

POLICY ON SCHOOL LABORATORIES

Introduced: December 2015	Revised: March, 2019
Previous review : 2017	Next Review : March 2021
Implemented by: Principal	

PURPOSE:

To ensure that teachers using the School Laboratories receive appropriate guidance and training, and that suitable procedures are followed in the following labs

- Chemistry laboratory
- Physics laboratory
- Biology laboratory
- Robotics laboratory
- Discovery hub (Primary General science laboratory)
- Mathematics laboratory

SCOPE:

This Policy applies to all teachers and students using the school laboratory for demonstrations and experiments.

SCIENCE LABORATORIES:

Science laboratories include Chemistry, physics, biology and the general science laboratory.

RESPONSIBILITIES

1. LABORATORY INCHARGE

- Ensures all reagents and supplies are available when needed.
- Manages and updates Chemical inventories
- Ensures all users of the lab are wearing the appropriate PPE.
- Ensures that the laboratory is cleaned/sanitized and kept in an orderly manner.

Dunes International School

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مدرسة ديونز الدولية

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- Ensures all instrumentations/equipment is functioning properly to include but not limited to eyewash/safety showers and when instruments/equipment is found to be in need of maintenance/repair, he/she contacts the Equipment Engineer to have it repaired.
- Update and maintain Material Safety Data sheet of hazardous and non Hazards chemicals used in the Laboratory.
- Ensures that hazardous chemicals are stored in fire proof cabinet that is locked all the times and not accessible to pupils.
- Accompany the health and safety officer during Lab. Inspections.
- To advise teachers on health and safety aspects of experiments included in the science curriculum.
- To maintain the Laboratory in a safe and useable condition

2. TEACHERS

- To explain to pupils relevant safety and emergency procedures in the Laboratory.
- To explain to pupils the risks presented by the experiments they witness, or take part in.
- To conduct teaching and experiments in a safe and responsible manner.
- To ensure that Personal Protective Equipment is worn by all who need it.
- To advise the Laboratory in charge of any accident that occurs in the Laboratory.
- To advise the Laboratory in charge of any defective or inadequate equipment.

3. HEALTH & SAFETY OFFICER

- To support and advise the Laboratory In charge.

Using the Science Laboratory Safely

1. Teachers have a duty to take reasonable care for the health and safety of themselves, and of pupils. They should be familiar with this safety policy.
2. Teachers must set a good example to pupils and act consistently with pupil laboratory rules. On the first occasion in the Science Laboratory time should be spent explaining the rules
3. Teachers must ensure that students are familiar with the location of: the fire exit; fire-fighting equipment; the nearest first-aid box and emergency shower.
4. The laboratory must be left safe, and chemicals returned to the locked preparation room.
5. Eating, drinking and smoking must not take place in the laboratory or the preparation rooms.
6. The Science laboratory must be locked by the teacher before he or she leaves.
7. Pupils must not be left unsupervised in the laboratory.
8. Lesson preparation must include checking on risk assessments and other safety precautions where necessary.
9. Teachers should explain precautions to pupils as part of their safety education.
10. Always point the mouth of a test-tube or flask away from both yourself and others when doing experiments.



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11. Sometimes their contents can shoot out suddenly, especially when the test tubes are heated. Solutions should be heated in a flat bottomed flask; pupils should not heat substances in test tubes.
12. Disposal of Chemicals. As per ADEK guidelines and procedures chemical residues and expired chemicals should be disposed.
13. Nothing will be added to what is in the Science laboratory without the express approval of the designated Laboratory In charge.
14. Any user who discovers a hazardous defect in any item of equipment must take it out of use and report it to the designated Laboratory In charge.
15. The laboratory should be clean and tidy at all times. Bins should be emptied and the laboratory cleaned for the next user.

