Quick Quiz

	Answers				Marks
Topic	**Q1**	**Q2**	**Q3**	**Q4**	
8Fa	B	C	B	C	
8Fb	D	A	D	B	
8Fc	C	A	A	D	
8Fd	D	C	D	B	
8Fe	D	B	A	D	

End of Unit Test Mark Scheme Standard (S)

Question	Part	Step	Answer	Mark scheme
1	**a** **b**	**1st** **1st**	natural substances (or equivalent); steel (or equivalent)	**1 mark** **1 mark**
2	**a**	**3rd**	conduction of electricity	**1 mark**
	b	**3rd**	boiling point	**1 mark**
3	**a**	**3rd**	colour/transparent/see through/etc.	**1 mark** – for any correct answer
	b	**3rd**	melting point/boiling point/state/hardness/ flow/etc.	**1 mark** – for any correct answer
4	**a i**	**2nd**	freezing	**1 mark**
	a ii	**2nd**	melting	**1 mark**
	b	**3rd**	reversible as the state can be changed/reversed back again easily (by changing the temperature) (No mark for just saying 'reversible'.)	**1 mark**
5	**a**	**5th** **5th**	burning and burgers cooking	**2 marks** – 1 mark for each reaction
	b	**3rd**	**D** at least one new substance is formed	**1 mark**
	c	**5th**	oxygen, iron and carbon	**1 mark** – all correct
	d	**6th**	The atoms in an element are all the same/ A compound contains different atoms.	**1 mark** – any one of these descriptions
6	**a**	**5th**	**C** elements	**1 mark**
	b	**6th**	nitrogen and Cl	**1 mark**
	c	**6th**	**D** water	**1 mark** – both correct for 1 mark
7	**a**	**5th**	magnesium oxide	**1 mark**
	b	**4th** **4th**	Group 5 (0.02 g) is the anomalous result as it is very different from the other results.	**2 marks** – 1 mark for identifying result and 1 mark for explanation.

Question	Part	Step	Answer	Mark scheme
	c	5th 6th	0.22	**2 marks** – 1 mark for calculating mean correctly with or without the anomalous result (the answer is 0.187 if the anomalous result is included). 1 mark for missing out anomalous result when calculating the mean (even if the calculation of the mean is wrong).
8	a	6th	Any *two* of: F, Cl, Br or I	**1 mark** – for both
	b	7th	because they have similar (chemical) properties	**1 mark**
9	a	6th	**D** i, ii and vi	**1 mark** – all must be correct
	b	6th	**C** iv and v	**1 mark** – both must be correct
10		6th 6th	**A** gas, **B** gas, **C** liquid, **D** solid	**2 marks** – 1 mark if only 2 or 3 correct
11	a	5th	**A** hydrogen	**1 mark**
	b	6th	lithium, potassium, caesium, rubidium or francium	**1 mark** – any one answer

Final Step Calculation

Marks	Step
1–3	Below 1st
4–5	1st
6–8	2nd
9–12	3rd
13–16	4th
17–21	5th
22–25	6th
26–30	7th

End of Unit Test Mark Scheme Higher (H)

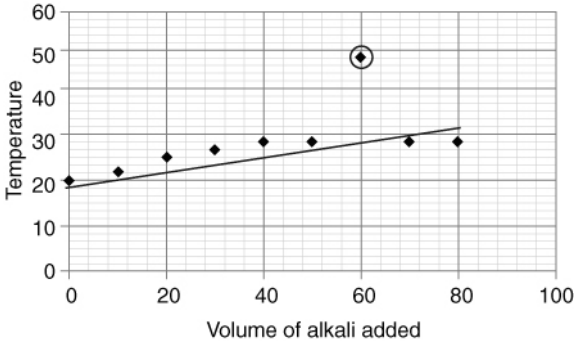
Question	Part	Step	Answer	Mark scheme
1	a	6th	**D** water	**1 mark**
	b	5th	compounds	**1 mark**
	c	7th 7th	John Dalton said that the atoms in an element were all the same. Therefore, no matter how you broke them down, they would still (contain the same atoms and) be the same element.	**2 marks** – 1 mark for each statement or equivalent
2	a	5th	magnesium oxide	**1 mark**
	b	4th 4th	Group 5 (0.02 g) is the anomalous result; as it is very different from the other results.	**2 marks** – 1 mark for identifying result and 1 mark for explanation.

