

Quick Quiz

	Answers				Marks
Topic	Q1	Q2	Q3	Q4	
9Fa	B	C	D	B	4
9Fb	C	B	D	B	4
9Fc	B	C	A	A	4
9Fd	B	B	D	C	4
9Fe	A	A	D	C	4

End of Unit Test Mark Scheme Standard (S)

Question	Part	Step	Answer	Mark scheme
1		3rd	Cu, Fe, Zn	1 mark
2		3rd	physical change: condensation, evaporation, melting chemical reaction: combustion, neutralisation	2 marks – 1 mark for all physical changes correct, 1 mark for both correct chemical reactions
3	a	3rd	magnesium	1 mark
	b	4th	24	1 mark
	c	4th	12	1 mark
	d	4th	electron –1, neutron 0	2 marks – 1 mark for each correct
4	a	4th	D thermal decomposition	1 mark
	b	4th	C the splint relights	1 mark
5	a	2nd	gold	1 mark
	b	3rd	one from: sodium, copper	1 mark for either correct
	c	6th	oxygen, mercury oxide	2 marks – 1 mark for each correct
	d	6th	increasing temperature means particles move faster so hit each other more often and with more force	2 marks – 1 mark for each correct
6	a	6th	any similar to: plunger would move further into syringe tube because gas volume decreases as oxygen from air reacts with iron	2 marks – 1 mark for change, 1 mark for reason
	b	6th	C the mass is the same at the start and end of the experiment	1 mark
	c	6th	reaction would be slower	1 mark
7		5th	$2.4 / 4.0 \times 100\% = 60\%$	2 marks – both marks for correct answer, with or without calculation, 1 mark for correct setting out of calculation with incorrect answer
8	a	4th	carbon dioxide	1 mark
	b	6th	it takes oxygen from the iron oxide	1 mark

	c	6th	carbon is more reactive than iron	1 mark
	d	5th	electrolysis of molten ore (accept: electrolysis)	1 mark
9	a	6th	copper metal forms on the nail	1 mark
	b	6th	FeSO ₄ , Cu	2 marks
	c	6th	A displacement	1 mark

Final Step Calculation

Marks	Step
0–4	1st or below
5–6	2nd
7–9	3rd
10–12	4th
13–18	5th
19–22	6th
23+	7th

End of Unit Test Mark Scheme Higher (H)

Question	Part	Step	Answer	Mark scheme
1	a	4th	sodium, copper, mercury, gold,	1 mark – for all in correct order
	b	4th	HgO	1 mark
	c	4th	two atoms (of mercury)	1 mark
	d	6th	increasing temperature means particles move faster so hit each other more often and with more force	2 marks – 1 mark for each correct
2	a	6th	Two points similar to - measure volume of gas before (volume of air with oxygen) and after reaction (volume of gas without oxygen) - divide difference in volumes (oxygen used) by starting volume multiplied by 100%.	2 marks – 1 mark for each correct
	b	6th	C the mass is the same at the start and end of the experiment	1 mark
	c	6th	reaction would be slower because there is a smaller surface area of metal than of filings in contact with air/oxygen	2 marks – 1 mark for effect, 1 mark for reason
3	a	4th	carbon dioxide	1 mark
	b	6th	C redox	1 mark
	c	6th	carbon is more reactive than iron	1 mark
	d	5th	electrolysis of molten ore	1 mark
4		5th	$2.4 / 4.0 \times 100\% = 60\%$	2 marks – both marks for correct answer, with or without calculation, 1 mark for correct setting out of calculation with incorrect answer
5	a	6th	copper metal forms on the nail the blue solution turns pale green	2 marks – 1 mark for each correct
	b	6th	A displacement	1 mark
	c	6th	FeSO ₄ (aq), Cu(s)	2 marks – 1 mark for each correct chemical symbol with its state symbol
	d	7th	zinc is more reactive than iron/higher in the reactivity series; zinc corrodes/reacts with air/water and prevents the iron from rusting.	2 marks – 1 mark for each correct point
6	a	7th	proton 19 neutron 20 electron 19	2 marks – 1 mark for protons and neutrons correct, 1 mark for electrons correct

Final Step Calculation

Marks	Step
0–5	3rd or below

6–8	4th
9–12	5th
13–16	6th
17–20	7th
21+	8th

Quick Check answers

Quick Check	Answers
9Fa	1 False. Freezing is a physical reaction. 2 True 3 True 4 False. A physical change is usually easy to reverse. 5 True 6 True 7 True 8 False. Gas pressure increases as the size of the container decreases or gas pressure decreases as the size of the container increases. 9 True 10 False. Gas particles do not change size as the temperature increases.
9Fb	1 silver 4 hydrogen 6 calcium 8 metals 2 react 5 nitric 7 mass 9 Student's own answer 3 proton
9Fc	1 Satisfactory 2 Answer should cover the points given in the level descriptions.
9Fc WS	44 g of carbon dioxide contains 12 g of carbon. What is the percentage of carbon in carbon dioxide? 27.3% 10.0 g of zinc carbonate was heated and lost 35% mass. What is the mass of solid left? 6.5 g 20 g of copper was heated and formed 25 g of copper oxide. What is the percentage gain? 25% 2.5 g of calcium was heated and gained 40% mass. What is the mass of solid formed? 3.5 g 64 g of sulfur dioxide contains 32 g of sulfur. What is the percentage of sulfur in sulfur dioxide? 50% 10.0 g of calcium carbonate was heated and formed 5.6 g of calcium oxide. What is the percentage loss? 44% 5.00 g of magnesium was burnt and gained 67% mass. What is the mass of solid formed? 8.35 g 5.0 g of iron was heated and formed 6.1 g of iron oxide. What is the percentage gain? 22%

Quick Check	Answers
9Fd	Possible clues: Across 1 A metal that displaces zinc from zinc oxide. 3 The type of reaction that occurs between a metal and a compound of a metal. 9 See 7 down 10 A type of element that conducts electricity. Down 2 An unreactive metal that occurs uncombined in the Earth's crust. 4 A metal that is magnetic. 5 A very reactive metal. 6 The sulfate solution of this metal is blue. 7 and 9 across A list of metals in order of reactivity. 8 This metal will displace copper from copper sulfate but will not displace iron from iron oxide.
9Fe	Students' own answers.