)	For 20 PCs: Min 600 sq ft to 1,000 sq ft. Spacing between workstations should ideally be ≥ 3 ft on all sides.
Ventilation & Lighting	Adequate natural or mechanical ventilation. Room must not overheat above 28 deg C. Windows or exhaust fans required. No direct sunlight glare on screens.
Building Condition	Pucca (permanent) construction only. Roof must be leak-proof. Electrical wiring must be concealed and ISI-certified.
Accessibility (optional)	Located on ground floor preferred. If upper floor, staircase must have handrails. Entry door ≥ 4 ft wide.

2. Computer Requirements

- 2.1 The school should have a minimum of 10-20 computers in working condition in the computer lab. Existing schools shall gradually enhance their infrastructure as per present guidelines.
- 2.2 For effective learning, the schools should try to maintain a computer-to-student ratio of 1:18. Schools with up to 800 students must have at least one computer lab. One additional lab must be set up for every additional group of up to 800 students.
- 2.3 If the school is offering any subject related to Computer Science or IT at Senior Secondary level, it should have a separate laboratory with adequate provisions for the same.
- 2.4 Students should be allowed in the laboratory only under the supervision of a teacher. Adequate provisions related to cyber safety must be in place.

3. Hardware Specifications

Component	Minimum (Required)	Recommended
Processor	Intel Core i5 (10th generation or newer) or equivalent	Intel Core i7 (10th gen or newer) ≥ 3.6 GHz
RAM	8 GB DDR4	16 GB DDR4
Storage	512 GB SSD or 1 TB HDD with at least 50 GB free space	1 TB SSD preferred

Component	Minimum (Required)	Recommended
Monitor / Display	18.5" LCD or larger	21" or larger
Operating System	Linux (recommended) or Windows 10/11 Licensed version	Linux preferred; Windows 10/11 acceptable
Network Interface	Realtek PCIe or equivalent	Gigabit Ethernet
Audio-Video I/O	Webcam (internal or external) and speakers / headphones	Full HD webcam, external speakers
Browser	Latest Microsoft Edge / Google Chrome / Mozilla Firefox with JavaScript (keep regularly updated)	—

4. Server Requirements

At least one dedicated server is mandatory for schools:

Component	Specification
Processor	Intel Core i7 CPU (minimum) / Intel Xeon D/E/W series with at least 8 CPU cores or more
RAM	16 GB DDR4 minimum
Storage	2 TB internal SSD or 2 TB x4 internal HDD
NIC	Realtek PCIe or Gigabit Ethernet
Operating System	Linux (recommended) or Windows 10/above Licensed version; Windows Server 2016/2019 for larger deployments
Connectivity	Must be connected to all client PCs via LAN switch (Gigabit preferred)
Monitor / Display	15–18" LCD monitor
Other	Internal or external Webcam; external hard drive for backups

5. Power Backup Requirements

Item	Requirement	Status
UPS	Required for every PC and server. Minimum 30-minute backup per workstation. All PCs must be on UPS — no direct connections.	Mandatory

6. Internet & Network Infrastructure

Parameter	Requirement
Primary Internet Line	Broadband / Fiber \geq 50 Mbps (for 20 PCs). Leased line or Wi-Fi with high-speed connectivity. ISP with \geq 99% uptime SLA

Parameter	Requirement
	preferred.
LAN Setup	Cat 5e or Cat 6 cabling to all workstations. All systems interconnected in a single LAN network. Managed switch preferred.
Firewall / Security	Hardware or software firewall required. Licensed Anti-Virus and other security software mandatory on all systems. Social media and gaming sites should be blocked during lab hours using content filters.
CCTV / IP Camera [MANDATORY]	Minimum 2 cameras covering the entire lab. Recording with \geq 7-day storage. Mandatory for examination centre approval.
Cyber Safety	Schools must adhere to the Guidelines for Safe and Effective Use of Internet and Digital Technologies in Schools. Students allowed in lab only under teacher supervision.

7. Peripherals & Accessories

Item	Requirement	Status
Printers	At least 2 printers per computer lab (laser or inkjet, network-capable).	Optional
Scanners	At least 2 scanners per computer lab.	Optional
Smart Boards	At least one Smart Board per computer lab for effective classroom transactions.	Mandatory
Data Backup Devices	Cloud-based OR physical external Hard Disk Device (HDD) for all data storage and backup. Backup must be performed regularly.	Mandatory
Webcam/ Speakers	Internal or external webcam and audio output (speakers/headphones) for each workstation.	Mandatory

8. Software Requirements

Category	Requirement
Operating System	Linux (recommended) or Windows 10/above (licensed). Schools procuring new hardware should prefer Linux.
Browser	Latest Microsoft Edge / Google Chrome / Mozilla Firefox with JavaScript enabled. Must be regularly updated to address security threats.
Anti-Virus & Security	Licensed Anti-Virus software mandatory on all systems including server. Other security software as required.
Educational Software	Age-appropriate licensed or open-source educational software suited to the curriculum offered.
Office Suite	Licensed office productivity suite or equivalent open-source

Category	Requirement
	alternative (e.g., Libre Office).

9. Safety & Supervision

Parameter	Requirement
Teacher Supervision	Students must be allowed in the computer laboratory only under the supervision of a teacher at all times.
Electrical Safety	All electrical wiring must be concealed and ISI-certified. No exposed wires or unprotected sockets.
Content Filtering	Social media, gaming, and inappropriate websites must be blocked during lab hours using hardware or software content filters.
Cyber Safety Policy	Schools must comply with safe and effective use of Internet and Digital Technologies.
CCTV Surveillance	Minimum 2 IP cameras covering the entire lab with at least 7 days of recorded storage. Mandatory for examination centre approval.

Composite Science Laboratory Setup Guidelines for Schools

In alignment with NEP recommendations and to ensure clarity for all stakeholders, this SOP outlines the requirements for establishing and operating of a Composite Science Laboratory in schools. It includes essential safety guidelines for students and operational instructions for teachers. The SOP also emphasizes proper management of waste generated during practical activities. It aims to promote safe practices, hygiene, and responsible laboratory behavior, thereby minimizing risks and preventing accidents.

1. Science Laboratory – Purpose (BSB)

Science laboratories provide hands-on learning experiences that connect theory with real-life applications. In alignment with Bhartiya Shiksha Board, science education is experiential, inquiry-based, and rooted in Bharatiya values.

Laboratory activities develop observation, experimentation, analysis, and logical reasoning skills. They also nurture curiosity, creativity, and scientific temperament along with values like discipline and integrity.

Practical's make learning engaging, competency-based, and connected to local context and traditional knowledge systems. They encourage students to explore, innovate, and communicate effectively.

2. Objectives

A well-equipped Science Laboratory aims to:

- Promote holistic, integrated, and value-based learning
- Strengthen conceptual understanding through experiential learning
- Provide opportunities for observation, experimentation, and innovation
- Integrate modern science with Bhartiya knowledge systems
- Fulfil curricular expectations effectively
- Develop research orientation from the school level
- Encourage collaboration and teamwork

3. Curricular Expectations

At this stage, learners are expected to:

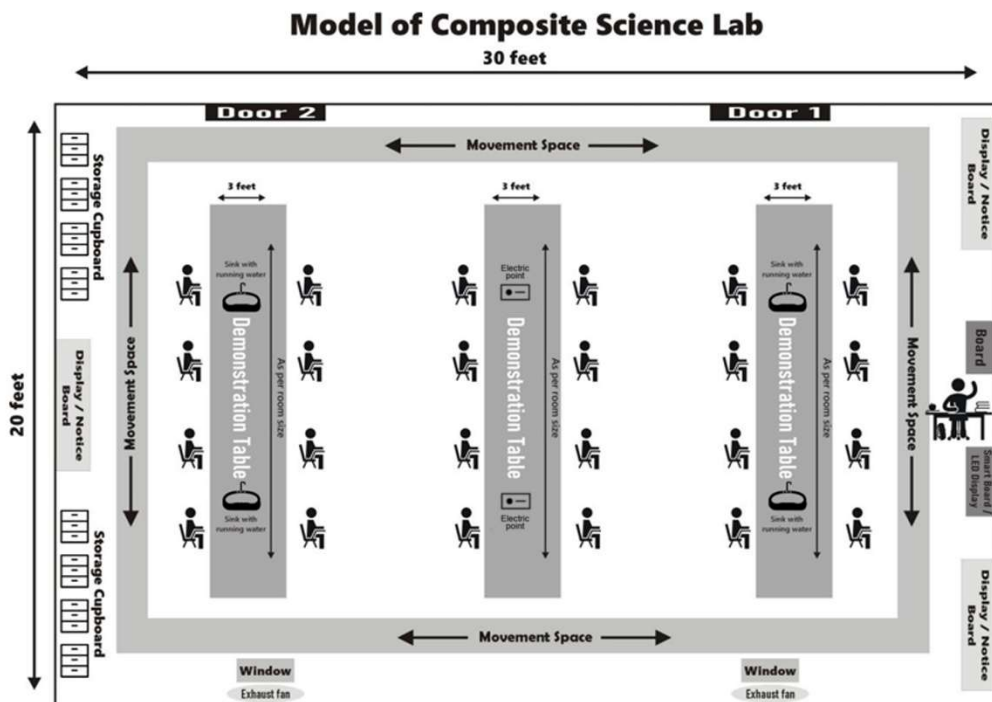
- Develop a clear understanding of scientific concepts, principles, laws, and their interconnections

