

**RVHS J2 H2 CM Prelim 2025**

Place the following on the Teacher's Bench

- 6 additional sets of apparatus
- 6 additional sets of chemicals

Please store the chemicals away from hot windows to avoid degradation.

<b>Chemical</b>			
<i>Description</i>	<i>Label (if any)</i>	<i>Quantity per student</i>	<i>Remarks</i>
Bench reagents	(see above)	1 set	—
0.10 mol dm <sup>-3</sup> iron(II) sulfate FeSO <sub>4</sub> mixed with 0.10 mol dm <sup>-3</sup> silver nitrate  1. Allow mixture to equilibrate overnight before bottling 2. Bottling: Stir continuously and pour the mixture into each bottle <b>(Please prepare within the week)</b>	<b>FA 1</b>	80 cm <sup>3</sup>	Dissolve 13.9 g of FeSO <sub>4</sub> ·7H <sub>2</sub> O in 500 cm <sup>3</sup> of 0.5 mol dm <sup>-3</sup> of sulfuric acid  To prepare 0.5 mol dm <sup>-3</sup> H <sub>2</sub> SO <sub>4</sub> solution, cautiously pour 27.5 cm <sup>3</sup> of conc H <sub>2</sub> SO <sub>4</sub> (95-97%) into 500 cm <sup>3</sup> DI water and make solution up to 1dm <sup>3</sup>  To prepare 0.1 mol dm <sup>-3</sup> , dissolve 8.49 g of AgNO <sub>3</sub> in 500 cm <sup>3</sup> of water  Mix 500 cm <sup>3</sup> of each together. Equilibrate overnight.
0.010 mol dm <sup>-3</sup> potassium thiocyanate <b>(Please prepare within the week)</b>	<b>FA 2</b>	120 cm <sup>3</sup>	Dissolve 0.9718 g of KSCN in each dm <sup>3</sup> of solution
1.90 mol dm <sup>-3</sup> NaOH <b>(Please prepare within the week)</b>	<b>FA 3</b>	60 cm <sup>3</sup>	76 g of NaOH in each dm <sup>3</sup> of solution
2.00 mol dm <sup>-3</sup> HCl/ <b>(Please prepare within the week)</b>	<b>FA 4</b>	100 cm <sup>3</sup>	
0.2 mol dm <sup>-3</sup> manganese (II) chloride <b>(Please prepare within the week)</b>	<b>FA 5</b>	10 cm <sup>3</sup>	Dissolve 25.2g of MnCl <sub>2</sub> or 39.6g of MnCl <sub>2</sub> ·4H <sub>2</sub> O in each dm <sup>3</sup> of solution
0.200 mol dm <sup>-3</sup> ammonium iron(II) sulfate <b>(Please prepare one day in advance)</b>	<b>FA 6</b>	20 cm <sup>3</sup>	Dissolve 78.4g of Fe(NH <sub>4</sub> ) <sub>2</sub> (SO <sub>4</sub> ) <sub>2</sub> ·6H <sub>2</sub> O in each dm <sup>3</sup> of solution

0.0200 mol dm <sup>-3</sup> KMnO <sub>4</sub> <b>(Please prepare within the week)</b>	<b>FA 7</b>	10 cm <sup>3</sup>	Dissolve 3.16 g of KMnO <sub>4</sub> in each dm <sup>3</sup> of solution
Aqueous starch	Aqueous starch	5 cm <sup>3</sup>	Starch solution
Hydrogen peroxide	Hydrogen peroxide	5 cm <sup>3</sup>	

Others			
Deionised water	-	1 large bottle	

**Table 2: Bench reagents (in reagent rack) on student's bench**

<i>Description</i>	<i>Label</i>
2 mol dm <sup>-3</sup> HCl	HCl(aq)
2 mol dm <sup>-3</sup> HNO <sub>3</sub>	HNO <sub>3</sub> (aq)
1 mol dm <sup>-3</sup> H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> (aq)
2 mol dm <sup>-3</sup> NaOH	NaOH(aq)
0.2 mol dm <sup>-3</sup> Ba(NO <sub>3</sub> ) <sub>2</sub>	Ba(NO <sub>3</sub> ) <sub>2</sub> (aq)
0.05 mol dm <sup>-3</sup> AgNO <sub>3</sub> Approx. shelf life 3 to 4 months in amber bottle (not air tight)	AgNO <sub>3</sub> (aq)
0.1 mol dm <sup>-3</sup> KI	KI(aq)
Litmus papers	2 red 2 blue

## List of Apparatus

Description	Quantity per student				Remarks
	Q1	Q2	Q3	Total	
50.00 cm <sup>3</sup> Burette	1	1		2	Clamp with retort stand. To check the tips and replaced if chipped. <b>Label “Q1” and “Q2” on burettes.</b>
25.0 cm <sup>3</sup> Pipette		1		1	
10.0 cm <sup>3</sup> Pipette	1			1	
Retort stand and clamp	1	1		2	
Pipette filler	1			1	Place in a large basket.
250 cm <sup>3</sup> beaker		1		1	
Polystyrene cup		1		1	
Thermometer graduated to 1°C		1		1	
Filter funnel	1	1		2	
250 cm <sup>3</sup> conical flask	2			2	
ignitor			1	1	Place in chemical baskets
plastic teat pipettes			5	5	
Paper towel		2	1	3	
Test-tube			7	7	Slotted in a test-tube rack
Boiling-tube			1	1	
Brushes (suitable size for test-tube)			1	1	
Test-tube holder			1	1	
Glass rod			1	1	
Delivery tube, must fit test-tube			1	1	
Wooden splint			1	1	
Bunsen burner			1	1	