Rules for Pupils Using the Science Laboratory

1. Wait outside until your teacher asks you to go in.
2. No student will enter the science labs with their blazers or huddies. Ties and scarves must be securely tucked in their shirts and the girls should tie up their hair.
3. Do not carry anything other than your lab journal and writing material into the labs.
4. Walk to your place, never run; avoid knocking into equipment.
5. Wait until your teacher tells you before touching any equipment or materials. You will be safe if you follow instructions.
6. Wear goggles, gloves and laboratory coats when told to do so. Keep them on until asked to remove them.
7. Always stand up when working with liquids or heating a substance. Then you can move out of the way quickly if anything is spilt. Do not lean over the work stations.
8. Never rub your eyes or your put your hand to your mouth if you are working with chemicals.
9. Never taste anything or put anything in your mouth when in the laboratory. This includes sweets, fingers and pencils which might have picked up poisonous chemicals from the bench. Never taste or smell chemicals unless instructed to do so.
10. If chemicals get on your hands or any other part of the body, wash them off immediately. After handling chemicals, equipment, plants or animals, always wash your hands.
11. Report any burns and cuts. Report if any chemicals are spilt, go into your mouth, your eyes or onto your skin.
12. Be alert and proceed with caution at all times in the laboratory. Notify the teacher immediately of any unsafe conditions you observe.
13. Dispose off all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water. Check with your teacher for disposal of chemicals and solutions.
14. Keep your bench clean and tidy.
15. Follow the teacher's instructions inside the Laboratory



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Conducting experiments in classroom:

Simple experiments can be conducted in class by borrowing equipment and apparatus from the Science laboratories.

- Sources of heat** - electric kettle, lighter, candle can be used in class room after proper risk assessment by the teacher. Prior intimation should be given to the safety officer before conducting such experiments in class.
- Chemicals** - 'kitchen chemistry', e.g. foodstuffs, sugar, salt, vinegar, yeast, bread, also limewater can be safely used. However, more hazardous substances which may be purchased in shops, such as sodium hydroxide and bleaches, are banned from use in the classroom.
- Borrowing Equipment** - equipment may be borrowed from the Laboratory, with the permission of the Designated Laboratory Supervisor.

Disposal of Chemical Residues.

- When chemicals are left for the Designated Laboratory in-charge to dispose of, he or she should be informed and the residue labelled with the name of the experiment should be mentioned.
- Expired and outdated chemicals should be brought to the notice of the safety officer and the admin officer.

Chemical spill emergency

- The cleanup of a chemical spill should only be done by knowledgeable and experienced personnel.
- Spill kits with instructions, absorbents, reactants, and protective equipment should be available to clean up minor spills.
- A minor chemical spill is one that the laboratory staff is capable of handling safely without the assistance of safety and emergency personnel. All other chemical spills are considered major.

Minor Spill

- Alert students in immediate area of spill.
- Wear protective equipment, including safety goggles, gloves, and long-sleeve laboratory coat.
- Avoid breathing vapors from spill.
- Confine spill to small area.
- Use appropriate kit to neutralise and absorb inorganic acids and bases. Collect residue, place in container, and dispose as chemical waste.
- For other chemicals, use appropriate kit or absorb spill with dry sand. Collect residue, place in container and dispose as chemical waste.



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Major Spill:

- Attend to injured or contaminated persons and remove them from exposure.
- Alert people in the laboratory to evacuate.
- If spilled material is flammable, turn off ignition and heat sources.
- Call for assistance.
- Close doors to affected area.
- Inform the SMT and the safety officer.

Chemical spill on body:

- Flood exposed area with running water from faucet or safety shower for at least 5 minutes.
- Remove contaminated clothing at once.
- Make sure chemical has not accumulated in shoes.
- Obtain medical attention, if necessary.
- Report incident to supervisor and safety officer.

Hazardous material splashed in eyes:

- Immediately rinse eyeball and inner surface of eyelid with water continuously for 15 minutes.
- Forcibly hold eye open to ensure effective wash behind eyelids.
- Obtain medical attention.
- Report incident to supervisor and safety officer.