- Apply scientific methods systematically, including observation, questioning, hypothesis formation, planning and conducting investigations, and drawing evidence-based conclusions
- Perform experiments with accuracy, including quantitative measurements and data analysis
- Develop scientific temper marked by objectivity, rational thinking, and openness to new ideas
- Demonstrate curiosity, creativity, and problem-solving abilities
- Communicate scientific findings effectively using appropriate language, diagrams, and representations
- Show sensitivity towards sustainable development, human dignity, equity, and social responsibility

4. Pedagogy of Science education as recommended by National Education Policy 2020

- Chapter 4 of NEP 2020 ‘Curriculum and Pedagogy in Schools: Learning Should be Holistic, Integrated, Enjoyable, and Engaging’ has laid a wide emphasis on Experiential learning in all stages of science education in Para 4.6.
- Chapter 7 of NEP 2020 in Para 7.5 has mentioned the importance of well-equipped science laboratories for strong science education.
- According to Para 12.1. The curriculum must be interesting and relevant, and updated regularly to align with the latest knowledge requirements and to meet specified learning outcomes which can be made possible by well-equipped science laboratories.

5. Model Layout of Composite Science laboratory



6. Infrastructure required :Recommendations for Infrastructure

S.No	Category / Materials needed	Requirements
1	Physical Infrastructure	Minimum Lab. Room size 600 Sq.ft.
2	Storage	A separate room or cupboards within lab for consumables and non- consumables items in the lock and key mechanism, thus ensuring a safety, dust and vermin-free environment.
3	Teaching facility	Preferably an intelligent/Smart board with an internet Facility and white / green board.
4	Demonstration Table	There should be one demonstration table for teacher and min 20 seats should be made available to the students, so students sit at the allotted place and note the instructions from the teacher.
5	Display / Notice Board	Do's & Don'ts/rules for the laboratory use/ safety procedures/List of practical activities/ Timetable- (laboratory timetable)/ Emergency Contact numbers
6	Gas/ heating	Preferably gas pipeline. (2 heating burners)
7	Sink with Water supply	At least 4 sinks with water supply

8	Waste management	02 bins to be installed for biodegradable and non - biodegradable waste.Flammable chemicals bottles must be packed separately. Empty chemical bottles can be packed in cartons/sacks. Disposal must be sent to the Material Management Division of the school.
9	Fire extinguisher	To be installed at a prominent place within the laboratory or in the corridor outside the laboratory.
10	Exhaust fans	2 in number
11	Medical First Aid Kit	1 in number
12	Heating facility	One Heater should be available in the lab to conduct Heat related experiments

7. Minimum requirement of equipment for composite Science laboratory

a. List of Non-Consumable Items(for a batch of 20 students)

S. N.	Materials	No	S. N.	Materials	No
1	Assembled Microscope	2	24	Concave Mirror	6
2	Test Tubes	10	25	Concave Lens	6
3	Boiling Tubes	10	26	Separating Funnel	6
4	Beakers (100ml)	5	27	China Dish	6
5	Beakers (500ml)	5	28	Petri Dish	6
6	Conical Flask	5	29	Needles(To keep the Coverslips)	10
7	Tripod Stand	6	30	Laboratory Thermometer	6
8	Wire Gauze	6	31	Spring Balance (0-250 gm)	5
9	Filter Paper	2 Boxes	32	U-Shaped Magnet	2
10	Funnel (Small) (Both Glass and Plastic One)	5+5	33	Specimens	20
11	Funnel (Big) (Both Glass and Plastic one)	5+5	34	Permanent Slides	20
12	Spatula	10	35	Magnetic Compass	5

13	Round Bottom Flask (Small)	5	36	Bar Magnet	6
14	Laboratory Thermometer	6	37	Iron Fillings	2 Boxes
15	Glass Rod	6	38	Iron Stand	4
16	Droppers (Big+Small)	6+6	39	Thumb Pins	2 Box
17	Deflagrating Spoon	5	40	Bunsen Burners	To be attached to gas supply
18	Plane Mirrors	6	41	Glass prism	4
19	Stands for plane Mirrors	6 Pairs	42	Gas Jar	4
20	Test Tube Holder	6	43	Pair of Tongs	5
21	Scissors	4	44	Convex Mirror	6
22	Charts for Display	8-Jan	45	Convex Lens	6
23	Portraits of scientist (as per choice)	8-Jan			

b. List of Consumable Items(for a batch of 20 students)

S. No	Materials Required	Requirement
1	Hand Wash	2 Bottles
2	Hand Sanitizer	2 Bottles
3	Iodine Solution	200 ml
4	Copper Sulphate	200 gm
5	Sodium Hydroxide pallets	200 gm
6	Matchboxes	3
7	Slides	10 Boxes
8	Cover Slips	10 Boxes
9	Alcohol	500 ml

10	Litmus Paper (Red and Blue)	20 Booklets Each
11	Sodium Chloride	2000gm
12	Hydrochloric Acid (Both Dilute and Concentrated)	200 ml each
13	Methyl Orange	2 Bottle
14	Phenolphthalein	2 Bottle
15	Lime Water	As required
16	Magnesium Ribbon	4 Coils
17	Sulphur Powder	200 gm
18	Zinc Granules	2 Bottle

c. Biological Science requirements(for a batch of 20students at any given time):

S. No.	Specimen Required	Number
1	Insectivorous Plants	3
2	Hydrilla	2
3	Model of different types of teeth	2
4	Model of a Simple pendulum	2
5	Life Cycle of Silkworm	2
6	Root Nodules (Rhizobium)	2

d. Equipments and items Requirement(for a batch of 20 students at any given time):

S. No.	Permanent Slides Required	Number
1	Different Shapes of Bacteria (Bacilli, Cocci, Spirilla)	2 Each
2	Amoeba	2
3	Amoeba- Binary Fission	2
4	Hydra	2
5	Bread Mould	2
6	Spirogyra	2

7	Budding in Yeast	2
8	Paramecium	2
9	Chlamydomonas	2

8. Safety Guidelines

a. General SOP guidelines

- Ensure the laboratory has two wide exits for safe and unobstructed evacuation.
- Provide an adequate number of functional fire extinguishers in accessible locations.
- Ensure all gas connections meet prescribed safety standards.
- Periodically check and maintain electrical fittings and insulation.
- Display safety instructions (Do's and Don'ts) prominently in the laboratory.
- Store all chemicals and equipment in a safe and secure manner.
- Ensure proper labeling and maintenance of all materials.
- Provide necessary protective equipment such as goggles, gloves, and fume hoods.
- Keep emergency preparedness measures in place at all times.
- Ensure availability of first aid and basic medical facilities in the school.

b. Laboratory Safety Instructions for Students

- Do not handle any equipment, chemicals, or devices without permission.
- Exercise caution while performing electrical experiments.
- Never touch wires or electrical equipment with wet hands.
- Follow all instructions given by the teacher carefully.
- Begin an experiment only after fully understanding the procedure.
- Stay alert and report any unsafe condition immediately.
- Never work alone; ensure teacher supervision at all times.
- Report any spill, breakage, or injury immediately and remain calm.
- Do not taste or directly smell any chemical.
- Always switch off power and handle plugs carefully with dry hands.
- Do not return unused chemicals to original containers.
- Do not remove chemicals from the laboratory.
- Allow hot glassware to cool naturally; do not place it in cold water.
- Observe heated substances from the side, not directly from above.
- Turn off gas supply immediately if a burner goes out.
- Never leave a lit burner unattended.
- Wash hands thoroughly after completing lab work.