Question	Part	Step	Answer	Mark scheme
	c	**5th** **6th**	0.22	**2 marks** – 1 mark for calculating mean correctly with or without the anomalous result (the answer is 0.187 if the anomalous result is included). 1 mark for missing out anomalous result when calculating the mean (even if the calculation of the mean is wrong).
3	**a**	**6th**	Any *two* of: F, Cl, Br or I	**1 mark** – for both
	b	**7th**	because they have similar (chemical) properties	**1 mark**
4	**a**	**6th**	**D** i, ii and vi	**1 mark**
	b	**6th**	**D** vi	**1 mark**
	c	**6th**	In order of the (relative) masses of their atoms.	**1 mark**
5	**a**	**6th**	**B** liquid	**1 mark**
	b	**6th**	between 200 and 300 °C	**1 mark**
6	**a**	**6th** **6th**	missing substances: sodium hydroxide; and hydrogen	**2 marks** – 1 mark for each
	b	**5th**	sodium fizzes/bubbles/reacts/effervesces	**1 mark** – for any answer
7	**a**	**6th**	Metal oxides generally have higher melting points than non-metal oxides (or vice versa).	**1 mark**
	b	**7th**	It would lower the pH or it would make the pH less than 1 or 2 or any value less than 7.	**1 mark**
	c i	**8th**	SO_3	**1 mark**
	c ii **c iii**	**7th** **7th**	The sulfur oxide is made up of small groups of atoms (called molecules), while the magnesium oxide structure has many (billions) of atoms joined together. Magnesium oxide structure is called a <u>lattice</u>.	**2 marks** – 1 mark for describing the different structures, 1 mark for name of structure
	d	**7th**	The atoms of the reactants are just rearranged during the reaction (no atoms are lost or gained) so the mass of the products is the same as the mass of the reactants.	**1 mark** – any answer which includes a description of the atoms being rearranged during a chemical reaction

Final Step Calculation

Marks	Step
1–3	Below 4th
4–7	4th
8–11	5th
12–16	6th
17–20	7th
21–25	8th

Quick Check answers

Topic	Step	Answers
8Fa	**5th–7th**	**1** False – All substances are made up of tiny particles called atoms. **2** True **3** False – All atoms of the same element have the same mass (according to Dalton's theory). **4** False – A compound is always made when atoms of different elements are joined together. **5** True **6** False – When copper and oxygen react a new compound is formed. **7** True **8** False – Compounds contain different kinds of atom from different elements. **9** False – An element cannot be broken down into a simpler substance using chemical reactions. **10** False – The products of a reaction have the same mass as the reactants. **11** False – During a chemical reaction atoms are rearranged. **12** False – The chemical symbols for carbon and chlorine are **C** and **Cl**.
8Fb	**5th–6th**	**Across** **3** four **4** freezing **6** flammability **8** new **9** substance **12** point **Down** **1** condensation **2** change **5** atoms **7** magnesium **10** two **11** atom
8Fb Lit		**1** **a** burns **b** are **c** heats **d** contains **2** **a** water **b** teacher **3** **a** and **b** when **c** because **d** or **4** **a** when **b** because **c** until **d** and **e** but
8Fc	**6th–8th**	**1** the masses of their atoms **2** Te and I or Hg and Au **3** He was able to predict properties of unknown elements because they would be similar to the elements in the same group. **4** When the unknown elements were discovered and their properties were as predicted. **5** **a** Three of: helium; neon; krypton; xenon; radon. **b** Three of: fluorine; chlorine; bromine; iodine; astatine. **c** Three of: lithium; sodium; potassium; rubidium; caesium. **6** similar (chemical) properties **7** **a** helium, neon, krypton, xenon or radon **8** **b** lithium, sodium, potassium
8Fc WS	**5th–8th**	**1** **a** **b** **c**  **d** The anomalous result was ignored when drawing line of best fit.

Topic	Step	Answers
		2 **a** mean with anomalous result = 12.5 mean without anomalous result = 7.4 **b** As the anomalous result must have been caused by some error, the mean without this result would be closer to the true value for the mean.
8Fd	**4th–7th**	**1** A solid changes into a liquid at its melting point. **2** The melting point of a solid will be the same as its freezing point. **3** If a substance's boiling point is higher than 50 °C and its melting point is lower than 20 °C, it will be a liquid at 25 °C. **4** Metals are usually good conductors of electricity, are malleable or flexible and have high melting points. **5** Most substances that are poor conductors of heat and electricity are non-metals. **6** In the periodic table, most elements that are found on the right side of the table are non-metals. **7** The trend shows that the missing data should be: **a** about 70 °C, **b** about 20 °C. (It is decreasing as you go down the group.) **8** The melting points of the elements in group 1 decrease down the group.
8Fe	**5th–6th**	**Q** What happens when magnesium is heated in air? **A** It burns, forming the oxide **Q** Which group of elements reacts with water, forming hydrogen gas? **A** Alkali metals **Q** What is formed when sulfur burns? **A** Sulfur dioxide **Q** What is one of the most reactive alkali metals? **A** Caesium **Q** What kind of element usually forms acidic oxides? **A** Non-metals **Q** If chlorine is more reactive than bromine, what is the most reactive halogen? **A** Fluorine **Q** Which kind of element usually forms alkaline oxides? **A** Metals **Q** What is a molecule? **A** A group of a set number of atoms joined together **Q** Name an element with similar properties to calcium. **A** Magnesium **Q** What gas is needed for elements to burn? **A** Oxygen **Q** What gas is formed when lithium reacts with water? **A** Hydrogen **Q** What do you call the rows of elements across the periodic table? **A** Periods