Centre No.					Paper Reference (complete below)					Surname	Initial(s)		
Candidate No.									/	2	C	Signature	
		Paper	Reference(	(s)									

5637/2C 5667/2C

# **Edexcel GCSE**

Science: Double Award B (1536)

Chemistry B (1539)

(Modules 9 and 10)

Paper 2C

# **Foundation Tier**

Thursday 16 June 2005 – Morning

Time: 30 minutes

Materials required for examination

Items included with question papers

Ni

#### **Instructions to Candidates**

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

Answer ALL questions 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.

### **Information for Candidates**

The marks for the various parts of questions are shown in round brackets: e.g. (2). There are 4 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.

The question paper has a copy of the periodic table on page 2.

## **Advice to Candidates**



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

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Turn over

Total



Examiner's use only

Team Leader's use only

Question Number

2

3

•	He Helium	$\sum_{\text{Neon}}^{2}$	Argon	<del></del>	36 131 Xenon	-	-			
1		19 Fluorine	35.5 CI Chlorine	80 Bromine	35 127 I Iodine					
9		16 Oxygen	s s	Se Selenium	Tellurium	Polonium 84				
v		Nitrogen	31 Phosphorus	AS Arsenic	Sb Antimony	209 Bismuth 83				
4		12 Carbon	_		Sn Tin	1	1			
ю		Boron	All		IIS IIIS Indium	204 T1 Thallium				
				65 Zinc	Cd Cadmium	Hg Mercury 80				
SLE				63.5 Cu Copper	Ag Silver	197 Au Gold				
				S9 Nickel	Pd Palladium	Platinum				
KIOD				S9 Cobalt		192 Ir Iridium			s	
THE PERIODIC TABLE Group	I H Hydrogen			56 Fe				Key	Kelative atomic mass Symbol	Name Atomic number
<u> </u>	Ĥ			Mn Manganese	MO TC Ru Nothernum Ruthenium Nothernum Ruthenium Rutheni	Rhenium		·.	Kelative	Atom
				52 Cr	Mo folybdenum	184 W Tungsten 74				
						Ta Tantalum				
				48 Titanium	E	Hafnium	ł			
				E	21 89 Y Yttrium	139 La anthanum 57				
7		9 Beryllium	$\stackrel{24}{\mathrm{Mg}}$	F	Srontium	Barium	1			
-		ε	Na Sodium	E	Rb Rubidium S	CS Caesium				
	Period 1	2	60	4	w.	9				

N 2 1 4 1 2 A 0 2 0 8

Leave blank Answer ALL the questions. Write your answers in the spaces provided. 1. (a) Draw a straight line from each metal to its use. One has been done for you. metal use electrical wires aluminium in buildings making copper aircraft reinforcing lead concrete heavy belts steel for divers **(3)** (b) Underline the correct words to complete the following sentences. oils. (i) Most metals are extracted from rocks called ores. fossils. **(1)** aluminium. (ii) In a blast furnace, carbon monoxide is used to extract iron. sodium. **(1)** aluminium. (iii) Electricity must be used to extract iron. gold. cracking. This process is called electrolysis. fermentation. Q1 **(2)** 

N 2 1 4 1 2 A 0 3 0 8

3

(Total 7 marks)

2. (a) Hand warmers can be used during some activities.



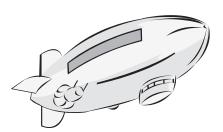
Hand warmers work because an exothermic chemical reaction takes place.

(i)	What is meant by an exothermic reaction?
	(1)
(ii)	How would a person using a hand warmer decide that a chemical reaction was taking place?
	(1)
Wat Cal	ter is a compound that is formed when the gases hydrogen and oxygen react. ter has the formula $H_2O$ . culate the relative formula mass of water. lative atomic masses: $H = 1.0$ , $O = 16$ )
••••	(2)

(b)

4

(c) Hydrogen was used to fill airships but the noble gas helium is now used instead.



(i)	What is the chemical symbol for helium?	
		(1

(1)

(ii)	What property	do	both	hydrogen	gas	and	helium	gas	have	that	makes	them
suitable for filling airships?												

(1)	

1	(iii)	Why	, is	helium	more	suitable	than k	nydrogen	for	filling	airshing	39
١	(111)	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	/ 13	nonum	morc	Sultable	man i	iyuiogcii	101	mmg	ansinps	<b>5</b> 4

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(2)

(d) The mass number of a helium atom is 4. Complete the table for the particles in this atom.

particle	number in atom	relative mass of particle	relative charge on particle
proton	2	1	+1
neutron	2		0
electron	2	$\frac{1}{1850}$	

 $(2) \qquad \boxed{ }$ 

(Total 10 marks)

Q2

**3.** For many years scientists have measured the amount of carbon dioxide in the atmosphere. They have shown that the amount of carbon dioxide is increasing.

carbon dioxide concentration in parts per million 340 - 330 - 320 - 310

(a)	An increase	in the	Earth's	temperature	causes	carbon	dioxide to	be be	given	off	from
	oceans.										

Suggest why carbon dioxide is released from oceans when they become warmer.

(1)

(b) Suggest why some scientists do not accept that this explains the reason for the increase of carbon dioxide in the atmosphere.

(1)

(c) Carbon dioxide can be formed by burning carbon.

Write the balanced equation for this reaction.

(2)

) **Q3** 

(Total 4 marks)

Leave blank

4.	The table give	s information	about five	particles A,	B, C, D and E.

particle	symbol	number of protons	number of neutrons	number of electrons
A	Na	11	12	11
В	Na <sup>+</sup>		12	10
С	Cl	17	18	17
D		17	20	17
Е	Cl <sup>-</sup>	17	20	

Е	C	21-	17	20	
Fill	l in the th	nree s	paces in the table.		(3
Des	scribe the	e struc	cture of solid sodium of	chloride.	,
C	1	4	1 24 4 1 1	1.1	(3
Soc	111111111 10 O	meta	l with atomic number	11.	
Co <sub>j</sub> Fin	pper is a	metal netals	with atomic number 2 on the periodic table a	29.	ns to help you answer the
Co <sub>j</sub> Fin	pper is a and these no lowing questions. State two	metals netals uestio wo di	with atomic number 2 on the periodic table a ons.	29. and use their position	ns to help you answer the
Co <sub>j</sub> Fin foll	pper is a and these no lowing questions. State two	metals netals uestio wo di	with atomic number 2 on the periodic table a ons.	29. and use their position	
Cop Fin foll (i)	pper is a and these made these made to the separate the s	metals metals uestio wo di e sam	with atomic number and on the periodic table and ons.  fferences in behaviour ples of water.	29. and use their position	
Cop Fin foll (i)	pper is a and these made these made to the separate the s	metals metals uestio wo di e sam	with atomic number 2 on the periodic table a ons.	29. and use their position	
Coj Fin foll (i)	pper is a and these made these made to the separate the s	metals metals uestio wo di e sam	with atomic number and on the periodic table and ons.  fferences in behaviour ples of water.	29. and use their position	
Coj Fin foll (i)	pper is a and these made these made to the separate the s	metals metals uestio wo di e sam	with atomic number and on the periodic table and ons.  fferences in behaviour ples of water.	29. and use their position	

N 2 1 4 1 2 A 0 7 0 8

**END** 

**TOTAL FOR PAPER: 30 MARKS** 

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