Biology Laboratory Setup Guidelines for Schools

In alignment with NEP recommendations and to ensure clarity for all stakeholders, this SOP outlines the requirements for establishing a Chemistry Laboratory in schools. It includes essential safety guidelines for students and operational instructions for teachers. The SOP also emphasizes proper management of waste generated during practical activities. It aims to promote safe practices, hygiene, and responsible laboratory behavior, thereby minimizing risks and preventing accidents.

1. Biology Laboratory

Biology laboratories provide hands-on learning experiences that connect theory with real-life applications. In alignment with Bhartiya Shiksha Board, science education is experiential, inquiry-based, and rooted in Bhartiya values.

Laboratory activities develop observation, experimentation, analysis, and logical reasoning skills. They also nurture curiosity, creativity, and scientific temperament along with values like discipline and integrity.

Biology Practical make learning engaging, competency-based, and connected to local context and traditional knowledge systems. They encourage students to explore, innovate, and communicate effectively.

A well-equipped Biology Laboratory aims to:

- Promote holistic, integrated, and value-based learning.
- Strengthen conceptual understanding through experiential learning.
- Provide opportunities for observation, experimentation, and innovation.
- Integrate modern science with Bhartiya knowledge systems.
- Fulfill curricular expectations effectively.
- Develop research orientation from the school level.
- Encourage collaboration and teamwork.

2. Curricular Expectations

At the Senior Secondary level, students who choose Biology are expected to deepen their understanding of the living world and the scientific principles that explain it. They should be able to identify and comprehend key concepts, theories, and laws that govern biological systems and their interaction with the physical environment.

Students are encouraged to develop scientific skills such as careful observation, asking relevant questions, designing and carrying out investigations, forming hypotheses, and systematically collecting and analyzing data. They should also learn to interpret results, communicate their findings with proper evidence, and think critically while evaluating different biological explanations.

An important goal is to help learners become familiar with the tools and techniques used in Biology and apply them effectively to study and analyze various biological issues. Practical work, including experiments involving measurements, plays a key role in strengthening their understanding.

Students should also appreciate that biological knowledge has evolved over time and recognize its historical development. The curriculum aims to nurture a scientific attitude marked by objectivity, open-mindedness, critical thinking, creativity, and freedom from bias. At the same time, it encourages curiosity and an appreciation for the beauty and complexity of life processes.

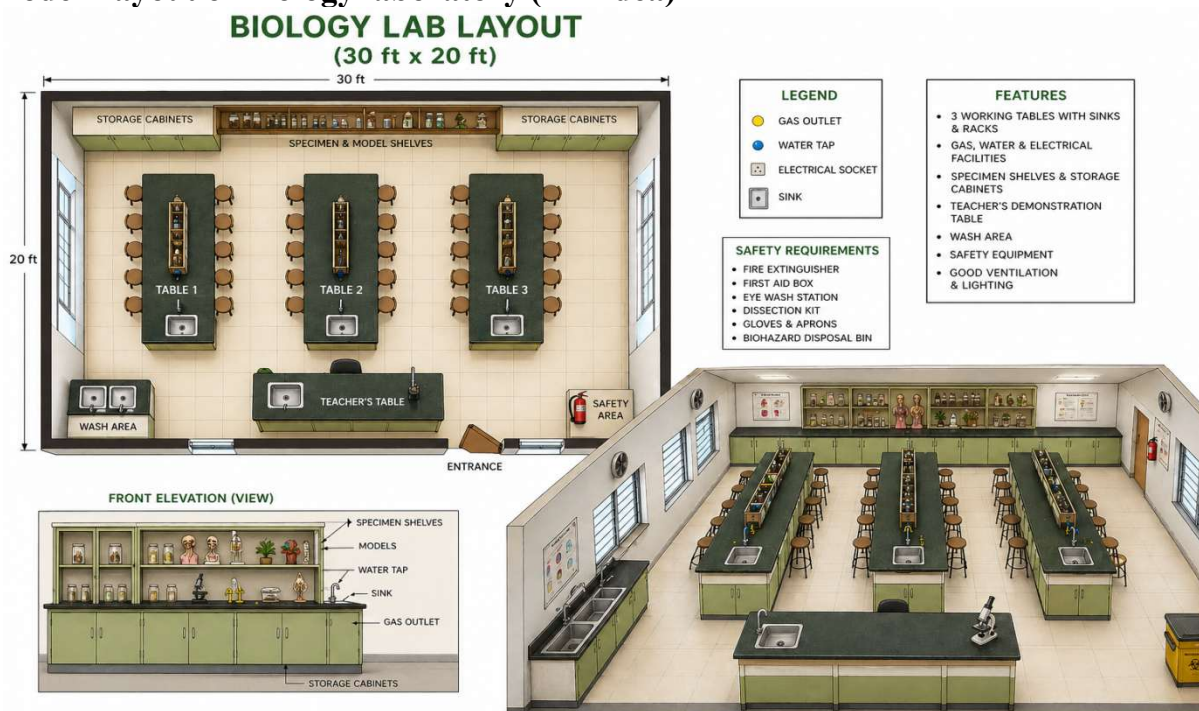
Values such as honesty, integrity, cooperation, respect for all forms of life, and environmental responsibility are emphasized. Learners are expected to respect human dignity, equality, and rights.

Biology education at this stage also focuses on connecting concepts to real-life situations, enabling students to develop innovative problem-solving skills related to health, environment, and everyday life. They should be able to relate simple biological ideas to more complex phenomena and understand how Biology is interconnected with other fields of knowledge through common underlying principles.

3. Pedagogy of Biology education as recommended by National Education Policy 2020

- Chapter 4 of NEP 2020 ‘Curriculum and Pedagogy in Schools: Learning Should be Holistic, Integrated, Enjoyable, and Engaging’ has laid a wide emphasis on Experiential learning in all stages of science education in Para 4.6.
- Chapter 7 of NEP 2020 in Para 7.5 has mentioned the importance of well-equipped science laboratories for strong science education.
- According to Para 12.1. The curriculum must be interesting and relevant, and updated regularly to align with the latest knowledge requirements and to meet specified learning outcomes which can be made possible by well-equipped science laboratories.

4. Model Layout of Biology laboratory (An idea)



5. Infrastructure required : Recommendations for Infrastructure

S.No	Category / Materials needed	Requirements
1	Physical Infrastructure	Minimum Lab. Room size 600 Sq.ft.
2	Storage	A separate room or cupboards within lab for consumables and non-consumables items in the lock and key mechanism, thus ensuring a safety, dust and vermin-free environment.
3	Teaching facility	Preferably an intelligent/Smart board with an internet Facility and white / green board.
4	Demonstration Table	There should be one demonstration table for teacher and min 20 seats should be made available to the students, so students sit at the allotted place and note the instructions from the teacher.
5	Display / Notice Board	Do's & Don'ts/rules for the laboratory use/ safety procedures/List of practical activities/ Timetable- (laboratory timetable)/ Emergency Contact numbers
6	Gas/ heating	Preferably gas pipeline. (2 heating burners)
7	Sink with Water supply	At least 4 sinks with water supply
8	Waste management	02 bins to be installed for biodegradable and non - biodegradable waste. Flammable chemicals bottles must be packed separately. Empty chemical bottles can be packed in cartons/sacks. Disposal must be sent to the Material Management Division of the school.
9	Fire extinguisher	To be installed at a prominent place within the laboratory or in the corridor outside the laboratory.
10	Exhaust fans	2 in number
11	Medical First Aid Kit	1 in number
12	Heating facility	One Heater should be available in the lab to conduct Heat related experiments

6. Minimum requirement of equipment for Biology laboratory

a. Non-Consumable Items(for a batch of 20 students)

