

### Conductivity of several solutions

Note: M is a concentration term you will understand later. It means moles/ liter. It quantifies the number of molecules per liter. Hence if we use the same concentration for each solution the only difference between the solutions in this experiment is the type of compound

#### PROCEDURE

1. Mix 2mL (use measuring spoon) of sugar ( $C_{12}H_{22}O_{11}$ ) with 60mL of distilled water. This is about 0.1M sucrose.
2. Put 5 drops each of the listed solutions into separate wells of row A
3. Attach the battery to the conductivity apparatus (contraption with the light bulb)
4. Touch the electrodes to a metal object. The light should be bright. Since metal is a good conductor consider this brightness to be maximum brightness. This experiment will give you somewhat quantitative results.
5. Dip both electrodes into each solution in turn. Record the brightness of the LED. Make sure you rinse the electrodes well with distilled water between each conductivity test.

$Cu(NO_3)_2$  is copper nitrate  
 of hydrochloric acid is HCl  
 ammonium hydroxide is  $NH_4OH$

REAGENT	CONDUCTIVITY
0.1 M sucrose solution	
0.1 M HCl solution	
0.1 M $NH_4OH$ solution	
0.1 M $Cu(NO_3)_2$ solution	
Glycerin	
Distilled water	

See page 90 of your book to explain the conductivity of hydrochloric acid (HCl) and ammonium hydroxide ( $NH_4OH$ )