All laboratory accidents must be reported to OSH officer, Lab in-charges, and Heads of Department. This includes:

- Fires
- Explosions
- Large hazardous material spills
- Serious injuries (e.g. concussion, crushing, fracture, burn, laceration with serious bleeding or requiring stitches, or hospitalization)
- Laboratory-acquired infections
- Exposures to hazardous materials, including biohazardous material
- Incidents that have the potential to cause serious injury or harm

OSH officer will conduct an accident investigation for all serious accidents. It is also important for lab workers to report all near misses that had the potential to cause serious injury or harm. Near misses provide you with the opportunity to correct potential hazards before an injury occurs.



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ROBOTICS LABORATORY:

1. No Food and water allowed in the Robotic laboratory.
2. Treat the robot kits with care and respect; they will be used for years to come!
3. Respect your fellow students' right to a quiet & productive learning environment
4. Display how smart you are by making creative robots to your best ability.
5. Don't stop others from learning.
6. Always move safely in and around room.
7. During certain busy times during the day, we ask that you limit your computer use if you are not working on academic material. If there are people waiting to use the computers, please be courteous to those who need to work on school related things.
8. Personal things and files are your responsibility.
9. Items labeled as "Staff Only" must be handled by staff only; general users should not touch them.
10. Ask the lab in-charge before handling any items that you are not sure if you may handle it.
11. Ask the lab in-charge for permission before you need to move things in/out of the lab.
12. Start of class.
 - Set-up work tables
 - Procure equipment only with the permission of the lab in-charge.
 - Follow the instructors instructions.
13. End of class.
 - Put away/secure robots and kits (all extra parts in storage box, robot in cubby-hole)
 - Take-down and put away work tables.
 - Log out of computers, push in chairs.
 - Clean up your work stations before leaving
14. Robot kits
 - You will be assigned a numbered Mindstorms kit which you must sign for.
 - If you lose or damage any kit pieces, you must pay for the replacement.
 - All robot kits and parts must stay in the lab or designated area at all times.
 - If you do not turn in a complete kit at the end of the term, you will receive an incomplete remark until the full kit is complete.
14. 3D Printer
 - 3D printer can be used only after prior approval of the teacher or lab in-charge.
 - The 3D printer may NOT be used to create material that is:
 - ✓ Prohibited by local, state or federal law.
 - ✓ Unsafe, harmful, dangerous or poses an immediate threat to the well-being of others.
 - ✓ No firearms or other weapons, obscene or inappropriate objects may be created using the 3D printer.



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- ✓ In violation of another's intellectual property rights. For example, the printers will not be used to reproduce material that is subject to copyright, patent or trademark protection. Computer work

15. Unmanned Aerial Vehicle (Drone)

- The UAV cannot be flown beyond line of sight.
- The UAV may not rise higher than 400 feet in altitude.
- UAV must not have metal blade propeller.
- UAV's must not be flown directly over unprotected people, property and structures.
- UAV's are not to be flown in a reckless or careless manner.
- UAV's that are made for indoor/outdoor use are permitted in designated areas only.
- Operating the UAV beyond the established designated perimeters are strictly prohibited.

MATHEMATICS LABORATORY:

1. No Food and water allowed in the Math laboratory.
2. Treat the recourses with care and respect; they will be used for years to come!
3. Respect your fellow students' right to a quiet & productive learning environment
4. Don't stop others from learning.
5. Always move safely in and around room.
6. Personal things and files are your responsibility.
7. Items labeled as "Staff only" must be handled by staff only; general users should not touch them.
8. Ask the lab in-charge before handling any items that you are not sure if you may handle it.
9. Ask the lab in-charge for permission before you need to move things in/out of the lab.
10. Start of class.
 - Set-up work tables
 - Procure equipment only with the permission of the lab in-charge.
 - Follow the instructor's instructions.
11. End of class.
 - Leave the equipment used by you on the table and inform the lab in charge.
 - Ensure you collect all your things before leaving.
 - Push in chairs.
 - Clean up your work stations before leaving

Principal's Approval	
Revised Date:	March, 2019



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