

## CATIONS TEST

**FA1, FA2, FA3, FA4, FA5** and **FA6** are aqueous solutions each containing one of the ions  $\text{Al}^{3+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Fe}^{3+}$  and  $\text{Zn}^{2+}$

You will carry out the following tests on each of the solutions.

At each stage of the test you are to record any colour changes seen, the formation of any precipitate and the solubility of such precipitates in an excess of the reagent added. Where gases are released they should be identified by a test, **describe in the appropriate place in your observations.**

Carry out the following tests. Record your observations in the spaces provided in the table.

TESTS		FA1	FA2	FA3	FA4	FA5	FA6
(a)	To 1cm depth of solution in a test tube add few drops of aqueous sodium hydroxide. Swirl the tube, then	white ppt	white ppt	blue ppt	green ppt turns brown on contact with air	red brown ppt	white ppt
	Add excess of aqueous sodium hydroxide	ppt soluble in excess	ppt insoluble in excess	ppt insoluble in excess	ppt insoluble in excess	ppt insoluble in excess	ppt soluble in excess

TESTS		FA1	FA2	FA3	FA4	FA5	FA6
(b)	To 1cm depth of solution in a test tube add few drops of aqueous ammonia. Swirl the tube, then	white ppt	white ppt	blue ppt	green ppt Ppt turns brown on contact with air	red brown ppt	white ppt
	Add excess of aqueous ammonia	Ppt insoluble in excess	Ppt insoluble in excess	Ppt soluble giving a dark blue solution	Ppt insoluble in excess	Ppt insoluble in excess	Ppt soluble in excess

### Results

solution	cation present
FA1	$Al^{3+}$ (aq)
FA2	$Mg^{2+}$ (aq)
FA3	$Cu^{2+}$ (aq)
FA4	$Fe^{2+}$ (aq)
FA5	$Fe^{3+}$ (aq)
FA6	$Zn^{2+}$ (aq)