S.N.	Non-Consumable	Requirement	S.N.	Non-Consumable	Requirement
1	Beaker 100ml / 250ml/500 ml	10 each	24	Watch glass	20
2	Chart stand	1	25	Water bath	1
3	Conical flask	10	26	Wash bottle	10
4	Digital balance	2	27	White cavity tiles	20
5	Dropping bottle	20	28	Pipette stand	1
6	Forceps	20	29	All Pins	4 packets
7	Funnel	20	30	Burette (50ml)	10

8	Heater(Optional)	1	31	Perforated beaker 250 ml	5
9	Hot plate(Optional)	1	32	Capillary tube	10
10	Human skeleton (artificial)	1	33	Tripod Stand	10
11	Leaf clamp apparatus	1	34	Thermometer	10
12	Measuring cylinder 50ml/100ml/250ml	5 each	35	Trough	10
13	Micro viewers	2	36	Wire gauge	20
14	Microscope compound	2	37	Burette Stand	10
15	Microscope dissecting	2	38	Blade for section cutting	8
16	Mortar and pestle	2	39	Chart display stand	10
17	Petri dish	20	40	Enamel Tray	10
18	Pipette (graduated 10 ml)	20	41	Laboratory Coat	20
19	Reagent bottle	8	42	Scissors 4"	10
20	Skeleton (joints)	1	43	Scissors 6"	10
21	Slide box	2	44	Scalpel	10
22	Test tube holders	20	45	Staining Rack	10
23	Test tube stand	20	46	Glass showcase	1

S.N.	Non-Consumable	Requirement
47	Charts	<input type="checkbox"/> Controlled pollination, and Pedigree charts
		<input type="checkbox"/> Roundworm, Earthworm, and Tapeworm
		<input type="checkbox"/> Pigeon, Rat, Scoliosis, Starfish, Frog, and lizard camel, and Cockroach
		<input type="checkbox"/> Mendels inheritance , and the life cycle of the mosquito
		<input type="checkbox"/> Racemose Inflorescence, Cymose Inflorescence,
		<input type="checkbox"/> Modifications of Roots and stem
48	Models	<input type="checkbox"/> Posters / portraits of Scientists
		<input type="checkbox"/> Claws and beaks, forelimbs modifications, Brain, Ear, and Eye
		<input type="checkbox"/> Human Torso model, and Human Skeleton Model
		<input type="checkbox"/> Root nodules of leguminous plants
49	Slide permanent	<input type="checkbox"/> Cuscuta on host, lichens, homologous and analogous organs.
		<input type="checkbox"/> Asexual reproduction, Plant tissues, Animal tissues
		<input type="checkbox"/> Stages of mitosis, Meiosis, T.S. of the testis, T.S. of ovaries

		<input type="checkbox"/> Pollen tube germination, T.S. Blastula
		<input type="checkbox"/> Disease-causing agents, Bread mould, Amoeba, Hydra
50	Specimens	<input type="checkbox"/> Only plant specimens which are in the syllabus are:
		<input type="checkbox"/> Aquatic plants, xerophytic plants, monocot plants,
		<input type="checkbox"/> Dicot plants, moss, liverworts, fern
		<input type="checkbox"/> Stem root and leaf modifications,
		<input type="checkbox"/> Plant diseases., mushroom
51	Pictures / posters// Charts	<input type="checkbox"/> Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm
		<input type="checkbox"/> Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom
		<input type="checkbox"/> Yeast, liverwort, moss, fern, pine, one monocotyledonous plant
		<input type="checkbox"/> One dicotyledonous plant and one lichen, Amoeba,
		<input type="checkbox"/> Hydra, liver fluke, Ascaris, leech, earthworm, prawn
		<input type="checkbox"/> Silkworm, honey Bbee, snail, starfish, shark
		<input type="checkbox"/> Rohu, frog, lizard, pigeon and rabbit.

b. Consumable Items(for a batch of 20 students)

S.N.	Consumable products	Requirement	S.N.	Consumable products	Requirement
1	Acetic acid	250ml	39	Hydrochloric acid	100 ml
2	Acetone	250 ml	40	Detergent	20 gms
3	Alcohol	500 ml	41	Iodine	100 ml
4	Aluminum Sulphate	20 g	42	Methylene blue	10 ml
5	Benedicts solution	100 ml	43	Micro cover slip	Eight
6	Muslin cloth	20 meters	44	Micro glass slides	Eight
7	Brushes	Forty	45	Million's reagent	100 ml
8	Matchbox	One box	46	Needle	Forty
9	Ammonium solution	250 ml	47	Nitric acid	50 ml
10	Acetocarmine powder	5 ml	48	Petroleum ether	100 ml
11	Cavity block	Forty	49	Potassium nitrate	20 g
12	Cavity slide	10	50	Safranin solution	50 ml
13	Cellotape / paper tape	one	51	Bile salts	Five gms
14	Chromatography paper	Two sheets	52	Soap	One
15	Cobalt chloride	50 g	53	Starch	50 g
16	Cork	10	54	Starch iodide paper	one packet
17	Cotton Roll	one roll	55	Sucrose	100 g
18	Dettol	100 ml	56	Test tube - Boiling	Twenty

19	Dropper	20	67	Test tube -Ordinary	Eight
20	Dusters	5	68	Test tube Graduated	Forty
21	Filter paper	Five boxes of 24 pieces each	69	Toothpicks	Five jars
22	Formaldehyde	500 ml	70	Aluminum foil	Four foils
23	Glycerine	500 ml	71	Barium Chloride	Five gms
24	Grease	100 g	72	Dicot stem	Ten
25	Boric acid	Five gms	73	Urea	Ten gms
26	Monocot stem	Ten	74	Milk	10 ml
27	Ethanol	50 ml	75	Seeds/Pulses	50 gm
28	Fehling solution A	20 ml	76	Rice	50 gm
29	Fehling solution B	20 ml	77	Spinach Leaves	50 gm
30	Glucose	20 gms	78	Potato	50 gm
31	Lens cleaning solution	one	79	Sugar	50 gm
32	Lens cleaning paper	one	80	Egg	One
33	Magnesium Sulphate	Ten gms	81	Onion root tips	50 gms
34	Onion root tips	Five root tips	82	Peas	500 gms
35	Plain stickers	Eight	83	Pineapple	50 ml
36	Robert solution	10 ml	84	Banana	One
37	Sodium Chloride	Ten gms	85	Apple	One
38	Sodium Hypobromide	10 ml	86	pH paper	one packet each of a narrow range and a broad range

7. Safety Guidelines

• General SOP guidelines

- Ensure the laboratory has **two wide exits** for safe and unobstructed evacuation
- Provide an adequate number of **functional fire extinguishers** in accessible locations
- Ensure all **gas connections** meet prescribed safety standards
- Periodically check and maintain **electrical fittings and insulation**
- Display **safety instructions (Do's and Don'ts)** prominently in the laboratory
- Store all chemicals and equipment in a **safe and secure manner**
- Ensure **proper labeling and maintenance** of all materials
- Provide necessary **protective equipment** such as goggles, gloves, and fume hoods
- Keep **emergency preparedness measures** in place at all times
- Ensure availability of **first aid and basic medical facilities** in the school

- **Laboratory Safety Instructions for Students**

- Do not handle any equipment, chemicals, or devices without permission
- Exercise caution while performing electrical experiments
- Never touch wires or electrical equipment with wet hands
- Follow all instructions given by the teacher carefully
- Begin an experiment only after fully understanding the procedure
- Stay alert and report any unsafe condition immediately
- Never work alone; ensure teacher supervision at all times
- Report any spill, breakage, or injury immediately and remain calm
- Do not taste or directly smell any chemical
- Always switch off power and handle plugs carefully with dry hands
- Do not return unused chemicals to original containers
- Do not remove chemicals from the laboratory
- Allow hot glassware to cool naturally; do not place it in cold water
- Observe heated substances from the side, not directly from above
- Turn off gas supply immediately if a burner goes out
- Never leave a lit burner unattended
- Wash hands thoroughly after completing lab work

Chemistry Laboratory Setup Guidelines for Schools

In alignment with NEP recommendations and to ensure clarity for all stakeholders, this SOP outlines the requirements for establishing a Chemistry Laboratory in schools. It includes essential safety guidelines for students and operational instructions for teachers. The SOP also emphasizes proper management of waste generated during practical activities. It aims to promote safe practices, hygiene, and responsible laboratory behavior, thereby minimizing risks and preventing accidents.

