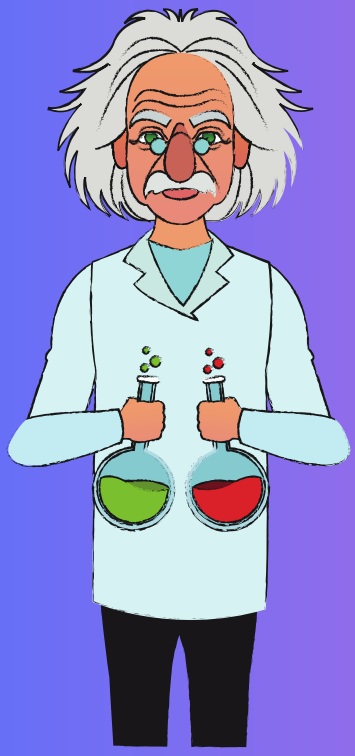
K-Chemistry

SABIS CHEMISTRY

Grade 10



Final Revision Chapter 1

Mr. Hisham Mahmoud

k-chemistry website

Final Revision Chapter 1

Chapter 1

Laboratory Skills and Techniques

1.**Evaporating dish**: Used in crystallization

2. **Burette**: To measure variable volumes of liquids from 0 to 50 ml to the nearest 0.05 cm3 per reading. Determining the V of liquid used requires two readings to be taken and subtracting one from the other, therefore, the uncertainty per measured V is ±0.1 cm3

3. **Pipette**: To measure specific V of liquid (exactly 5, 10, 25 or 50 cm3) with great accuracy, uncertainty of ∓0.05 cm3 . It has one calibration mark. SQ15

Laboratory Skills and Techniques

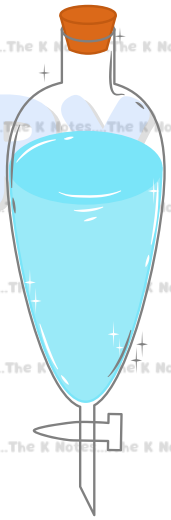
4. **Measuring cylinder**: To measure various volumes of liquids, accuracy depending on size and graduation of the cylinder (rather inaccurate)
5. **Volumetric flask**: To prepare solutions with a specific volume, e.g. 250 cm3 , 1000 cm3 , etc., to the nearest 0.10 cm3.

6. **Separating funnel**: To separate two immiscible liquids
7. **Beaker**: To measure only approximate volumes of liquids, not to be used for precise quantities. It can be also used as a container.

Laboratory Skills and Techniques

8. Volumetric flask: Volumetric flask used to prepare solutions with a specific volume and to the nearest 0.10cm3 .

9. Separating funnel: used to separate two immiscible liquids.



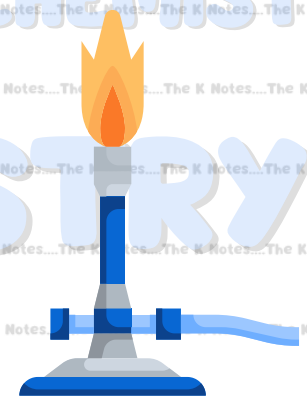
10. Test tube holder: used to hold test tubes while heating them.

11. Wire Gauze: used to allow uniform heat distribution when using a Bunsen-burner.

Final Revision Chapter 1

Rules which should be followed when using a Bunsen burner.

1. Place the Bunsen burner on a porcelain tile to protect the surface of the bench.
2. Make sure that the Bunsen burner is attached to a gas tap.
3. Make sure that the air hole of the burner is closed.
4. Hold a lighted match or splint to the muzzle of the burner and slowly open the gas tap until the gas ignites. This will produce a very sooty, yellow flame . Keep your face and hair away from the burner.



5. Slightly open the air hole until the flame is blue at the bottom and slightly yellow at the top.
6. If a very hot flame is required, fully open the air hole and the gas tap. Be very careful with this type of flame and never leave the Bunsen burner with a blue flame when not in use.

DO NOT OPEN THE AIR HOLE UNTIL YOU HAVE THE LIT SPLINT CLOSE

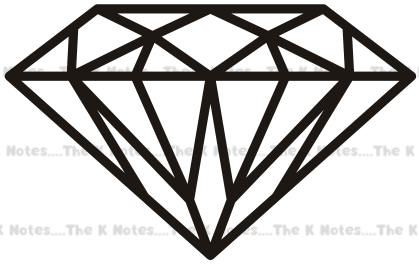
Final Revision Chapter 1

Crystallization: is the process of forming crystals.

Apparatus used in crystallization: Bunsen burner, tripod, wire gauze, beaker for the steam bath, evaporating dish, tongs

Demonstration: steps to follow to perform a crystallization using salt and water.

There are two methods to be followed during crystallization using a non-flammable solvent.

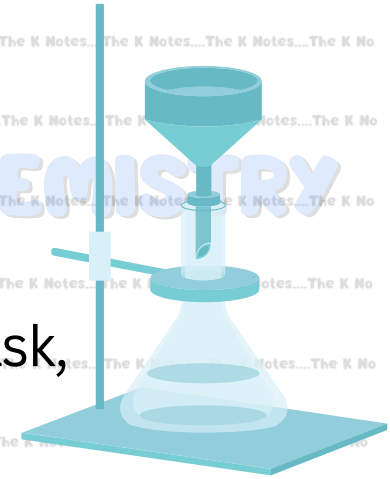


Use tongs and never your hands to transfer the hot evaporating dish to a steam bath.

