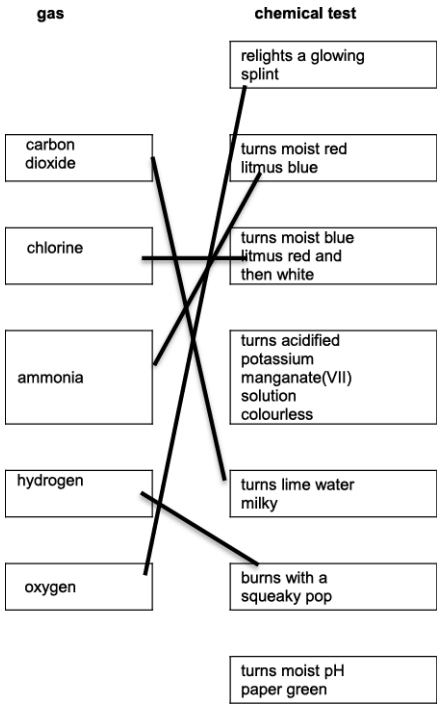
Mark scheme – Identifying the Products of Chemical Reactions (F)

Question			Answer/Indicative content	Marks	Guidance
1			**C** ✓	1 (AO1.2)	
			Total	**1**	
2			**B** ✓	1 (AO1.2)	
			Total	**1**	
3			**D** ✓	1(AO 1.1)	**Examiner's Comments** The test for chlorine gas was well known and tended to be ability related. However, many candidates of all abilities opted either for a squeaky pop with a lighted splint or for limewater turning milky.
			Total	**1**	
4			**C** ✓	1(AO 1.1)	**Examiner's Comments** Most candidates chose electrical conductivity as a key property of a transition metal. Many of the higher ability candidates tended to realise that option C gave the better description, others opted for option B.
			Total	**1**	
5	a	i	Carbonate / CO_3^{2-} ✓	1 (AO1.2)	
		ii	(limewater) goes cloudy / milky/white ✓	1 (AO1.2)	
	b		Potassium / K^+ ✓	1 (AO1.2)	
			Total	**3**	

6	a			5	**Each link** = 1 mark
	b		Use a flame test wire (1) Moisten wire and dip into sample (1) Introduce sample into blue flame of Bunsen burner (1)	3	**ALLOW** use a wooden splint **ALLOW** spray bottle **ALLOW** moisten wooden splint and dip into sample **ALLOW** have ions dissolved in the spray bottle
	c		Hydrogen, chloride and sulfate are present (1) Hydrogen ions because pH is 3 (1) Sulfate because white precipitate with barium chloride (1) Chloride because white precipitate with silver nitrate (1)	4	**ALLOW** H^+, Cl^- and SO_4^{2-} **ALLOW** (1) for the three correct ions **ALLOW**(1) for each correct explanation (must be linked to correct ion)
			Total	**12**	
7			C	1	
			Total	**1**	
8			A	1	
			Total	**1**	