1. Chemistry Laboratory

Chemistry laboratories provide hands-on learning experiences that connect theory with real-life applications. In alignment with Bhartiya Shiksha Board, science education is experiential, inquiry-based, and rooted in Bhartiya values.

Laboratory activities develop observation, experimentation, analysis, and logical reasoning skills. They also nurture curiosity, creativity, and scientific temperament along with values like discipline and integrity.

Chemistry Practicals make learning engaging, competency-based, and connected to local context and traditional knowledge systems. They encourage students to explore, innovate, and communicate effectively.

A well-equipped Chemistry Laboratory aims to:

- Promote holistic, integrated, and value-based learning
- Strengthen conceptual understanding through experiential learning
- Provide opportunities for observation, experimentation, and innovation
- Integrate modern science with Bhartiya knowledge systems
- Fulfil curricular expectations effectively
- Develop research orientation from the school level
- Encourage collaboration and teamwork

2. Curricular Expectations

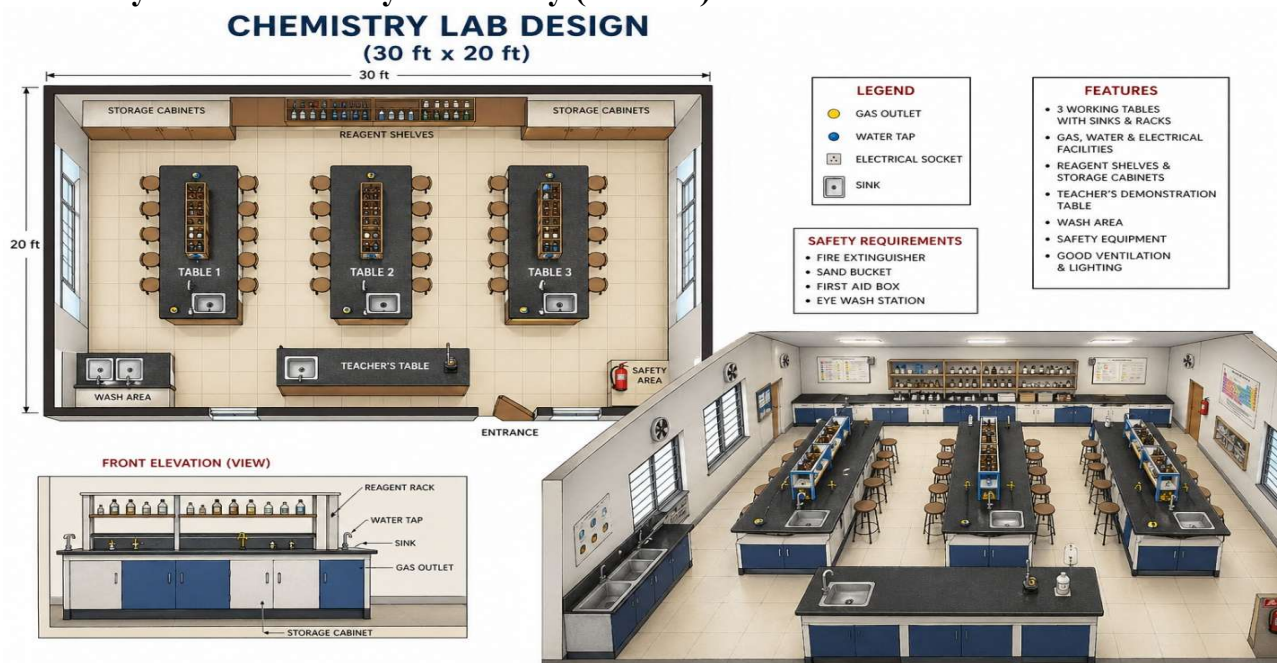
- At the Senior Secondary level, students who choose Chemistry are expected to grow not just in knowledge, but also in their overall scientific outlook and skills. The aim is to help them develop a genuine interest in Chemistry as a subject while keeping the learning process engaging and meaningful. They should understand the fundamental principles of Chemistry and recognize its importance in everyday life and the world around them.
- This stage also builds upon the concepts learned earlier, giving students a strong foundation for pursuing Chemistry at higher levels of education. Alongside conceptual clarity, students are encouraged to develop scientific skills such as observation, questioning, planning experiments, forming hypotheses, collecting and analyzing data, and drawing logical conclusions supported by evidence. Critical thinking and the ability to evaluate different explanations are also emphasized.

- Learners are expected to develop a positive scientific attitude and appreciate how Chemistry contributes to improving the quality of human life. They should understand that scientific knowledge evolves over time and value its historical development. At the same time, the curriculum nurtures curiosity, creativity, and problem-solving abilities.
- Equal importance is given to values such as honesty, integrity, cooperation, respect for life, and environmental awareness. Students should also recognize how Chemistry connects with other scientific fields like Physics, Biology, Geology, Geography, and Pharmaceutical Sciences, and how it helps address real-world challenges related to health, environment, agriculture, industry, and population.
- Ultimately, this stage aims to prepare learners to face practical challenges responsibly, respect human dignity and equality, and consider Chemistry as a potential career path in the future.

3. Pedagogy of Chemistry education as recommended by National Education Policy 2020

- Chapter 4 of NEP 2020 ‘Curriculum and Pedagogy in Schools: Learning Should be Holistic, Integrated, Enjoyable, and Engaging’ has laid a wide emphasis on Experiential learning in all stages of science education in Para 4.6.
- Chapter 7 of NEP 2020 in Para 7.5 has mentioned the importance of well-equipped science laboratories for strong science education.
- According to Para 12.1. The curriculum must be interesting and relevant, and updated regularly to align with the latest knowledge requirements and to meet specified learning outcomes which can be made possible by well-equipped science laboratories.

4. Model Layout of Chemistry laboratory (An idea)



5. Infrastructure required : Recommendations for Infrastructure

S.N.	Category / Materials needed	Requirements
1	Physical Infrastructure	Minimum Lab. Room size 600 Sq.ft.
2	Storage	A separate room or cupboards within lab for consumables and non-consumables items in the lock and key mechanism, thus ensuring a safety, dust and vermin-free environment.
3	Teaching facility	Preferably an intelligent/Smart board with an internet Facility and white / green board.
4	Demonstration Table	There should be one demonstration table for teacher and min 20 seats should be made available to the students, so students sit at the allotted place and note the instructions from the teacher.
5	Display / Notice Board	Do's & Don'ts/rules for the laboratory use/ safety procedures/List of practical activities/ Timetable- (laboratory timetable)/ Emergency Contact numbers
6	Gas/ heating	Preferably gas pipeline. (2 heating burners)
7	Sink with Water supply	Atleast 4 sinks with water supply
8	Waste management	02 bins to be installed for biodegradable and non - biodegradable waste. Flammable chemicals bottles must be packed separately. Empty chemical bottles can be packed in cartons/sacks. Disposal must be sent to the Material Management Division of the school.
9	Fire extinguisher	To be installed at a prominent place within the laboratory or in the corridor outside the laboratory.
10	Exhaust fans	2 in number
11	Medical First Aid Kit	1 in number
12	Heating facility	One Heater should be available in the lab to conduct Heat related experiments

6. Minimum requirement of equipment for Chemistry laboratory

a. Consumable and Non-Consumable Items(for a batch of 20 students)

S.N.	Name of Item	Quantity	S.N.	Name of Item	Quantity
1	Test tubes	50-60	41	Ferrous sulphate	500 g
2	Test tube holders	20	42	Ferric chloride	500 g
3	Test tube stands	10	43	Sodium carbonate	500 g
4	Beakers (50 ml)	10	44	Sodium bicarbonate	500 g
5	Beakers (100 ml)	10	45	Ammonium chloride	500 g
6	Beakers (250 ml)	10	46	Barium chloride	500 g
7	Conical flasks (100 ml)	10	47	Silver nitrate	100 g

