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### **The King's School Linbro Park Science Lab Safety Policy**

'The scientific laboratory is a place of adventure and discovery. Some of the most important events in scientific history have happened in laboratories. The antibiotic powers of penicillin were discovered in a laboratory. The plastics used today for clothing and other products were first made in a laboratory. The list is endless.

One of the first things any science teacher/learner learns is that working in the laboratory can be an exciting experience. However, the laboratory can also be quite dangerous if proper safety rules are not followed at all times.  
[www.sanbenito.k12.tx.us/teachers/science](http://www.sanbenito.k12.tx.us/teachers/science)

#### **A. Dress Code**

1. When working with chemicals, Bunsen burners or any substance that might get in the eye we use safety goggles or glasses to protect learners from possible eye injury.
2. Female learner's hair is always tied up – keeping in line with the uniform policy – this ensures learner's hair is kept away from chemicals, burners or any other laboratory equipment.

#### **B. General Safety Rules:**

1. Directions for an experiment are explained to learners.
2. Learners are never allowed to perform any activities in the laboratory without authorisation of a teacher.
3. All equipment and chemicals are stored in the store room once experiment is complete- this is taken care by the lab assistant.
4. Learners are not allowed to handle equipment unless they are given permission.
5. Learners are not allowed to dispose of extra chemicals – these are disposed by the lab assistant according to various chemicals used.
6. Learners are not allowed to eat or drink in the laboratory. Learners must wash their hands after a practical.
7. There should be no loud talking or horseplay in the laboratory.
8. No learner is allowed to work alone in the laboratory.

### C. Heating and Fire Safety:

1. When heating substances – safety goggles should be worn.
2. A chemical that is harmless when cool can be dangerous when heated- so when heating chemicals the mouth of the test tube should always be facing away from the face. If ever the gases emitted are faced towards learners – the learner’s face should be washed several times with water alone and learner should be asked to stand outside- exposed to the atmosphere.
3. A flame should never be left unattended – the teacher should always ensure the flame is off.
4. The teacher must demonstrate to learners the proper procedure for lighting a burner. If the flame leaps out of a burner towards you, the gas must be turned off immediately. Do not touch the burner- it may be hot.
5. Never heat a liquid in a closed container- the expanding gases produced may blow the container apart, injuring the teacher or others.
6. Always use a clamp or tongs when handling hot containers. *Hot glassware looks the same as cool glassware.*

Each laboratory has two fire extinguishers.

There is also a fire hydrant outside both laboratories.

### D. Chemicals

1. Learners are not allowed to react left over chemicals for the “fun of it”- this might be dangerous and a possible explosive substance may be produced.
2. Learners are not allowed to touch, taste, or smell any chemical unless instructed by the teacher. If learner is instructed by the teacher- learner must always waft the air towards their nose. - *Learners are never allowed to inhale fumes directly.*
3. All lids for chemicals must be kept closed- learner is to notify the teacher when chemicals are spilled.
4. Learners are not allowed to dispose of any chemicals – this is done by the lab assistant according to the procedures specified by the teacher in charge.
5. We need to be extra careful when working with acids or bases. When diluting acid, always pour the acid into the water- never the other way around. Most of the dilution is done by the teacher usually in a free period or at break. If the dilution process is carried out during class time – this reaction is exothermic and hence explosive. Learners would be asked to leave lab. If any visible glass pieces can be picked out, we will proceed. If the learner needs to be sent to their family doctor, we will then make necessary arrangements.
6. If any acids are spilled on skin- Learner are to immediately report this to the teacher. Acid must be rinsed immediately with water – this would dilute the acid on skin (for about 20 minutes depending on the concentration of the acid used.)
7. Never pipette by mouth- use measuring cylinder or medicine dropper instead.
8. Do not return any excess back to the reagent bottle.
9. Do not contaminate the chemical supply – the desired amounts are usually measured out prior to lesson by teacher.
10. Keep combustible materials away from open flames (alcohol, carbon disulphide and acetone are combustible.)

11. Do not use the same spatula to remove chemicals from two different containers. Each container should have a different spatula.
12. Mercury spills are to be cleaned immediately. We need to contain the area of the spill to prevent the spreading of the mercury. The lab assistant needs to put the mercury into a plastic zipper-type bag and discard as hazardous waste. The lab assistant should then wipe surface with a wet cloth and then disinfect the surface. The lab assistant should ensure the laboratory is well ventilated (to take care of the vapour from mercury.) If the spill occurs on clothing - the clothing needs to be removed and not returned to owner but bagged and removed as hazardous waste. NEVER WASH MERCURY DOWN THE DRAIN. The learner needs to wash the area of contact on their body several times. THE LAB ASSISTANT, TEACHER AND LEARNER INVOLVED NEED TO REMOVE JEWELRY SO THAT THE MERCURY WON'T BOND TO THE METAL.

#### **E. Glassware**

1. When glassware is heated, a wire screen is used to protect the glassware from the flame of the Bunsen burner.
2. Never use broken or chipped glassware. If glassware breaks, the teacher must be notified – who would then dispose of the glassware in the proper trash container.
3. Never eat or drink from laboratory glassware. The glassware would be thoroughly cleaned by the lab assistant.

#### **F. Sharp Instruments**

1. Scalpels or razor blades must be handled with extreme care.
2. The teacher must be notified immediately if the learner is cut in the laboratory- there is a First Aid Kit stored between both laboratories- which is in easy access to both teachers.
3. Dissecting specimens must be properly mounted on the dissecting pan before dissection occurs.

#### **G. Electrical Equipment**

1. Never connect, disconnect, or operate a piece of electrical equipment with wet hands or while standing on a wet floor.
2. Use caution in handling electrical equipment.
3. All electrical equipment is stored in the back room once practical is over.

KEYS TO THE BACK ROOM ARE KEPT BY THE PHYSICAL SCIENCE TEACHER, THE LIFE SCIENCE TEACHER AND THE LAB ASSISTANT (AROUND THEIR NECKS- TO ENSURE ACCESS TO BACK ROOM IS LIMITED AND THE KEYS ARE NOT LYING AROUND).