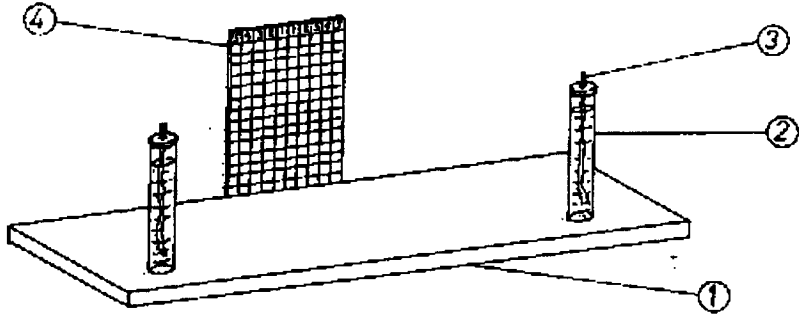


FUEL COMPARAISON APPARATUS

1- ITEM			
FUEL COMPARAISON APPARATUS.			
2.-PURPOSE			
To compare the rate of burning of two different fuels.			
3- INFORMATION SUBMITTED BY			
Pedagogical Academy, Nicosia, Cyprus.			
4- LINE DRAWING OF PROTOTYPE			
			
5- MATERIALS FOR CONSTRUCTION			
Components	Qty	Materials Required	Dimensions
1 Base.	1	Wood	300mm x 150mm x 10mm
2. Containers.	2	Glass tube with caps.	approx. 10mm dia x 50mm
3. Wick.	2	Glass tube.	100mm x 150mm x 5mm
4. Indicator Board.	1		
		Tools: Hammer; nails; woodsaw.	

6- CONSTRUCTION DETAILS

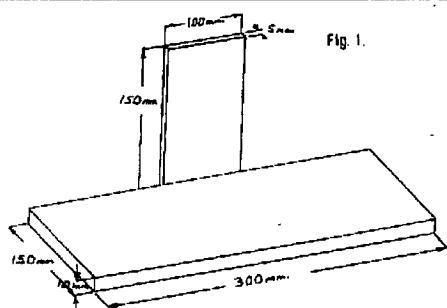


Fig. 1.

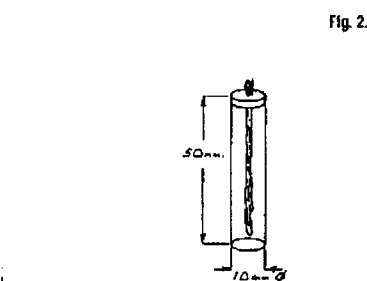


Fig. 2.

Fig. 1.

From a piece of 10mm wood sheet cut out the base as indicated in Fig. 1.

From a piece of 5mm wood sheet, cut out the indicator board end fix it to the base as shown using nails.

Fig. 2.

Obtain two glass tubes with metal screw caps. Pierce a hole to take the wick in each of the two caps. Make two wicks from twisted cotton (or string) and feed the wicks through the holes in the lids as shown in Fig. 2.

Assemble the apparatus by placing the tubes on to the base and fix in place using plasticine. Fix a piece of graph paper to the indicator board as shown in Fig. A.

7- METHOD OF USE

Pour equal quantities of the two fuels to be compared into the two tubes, insert the wicks, and screw down the lids. Allow the wicks to become saturated. Light both wicks simultaneously and observe the level of the fuel in each tube at one minute intervals. Mark on the paper how many mm of fuel are burnt for each period of observation.

8 - COMMENTS

ELECTROLYSIS OF SALT WATER APPARATUS

1- ITEM			
ELECTROLYSIS OF SALT WATER APPARATUS.			
2.-PURPOSE			
To produce NaOH using an egg shell as a membrane.			
3- INFORMATION SUBMITTED BY			
Beijing Teaching Aids Centre, Hengshui Prefecture, Hebei Province, China.			
4- LINE DRAWING OF PROTOTYPE			
5- MATERIALS FOR CONSTRUCTION			
Components	Qty	Materials Required	Dimensions
1 Container.	1	Glass Bottle, wide mouthed.	As available
2. Membrane .	1	Egg shell.	2.5mm dia x 300mm
3. Coil.	1	Iron wire	as available
4. Lid	1	Plywood.	
5. Connecting Leads	2	Copper wire (stiff).	approx. 2mm dia x 150mm.
6. Carbon rod.	1	Carbon rod from old battery	
7. Eggshell stand.	1	Ink bottle lid.	as available
8. Stopper.	1	Rubber stopper.	to suit bottle
9. Stand	1	Tripod.	as available
		Paraffin Wax.	
		Nails.	
		Tools: Glass cutter; knife; pliers; soldering iron, woodsaw, hammer.	

6- CONSTRUCTION DETAILS

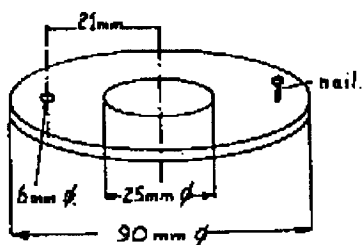
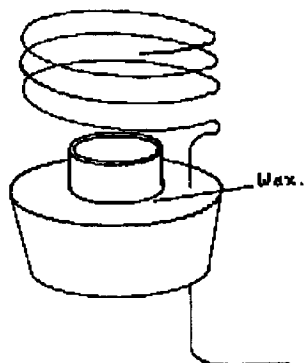
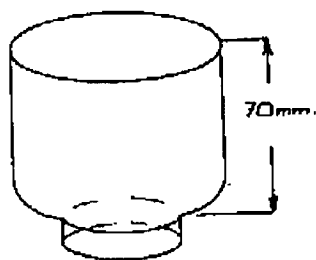


Fig. 1

Obtain a wide mouthed bottle and cut the bottom off et approximately 70mm from the neck as shown in Fig. 1.

Obtain a stopper to fit the mouth of the bottle and make a small hole to take the iron wire,

Fig. 2

Make a hole of approximately 15mm diameter in one end of the egg. Empty out the egg and

Fig. 3

Construct a lid for the bottle as shown in Fig.3. The actual dimensions will depend upon the Solder a length of iron wire to the metal cap of a carbon rod obtained from an old dry cell lead to a nail, also connect a length to the iron wire protruding out from underneath the stopper. Finally stand the apparatus on a tripod as shown in Fig. A.

7- METHOD OF USE

Pour some salt water into the egg shell and into the bottle. Connect the leads to a volt electrical supply and switch on. After some minutes gas bubbles will appear on the carbon rod end on the iron wire coil. After several minutes leave a piece of KI-amylum test paper over the small hole in the lid, and another piece over the hole in the egg shell top. The piece over the eggshell will change colour from white to blue whilst that over the small hole will be unchanged. Switch off the power and introduce a few drops of phenolphthalein solution into both the eggshell and the bottle. The solution in the bottle will change its colour to red but the solution in the eggshell will not change colour. If the students know the properties of the KI-amylum test paper and the phenolphthalein solution they can deduce what has occurred during the experiment.

8- COMMENTS