8	Conical flasks (250 ml)	10	48	Potassium permanganate	250 g
9	Volumetric flasks (100 ml)	5	49	Potassium dichromate	250 g
10	Volumetric flasks (250 ml)	5	50	Ethanol	1 L
11	Measuring cylinders (10 ml)	5	51	Methanol	1 L
12	Measuring cylinders (50 ml)	5	52	Acetone	1 L
13	Measuring cylinders (100 ml)	5	53	Benzene / Toluene (as permitted)	500 ml
14	Burettes (50 ml)	10	54	Formaldehyde	500 ml
15	Pipettes (10 ml)	10	55	Acetic anhydride	250 ml
16	Pipette fillers	10	56	Urea	500 g
17	Funnels	15	57	Glucose	500 g
18	Dropper bottles	20	58	Starch	500 g
19	Watch glasses	15	59	Phenolphthalein	100 ml
20	Evaporating dishes	15	60	Methyl orange	100 ml
21	Glass rods	15	61	Litmus solution (red/blue)	100 ml each
22	Reagent bottles (various sizes)	50–60	62	Starch indicator	100 ml
23	Bunsen burners	10	63	Universal indicator	100 ml
24	Tripods	10	64	Standard Na ₂ CO ₃ solution	1 L
25	Wire gauze	10	65	Standard oxalic acid solution	1 L
26	Spirit lamps (backup)	10	66	KMnO ₄ solution	1 L
27	Crucibles with lids	10	67	HCl standard solution	1 L
28	Tongs (crucible)	10	68	NaOH standard solution	1 L
29	Electronic balance (precision)	1	69	Lab coats	20
30	Thermometers	10	70	Safety goggles	20
31	pH paper strips	10 packs	71	Gloves (disposable)	2 boxes
32	Stopwatches	5	72	Fire extinguisher	2
33	Hydrochloric acid (HCl)	1 L	73	First aid kit	1
34	Sulphuric acid (H ₂ SO ₄)	1 L	74	Eye wash bottle	2
35	Nitric acid (HNO ₃)	1 L	75	Sand bucket	2
36	Acetic acid	1 L	76	Wash bottles	30
37	Sodium hydroxide (NaOH)	500 g	77	Filter paper	5 boxes
38	Potassium hydroxide (KOH)	501 g	78	Corks & rubber stoppers	Assorted (50+)
39	Ammonium hydroxide	500 ml	79	Labels & markers	Adequate
40	Copper sulphate	500 g	80	Distilled water	Regular supply (20–30 L storage)

7. Safety Guidelines

a. General SOP guidelines

- Ensure the laboratory has two wide exits for safe and unobstructed evacuation.
- Provide an adequate number of functional fire extinguishers in accessible locations.
- Ensure all gas connections meet prescribed safety standards.
- Periodically check and maintain electrical fittings and insulation.
- Display safety instructions (Do's and Don'ts) prominently in the laboratory.
- Store all chemicals and equipment in a safe and secure manner.
- Ensure proper labeling and maintenance of all materials.
- Provide necessary protective equipment such as goggles, gloves, and fume hoods.
- Keep emergency preparedness measures in place at all times.
- Ensure availability of first aid and basic medical facilities in the school.

b. Laboratory Safety Instructions for Students

- Do not handle any equipment, chemicals, or devices without permission.
- Exercise caution while performing electrical experiments.
- Never touch wires or electrical equipment with wet hands.
- Follow all instructions given by the teacher carefully.
- Begin an experiment only after fully understanding the procedure.
- Stay alert and report any unsafe condition immediately.
- Never work alone; ensure teacher supervision at all times.
- Report any spill, breakage, or injury immediately and remain calm.
- Do not taste or directly smell any chemical.
- Always switch off power and handle plugs carefully with dry hands.
- Do not return unused chemicals to original containers.
- Do not remove chemicals from the laboratory.
- Allow hot glassware to cool naturally; do not place it in cold water.
- Observe heated substances from the side, not directly from above.
- Turn off gas supply immediately if a burner goes out.
- Never leave a lit burner unattended.
- Wash hands thoroughly after completing lab work.

Physics Laboratory Setup Guidelines for Schools

In alignment with NEP recommendations and to ensure clarity for all stakeholders, this SOP outlines the requirements for establishing a Physics Laboratory in schools. It includes essential safety guidelines for students and operational instructions for teachers. The SOP also emphasizes proper management of waste generated during practical activities. It aims to promote safe practices, hygiene, and responsible laboratory behaviour, thereby minimizing risks and preventing accidents.

1. Physics Laboratory

Physics laboratories provide hands-on learning experiences that connect theory with real-life applications. In alignment with Bhartiya Shiksha Board, science education is experiential, inquiry-based, and rooted in Bhartiya values.

Laboratory activities develop observation, experimentation, analysis, and logical reasoning skills. They also nurture curiosity, creativity, and scientific temperament along with values like discipline and integrity.

Physics Practicals make learning engaging, competency-based, and connected to local context and traditional knowledge systems. They encourage students to explore, innovate, and communicate effectively.

A well-equipped Physics Laboratory aims to:

- Promote holistic, integrated, and value-based learning.
- Strengthen conceptual understanding through experiential learning
- Provide opportunities for observation, experimentation, and innovation
- Integrate modern science with Bhartiya knowledge systems
- Fulfil curricular expectations effectively
- Develop research orientation from the school level
- Encourage collaboration and teamwork

2. Curricular Expectations

At this stage, learners are expected to:

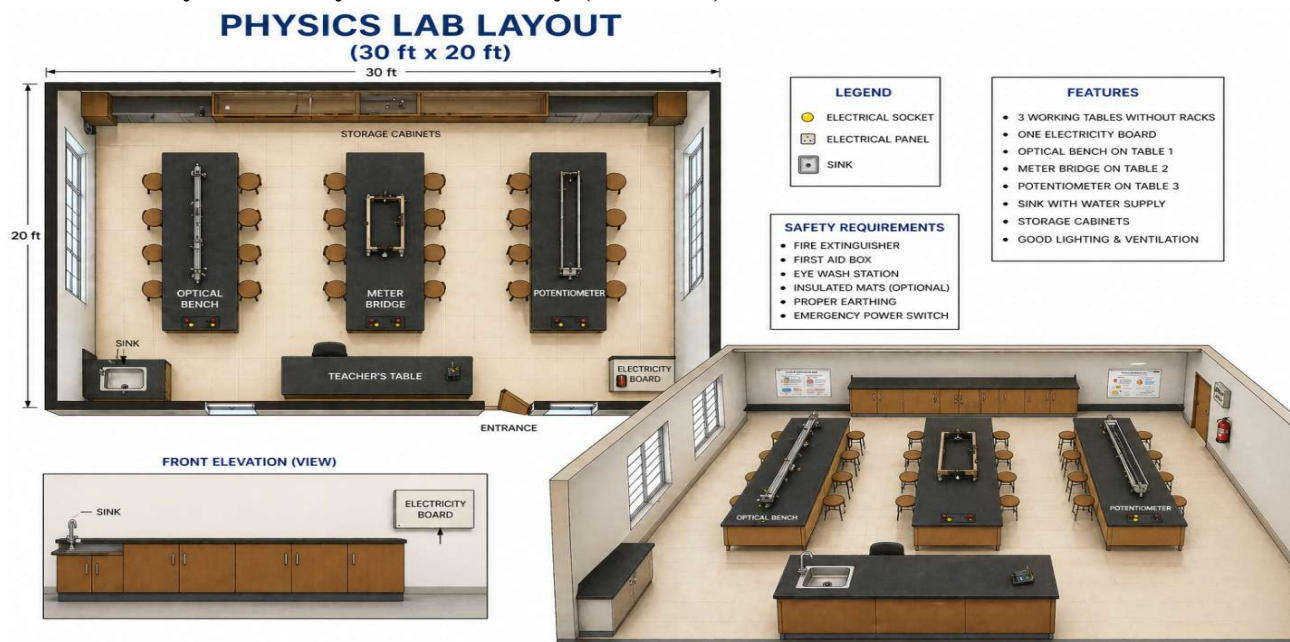
- Develop a clear understanding of Physics concepts, principles, laws, and their interconnections
- Apply scientific methods systematically, including observation, questioning, hypothesis formation, planning and conducting investigations, and drawing evidence-based conclusions

- Perform experiments with accuracy, including quantitative measurements and data analysis
- Develop scientific temper marked by objectivity, rational thinking, and openness to new ideas
- Demonstrate curiosity, creativity, and problem-solving abilities
- Communicate scientific findings effectively using appropriate language, diagrams, and representations
- Show sensitivity towards sustainable development, human dignity, equity, and social responsibility

3. Pedagogy of Physics education as recommended by National Education Policy 2020

- Chapter 4 of NEP 2020 ‘Curriculum and Pedagogy in Schools: Learning Should be Holistic, Integrated, Enjoyable, and Engaging’ has laid a wide emphasis on Experiential learning in all stages of science education in Para 4.6.
- Chapter 7 of NEP 2020 in Para 7.5 has mentioned the importance of well-equipped science laboratories for strong science education.
- According to Para 12.1. The curriculum must be interesting and relevant, and updated regularly to align with the latest knowledge requirements and to meet specified learning outcomes which can be made possible by well-equipped science laboratories.