Use tongs and never your hands to transfer the hot evaporating dish to a steam bath.

Final Revision Chapter 1

Filtration the process of separating a liquid from an insoluble solid e.g. sand and water.
Sugar and salt are soluble in water.
Sugar is soluble in alcohol salt is not.
Sand is insoluble in alcohol and water.

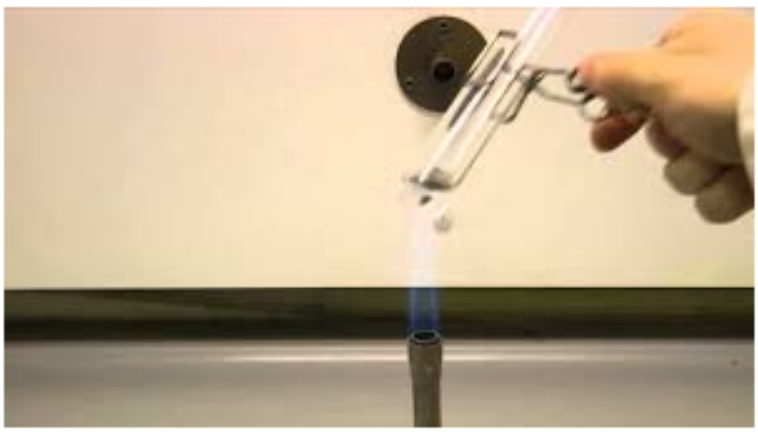


Filtration apparatus: beaker or conical flask, funnel, filter paper and filter stand.
Filter paper: porous paper used to separate insoluble solids from liquids or solutions.
Filtrate: The liquid that passes through the filter paper in the filtration process.
Residue: The solid which is left behind on the filter paper in the filtration process. BQ5a, c
Common sizes of a pipette: 5, 10, 25 and 50ml.
A drop of liquid has a volume of 0.050 ml.
From the most to least accurate apparatus: pipette, beaker, cylinder, and burette.

Final Revision Chapter 1

Rules to be followed when heating a test-tube.

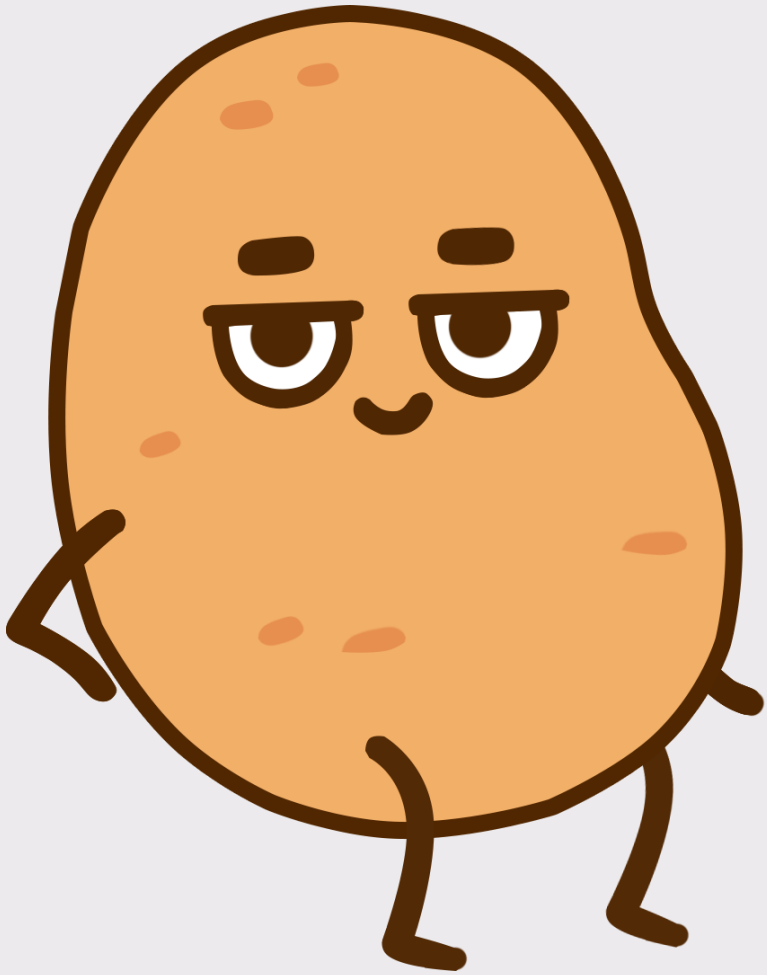
1. Never have the test-tube more than half filled with liquid.
2. Always use test-tube holder and never tongs or your hands.
3. Don’t hold the test-tube upright in the flame, instead have it inclined at an angle. An upright tube is more likely to spit the liquid out when it starts to boil.
4. Keep the test-tube moving as it is being heated, by moving your wrist from side to side, to prevent bumping due to overheating.
5. Remove the tube temporarily out of the flame when the liquid starts to boil vigorously or reduce the flame, so the liquid will not spill out.



K-Chemistry

SABIS CHEMISTRY

Grade 10



see you next part

Mr. Hisham Mahmoud

k-chemistry website