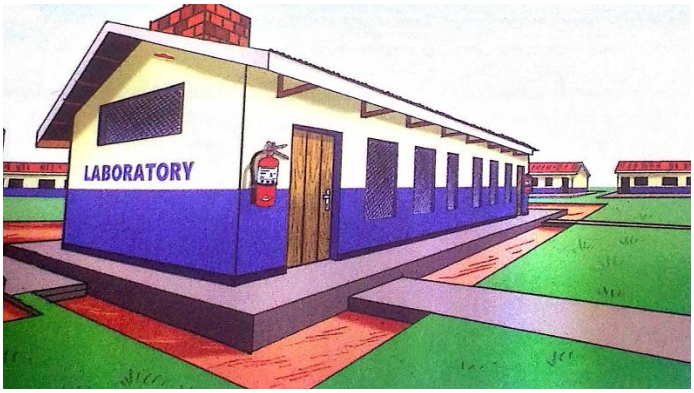
Activity of integration

Your local community **Tetugu** has completed the construction of the chemistry laboratory at Tetugu seed school; the next stage of the project involves the purchase of apparatus and equipment for this laboratory



As a student of chemistry write an article advising the LC.1 in charge of the e purchase of the apparatus and equipment, in your advice gives brief notes on the following

i. 6 type of apparatus and equipment that should be purchased and the uses of the equipment
ii. The 6 safety storage of the apparatus and equipment
iii. the 10 safe measures that should be followed by the learners when using the laboratory

Expected outcome

i.

- ✓ Pipette, used to measure fix volume of liquids accurately
- ✓ Burette for very accurate measurement of volumes during titration
- ✓ Measuring cylinder to measure approximate volume of liquids
- ✓ Test tube for mixing and heating small amounts of liquids or solids
- ✓ Weighing balance for weighing accurate mass of solids
- ✓ Bunsen burner is a source of heat
- ✓ Separating funnel for separating immiscible liquid
- ✓ Stirrer for mixing/stirring liquids
- ✓ Beaker for heating, holding and measuring liquids
- ✓ Conical flask used for mixing liquids as on shaking the liquid does not splash out
- ✓ Flat bottom flask for mixing solids with liquids
- ✓ Volumetric flask use to measure precise volumes of liquids

ii

- ✓ Store in an enclosure to avoid it from regular daily activities
- ✓ Label cupboard to state size and type of apparatus
- ✓ Logical storing, can be grouped with other of its types
- ✓ Arrange by location from where they are used for ease of access
- ✓ Maintaining temperature to avoid variance
- ✓ Avoiding risk by not putting near edges of where it can be knocked
- ✓ Use proper storage containers for substances i.e. organic solvents should be put in plastic, acids in metal container/glass or flammable liquids should be put in fire rated cabinet

Iii

- ✓ Never run or play around in a laboratory.
- ✓ Never eat or drink in the laboratory
- ✓ When heating, make sure that the test tube mouth is not facing any one.
- ✓ Ensure that any loose clothing is carefully tucked in
- ✓ Do not enter the laboratory unless the teacher gives you permission.
- ✓ Report all accidents and breakages to the teacher
- ✓ Clean and clear up all apparatus before leaving the laboratory.
- ✓ Do not throw solids in the sink
- ✓ Follow the instructions carefully before you do any experiment.
- ✓ Put all bags, jackets and stools out of your way before you do any experiment.
- ✓ Do not stand on a stool while carrying out an experiment

Evaluation grid

Out put	Basis of evaluation	Criteria1 **relevance**	Criteria2 **accuracy**	Criteria 3 **coherence**	Criteria 4 **excellence**
	Apparatus and uses	Score 3. If learner identifies 6 relevant apparatus	Score 3. If learner accurately state the use of the 6 apparatus	Score 3. For logical flow of use of apparatus	
		Sccore2 if learner identify 3-5 relevant apparatus	Score 2. If learner accurately state the use of 3-5 apparatus	Score 3. For logical flow of use of apparatus with some distortion	
		Score 1 if learner identifies 0-2 relevant apparatus	Score 1. If learner accurately state the use of the 0-2 apparatus	Score 1. For logical flow of use of apparatus with distortion in 0-2 of it	Score 1 if learner adds any exceptional response
	Safety storage of apparatus				
	Laboratory rules and regulations				