4. Model Layout of Physics laboratory (An idea)



5. Infrastructure required : Recommendations for Infrastructure

S.N.	Category / Materials needed	Requirements
1	Physical Infrastructure	Minimum Lab. Room size 600 Sq.ft.
2	Storage	A separate room or cupboards within lab for consumables and non-consumables items in the lock and key mechanism, thus ensuring a safety, dust and vermin-free environment.
3	Teaching facility	Preferably an intelligent/Smart board with an internet Facility and white / green board.
4	Demonstration Table	There should be one demonstration table for teacher and min 20 seats should be made available to the students, so students sit at the allotted place and note the instructions from the teacher.
5	Display / Notice Board	Do's & Don'ts/rules for the laboratory use/ safety procedures/List of practical activities/ Timetable- (laboratory timetable)/ Emergency Contact numbers
6	Gas/ heating	Preferably gas pipeline. (2 heating burners)
7	Sink with Water supply	Atleast 4 sinks with water supply
8	Waste management	02 bins to be installed for biodegradable and non - biodegradable waste. Flammable chemicals bottles must be packed separately. Empty chemical bottles can be packed in cartons/sacks. Disposal must be sent to the Material Management Division of the school.
9	Fire extinguisher	To be installed at a prominent place within the laboratory or in the corridor outside the laboratory.
10	Exhaust fans	2 in number
11	Medical First Aid Kit	1 in number
12	Heating facility	One Heater should be available in the lab to conduct Heat related experiments

6. Minimum requirement of equipment for composite Science laboratory

a. List of Non-Consumable Items(for a batch of 20 students)

S. N.	Materials Required	Requirement	S. N.	Materials Required	Requirement
1	Ammeters different range	4	26	Rheostat	4

2	Battery eliminator	4	27	Resistance coil (different range 1-5 ohms)	5
3	Daniell cell	6	28	Resonance apparatus	2
4	Drawing board	10	29	Spherometer	4
5	Friction apparatus complete set with weight box	8	30	Screw gauge	6
6	Galvanometer	4	31	Wooden scale (1-50 cm, 1-100 cm)	6 each
7	Parallelogram apparatus	6	32	Stopwatch	4
8	Key one way	10	33	Sonometer	2
9	Jockey pencil type	10	34	Sprit level	4
10	Two-way key	8	35	Thermometer	10
11	Laclanche cell	4	36	Tuning fork (250Hz, 480 Hz and 512 Hz) with pad	5 each
12	Meter bridge	3	37	Vernier calliper	6
13	Multimeter digital	4	38	Voltmeter (different range)	6
14	Magnetic compass	10	39	Connecting wires	1 Kg
15	Optical bench (1 meter long)	4	40	Charts for display (bio visuals)	10
16	Prism (Indian glass)	10	41	Portraits (as per choice)	5-Apr
17	Potentiometer	2	42	Concave mirror	10
18	Plier	2	43	Convex mirror	10
19	Cutter	2	44	Convex lens	10
20	Screwdriver	2	45	Concave lens	10
21	Scissor	2	46	Wedge knife edge (for Sonometer)	6
22	Resistance box of different range	6	47	Glass slab	10
23	Dry cell 10g (chargeable)	6	48	Pendulum bobs	6
24	Dry cell charger	6	49	Cork rubber 1.5 inches	10
25	Helical spring apparatus with weights	1	50	Hanger weights 500 gm	8 set

S. No.	Materials Required	Requirement	S. No.	Materials Required	Requirement
51	Insulated copper wire	500 gm	58	Spirit Level	2
52	Meter tape (1-100 meter)	2 rolls	59	Balance (Physical)	2
53	Soldering iron with Soldering rod	1	60	Metal Sphere	2
54	Spring balance (0-250 gm)	6	61	SG Bottles	2
55	U-shaped magnet	5	62	Grave sand apparatus	2
56	Copper calorimeter	2	63	Young's Modulus	1
57	Barometer tube	2	64	P-N junction diode set up	2

b. List of Consumable Items(for a batch of 20 students)

S. N.	Materials Required	Requirement
1	Hand Wash	2 Bottles
2	Hand Sanitizer	2 Bottles
3	Iodine Solution	200 ml
4	Copper Sulphate	200 gm
5	Matchboxes	3
6	Hydrochloric Acid (Both Dilute and Concentrated)	200 ml each
7	Ammonium Chloride	500

7. Safety Guidelines

a. General SOP guidelines

- Ensure the laboratory has **two wide exits** for safe and unobstructed evacuation
- Provide an adequate number of **functional fire extinguishers** in accessible locations
- Ensure all **gas connections** meet prescribed safety standards
- Periodically check and maintain **electrical fittings and insulation**
- Display **safety instructions (Do's and Don'ts)** prominently in the laboratory
- Store all chemicals and equipment in a **safe and secure manner**
- Ensure **proper labeling and maintenance** of all materials
- Provide necessary **protective equipment** such as goggles, gloves, and fume hoods
- Keep **emergency preparedness measures** in place at all times
- Ensure availability of **first aid and basic medical facilities** in the school

b. Laboratory Safety Instructions for Students

- Do not handle any equipment, chemicals, or devices without permission
- Exercise caution while performing electrical experiments
- Never touch wires or electrical equipment with wet hands
- Follow all instructions given by the teacher carefully
- Begin an experiment only after fully understanding the procedure
- Stay alert and report any unsafe condition immediately
- Never work alone; ensure teacher supervision at all times
- Report any spill, breakage, or injury immediately and remain calm
- Do not taste or directly smell any chemical
- Always switch off power and handle plugs carefully with dry hands
- Do not return unused chemicals to original containers
- Do not remove chemicals from the laboratory
- Allow hot glassware to cool naturally; do not place it in cold water
- Observe heated substances from the side, not directly from above
- Turn off gas supply immediately if a burner goes out
- Never leave a lit burner unattended
- Wash hands thoroughly after completing lab work

Library Setup Guidelines for Schools

The school library plays an important role in the intellectual, academic, and creative development of students. According to the standards of Bhartiya Shiksha Board, every school must have a well-organized, safe, and resourceful library. A library helps students develop reading habits, research skills, and self-learning abilities. The following essential facilities must be available in the school library:-

1. Library Room Arrangement

- The library should be located in a quiet, clean, and well-ventilated area.
- Proper lighting and adequate seating arrangements should be available.
- The size of the library should be according to the bye-laws of Bhartiya Shiksha Board.
- Easy access facilities should be available for differently-able students.

