Centre No.				Pape	r Refer	ence			Surname	Initial(s)
Candidate No.						/	2	C	Signature	

5637/2C 5667/2C

Edexcel GCSE

Science: Double Award B (1536)

Chemistry B (1539)

(Modules 9 and 10)

Paper 2C

Foundation Tier

Wednesday 13 June 2007 - Morning

Time: 30 minutes

Materials required for examination Items included with question papers

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initial(s) and signature, and complete the paper reference.

Check that you have the correct question paper.

Answer ALL the questions. Write your answers in the spaces provided in this question paper. Show all stages in any calculations and state the units. Calculators may be used.

Include diagrams in your answers where these are helpful.

Some questions must be answered with a cross in a box (☒). If you change your mind about an answer,

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2). There are 5 questions in this question paper. The total mark for this paper is 30. There are 8 pages in this question paper. Any blank pages are indicated. A copy of the periodic table is on page 2.

Advice to Candidates



This symbol shows where the quality of your written answer will also be assessed.

N25987A

W850/R1536/57570 11/8/6/6/2/48.300

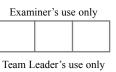


Turn over

Total



advancing learning, changing lives



Question Number

1

2

3

4

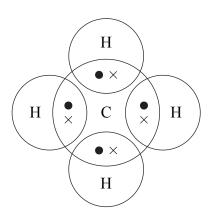
5

0	He Helium	$\overset{2}{\overset{20}{\text{Neon}}}$	ļ	 	131 Xenon 54			
7					127 I Iodine 53			
9		16 Oxygen			$\begin{array}{c} 128 \\ Te \\ \text{Tellurium} \\ 52 \end{array}$			
w		Nitrogen	31 Phosphorus	AS Arsenic	Sb Antimony	209 Bismuth		
4		Carbon 6	Si m Silicon Phos	73 Germanium	Sn Tin	$\begin{array}{c} 207 \\ \textbf{Pb} \\ \text{Lead} \\ 82 \end{array}$		
m		Boron 5	Al Aluminium	Gallium	Indiam	204 T1 Thallium		
					Cadmium 48			
BLE				Cu Copper	Ag Silver	Au Gold		
THE PERIODIC TABLE Group				Nickel	106 Pd Palladium	Pt Platinum 78		
RIOD				CO Cobalt	Rh Rhodium	192 Iranian 77		SS
THE PE Group	1 H Hydrogen 1			Fe Iron	Ruthenium	OS OSmium 76		Key Relative atomic mass Symbol Name Atomic number
E 5	Ξ			Manganese	Mo Tc Ru In Molydenum Technetum Ruthenium Rh 44	$\mathop{\mathrm{Re}}_{75}$		Relativ
				52 Cr Chromium	96 Mo Molybdenum 42	184 W Tungsten 74		
				51 V Vanadium	93 Nobium	181 Tantalum		
				48 Titanium	91 Zr Zirconium 40	178 Hafnium 72		
				Sc	89 Y Yttrium 39	La Lanthanum 57	Actinium 89	
7		Beryllium	Magnesium	, ε	Sr Strontium	_		
_		F	Na Sodium	l g	85 Rb Rubidium 37	Caesium	Francium	
	Period 1	7	m	4	w	9		

				Leave blank
Answer ALL the question	s. Write your a	nswers in the spaces p	provided.	
1. Mark a cross (⋈) next to the con	rect word to cor	mplete each sentence.		
	fossils	\boxtimes		-
(a) Most metals are extracted f	rom marble	\boxtimes		-
	ores	\boxtimes		-
			(1)	
(b) When metals are extracted	from their comp	ounds the process		
neutralisa	ntion 🗵			-
always involves polymeris	sation 🗵			-
reduction	\boxtimes		(1)	-
	alkali	\boxtimes	(1)	-
(c) Lithium, sodium and potass		■ 0.5 cm metals		-
, , ,	transit			
			(1)	
	catalys			-
(d) Many transition metals are				-
	fuels	⊠	(1)	Q1
			(Total 4 marks)	
			(::: :: :: :: :: :: :: :: :: :: :: :: :	



2. (a) The diagram shows the bonding in a methane molecule. The dots and crosses represent electrons.



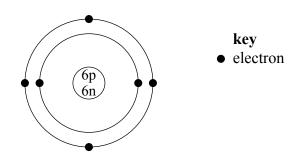
(i) How many electrons does a hydrogen atom have before it combines to form methane?

(1)

(ii) What holds the atoms in a molecule of methane together?

(2)

(b) The diagram shows the structure of a carbon atom.



The mass number of this carbon atom is

The atomic number of carbon is

A carbon atom contains a total of electrons.

(3)

(c) Calculate the relative formula mass of methane, CH_4 (Relative atomic masses: H = 1; C = 12.)

(Relative atomic masses, 11 – 1, C – 12.)

(1)

(d) When methane burns, an exothermic reaction takes place.	Leave blank
What is meant by an exothermic reaction?	
(2)	Q2
(Total 9 marks)	

Leave
blank

3.	(a)	Use words	from th	ne box to	complete 1	the sentences.
----	-----	-----------	---------	-----------	------------	----------------

	carbon dioxide	nitrogen	oxygen
	Today, about 78% of the Earth's	s atmosphere is	
	The Earth's original atmospher	re probably contained higher	percentages of water
	vapour and	compared wit	h today. (2)
(b)	Suggest why scientists cannot atmosphere.	agree about the composition	of the Earth's original
			(1)

(c) Complete the following table by marking a cross (⋈) to show whether each process increases or decreases the amount of oxygen in the atmosphere.
 One has been done for you.

process	increases oxygen	decreases oxygen
respiration		\bowtie
burning	\boxtimes	\boxtimes
photosynthesis		

(2)

Q3

(Total 5 marks)

(i)

		copper	oxide
(3) Write the balanced equation for the reaction between copper oxide and hydrogen. (2) Complete this sentence to show the type of reaction. During this reaction, copper oxide is	hydrogen →	<u> </u>	excess hydrogen
Write the balanced equation for the reaction between copper oxide and hydrogen. (2) Complete this sentence to show the type of reaction. During this reaction, copper oxide is) Describe what c	changes would be seen during this read	ction.
Write the balanced equation for the reaction between copper oxide and hydrogen. (2) Complete this sentence to show the type of reaction. During this reaction, copper oxide is			
Write the balanced equation for the reaction between copper oxide and hydrogen. (2) Complete this sentence to show the type of reaction. During this reaction, copper oxide is			(3)
Complete this sentence to show the type of reaction. During this reaction, copper oxide is) Write the balance	ced equation for the reaction between	
Complete this sentence to show the type of reaction. During this reaction, copper oxide is		-	
During this reaction, copper oxide is to copper. (1)			(2)
(1)) Complete this so	entence to show the type of reaction.	
(Total 6 marks)	During this reac	etion, copper oxide is	
			(Total 6 marks)

Leave	
blank	

Complete this table.		
	elem	ient
	magnesium	chlorine
symbol of atom	Mg	Cl
number of electrons in at	om 12	
symbol of ion	Mg ²⁺	Cl-
number of electrons in ic	n	

is **(2)** (c) Explain why magnesium chloride has a high melting point. **Q5 (1)**

(Total 6 marks)

TOTAL FOR PAPER: 30 MARKS

END