2. Furniture and Seating Facilities

- Comfortable tables and chairs for students
- Book racks and cupboards
- Book display board

3. Safety and Maintenance

- Fire extinguishers
- CCTV camera arrangement
- Regular maintenance and care of books
- Clean and dust-free environment
- Proper ventilation and temperature management

4. Library Management System

- Appointment of a trained librarian
- Book issue and return register
- Library timetable for students

5. Books List for Affiliated Schools

1. Yog Books- 5 books
2. Ayurveda Books- 4 books
3. Wellness books- 4 books
4. Students Character Building Books- 4 books
5. Spiritual Guru Books:- Adi Shankaracharya, Ramakrishna Paramahansa, Swami Vivekananda, Sri Aurobindo, Ramana Maharshi, Swami Dayananda Saraswati, Kabir Das,

Guru Nanak Dev Ji, Guru Gobind Singh Ji, Guru Arjan Dev Ji, Sant Ravidas, Sant Tukaram, Sant Dnyaneshwar, Mirabai, Namdev, Chaitanya Mahaprabhu, Ramanujacharya, Madhvacharya, Vallabhacharya, Nimbarkacharya, Lahiri Mahasaya, Trailanga Swami, Totapuri Maharaj, Shankardev, Basavanna (Basaveshwara), Akka Mahadevi, Allama Prabhu, Madhvacharya, Jayatirtha, Swami Sharadhanand, Acharya Chanakya, Gautam Budha, Mahavir Swami, Guru Gorakhnathetc.- 30 books

6. Indian Philosophy Books:-

- Four Vedas (Rig-Veda, Yajurveda, Samaveda, Atharvaveda)- 4 books
- Eleven Upanishads :- Isha, Kena, Katha, Prashna, Mundaka, Mandukya, Taittiriya, Aitareya, Chandogya, Brihadaranyaka, Shvetashvatara- 11 books
- Six Darshan:- Yog Darshan, Samkhya Darshan, Vaisheshika Darshan, Nyay Darshan, Vedanta darshan, Mimamsa darshan, - 6 books
- Ramayana, Mahabharata, Bhagavad Gita , Ramcharitmanas.....etc.- 4 books

7. Freedom Fighter Books:-Shahid Bhagat Singh, Rajguru Sukhdev singh, Subhas Chandra Bose, Sardar Vallabhbai Patel, Rani Lakshmi Bai, Khudi Ram Bose, Bipin Chandra Pal, Abdul Hamid, Ashpak ullah khan, Pandit Gurudutt vidyaarathi, Birsa Munda, Ram Prasad Bismil.....etc.- 50 books

8. World Greatest Scientist Books:- 10 books

- Indian Scientists- 10 books

9. Great Bhartiya Mathematicians:- Aryabhata, Bhaskaracharya I & II, Brahmagupta, Srinivasa Ramanujan, Pingal.....etc.- 8 books

10. Indian & World History Books- 20 books

11. Environmental Studies Books 1 book

12. Sports & Games Books:- Milkha Singh, Kapil Dev, APJ Abdul Kalam, Sachin Tendulkar, P.T Usha.....etc.- 20 books

13. Indian Culture Books:- 20 books

14. Panchatantra Stories Books- 5 books

15. National Monuments Books-30 books

16. Indian Revolution- 10 books

17. Ancient Indian Knowledge Heritage Books- 10 books

18. G.k Books- 5 books

19. Patriotism Books- 5 books

20. Healthy Foods- 10 books

21. Business Studies Books- 5 books

22. Dictionary (Hindi, English, Sanskrit language)- 10 books

Games and Sports Facilities Setup Guidelines for Schools

To ensure the overall development, physical fitness, mental well-being, and discipline among students, it is essential for the school to provide proper sports facilities and equipment. The following indoor and outdoor sports facilities and equipment are required within the school premises:

1. Outdoor Sports Facilities:

- Badminton Court — Standard size approximately 13.40 meters × 6.10 meters
- Kho-Kho Ground — Standard size approximately 29 meters × 16 meters
- Kabaddi Ground — Standard size approximately 13 meters × 10 meters
- General Playground — For daily physical activities and sports practice
- Additional Sports Facilities — Open ground and practice arrangements for Cricket, Hockey, and Football
- Any other according to need and available space.

2. Indoor Sports Facilities:

- Table Tennis
- Chess
- Carrom
- Space for Yoga and Meditation activities
- Any other according to need and available space.

3. Sports Equipment:

- Badminton, rackets and shuttlecocks
- Marking materials required for Kho-Kho and Kabaddi
- Table Tennis table, bats, and balls
- Chess boards and chess pieces
- Carrom boards and coins
- Sports equipment required for Cricket, Hockey, and Football
- First Aid kit for sports activities
- Necessary safety equipment for students
- Any other according to need

The school should organize sports competitions, yoga activities, and physical training programs from time to time to promote team spirit, leadership qualities, discipline, self-confidence, and a healthy lifestyle among students.

Music and cultural activity Facilities Setup Guidelines for Schools

To promote the cultural, creative, and artistic development of students, it is essential for the school to provide proper facilities for music and cultural activities. The following facilities, equipment, and musical instruments are required for conducting music training and cultural activities in the school:

1. Music corner or Room:

- Independent Music Room or a part of room should be available.
- Proper seating arrangement should be available for teacher and students.
- Adequate space for cultural programs and practice sessions.

2. Music Instruments:

- Sound System with public address system.
- Guitar
- Tabla
- Harmonium
- Dholak
- Flute
- One Microphone System
- Supporting materials required for music practice

The school organizes prayer assemblies, cultural programs, music competitions, and training activities from time to time to develop confidence, creativity, and cultural values among students.

Class Rooms, Toilets and Drinking Water facilities Guidelines for Schools

Description		Secondary up to 10 th		Secondary up to 12 th	
		Number	Size	Number	Size
Class rooms (According to one section for each class)	Up to 5 th Class	- Only Primary (1 st to 5 th) Classes – 5 - Primary With Pre-primary (Balvatika to 5 th) Classes-8	According to RTE Act-2009	- Only Primary (1 st to 5 th) Classes – 5 - Primary With Pre-primary (Balvatika to 5 th) Classes-8	According to RTE Act-2009
	6 th to 8 th class	3	According to RTE Act-2009	3	According to RTE Act-2009
	9 th to 10 th class	2	500 Sq. Ft.	2	500 Sq. Ft.
	11 th to 12 th class	NA	NA	3	500 Sq. Ft.
Total Required Number of Class Rooms	- Without Pre-primary Classes – 10 - With Pre-primary Classes – 13			Without Pre-primary Classes – 13 With Pre-primary Classes – 16	
Laboratories	Composite Science Lab.	1	600 Sq. Ft.	-	600 Sq. Ft.
	Physics Lab.	NA	NA	1	600 Sq. Ft.
	Chemistry Lab.	NA	NA	1	600 Sq. Ft.
	Biology Lab.	NA	NA	1	600 Sq. Ft.
	Computer Lab.	- One (Up to 800 students) - Additional one for another up to 800 and so on.	600 Sq. Ft.	- One (Up to 800 students) - Additional one for another up to 800 and so on.	600 Sq. Ft.
Any other lab according to need of subject	-	600 Sq. Ft.	-	600 Sq. Ft.	
Library	One	1200 Sq. Ft. (Two separate rooms may	One	1200 Sq. Ft. (Two separate rooms may allow with	

			allow with total size of 1200 Sq.Ft.)		total size of 1200 Sq. Ft.)
Other Rooms	Principal Room	One	According to school's need	One	According to school's need
	School office/Staff Room	One	According to school's need	One	According to school's need
Lavatory	Separate for Girls and Boys	One for every 80 students	Appropriate	One for every 80 students	Appropriate
Toilets	Separate for Girls and Boys	One for every 40 students	Appropriate	One for every 40 students	Appropriate
Water Tap	Potable water tap	One for every 40 students	Appropriate	One for every 40 students	Appropriate

Maintenance of Classrooms

1. Classrooms should be kept clean and well maintained.
2. Adequate lighting, fans, furniture, blackboards/whiteboards and electrical fittings should be properly maintained and functional.
3. Walls, floors, and ceilings should be maintained in good condition.

Maintenance of Toilets

1. Separate toilets for boys, girls, and staff should be provided and properly maintained.
2. Toilets should be cleaned and adequate water supply should be available at all times.
3. Toilet fittings such as taps, flush systems, doors, and locks should be repaired promptly whenever damaged.

Maintenance of Library

1. The library should be maintained and adequate seating, lighting, and ventilation facilities should be there.
2. Books should be properly catalogued and arranged systematically for easy access.
3. Proper issue and return records of books should be maintained by the librarian.

Safety Measure Setup Guidelines for Schools

- **Audio –Video CCTV surveillance:** Audio-visual recording covering entry/exit points, corridors, playgrounds, and classrooms.
- **Gated campus with boundary wall:** Gate with proper boundary wall up to the height for restricted access of school campus.
- **Ramp at toilets and entry and exit of school for person with disabilities:** School shall provide proper ramp facility for person with disabilities as per the provisions.
- All electrical fittings are regularly inspected and maintained. No student is allowed near electrical panels. School should maintain that there must be proper maintenance of all electric fittings to avoid any kind of mishappening.
- Labs have proper ventilation, restricted access, and necessary equipment to handle emergencies.
- Pending Safety certificate.
School shall submit the necessary pending safety certificate.
- **First Aid Box for medical emergency:** A First Aid should be there in school for any kind of medical emergencies.