

GCSE BASICS 2 EXTRAS

(8)

1	Complete the table to show the formula and stru-	ture type (use ✓s) of the following substances.
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Substance	Formula	Monatomic	Simple molecular	Giant covalent	Ionic	Metallic
ammonia						
iodine						
lithium bromide						
potassium						
aluminium hydroxide						
diamond						
buckminsterfullerene						
helium						

2	Convert these quantities into the units shown.

a)	25 cm ³ to dm ³	(1)
b)	500 cm ³ to m ³	(1)
c)	100 kPa to Pa	(1)
d)	89 mg to g	(1)
e)	–196°C to K	(1)
f)	0.102 nm to m	(1)

Write a balanced equation for each of these reactions.	(8)
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a) copper(II) carbonate + nitric acid

b) magnesium oxide + hydrochloric acid

c) silane (SiH₄) + oxygen

.....

d) calcium + hydrochloric acid

.....

	Write a	an ionic equation	for each of thes	e reactions.				
a)	precipi	itation of lead(II) i	odide when solu	itions of potassic	ım iodide and lea	ad(II) nitrate are	mixed	
b)	acid-ba	ase reaction betw	een sulfuric aci	d and lithium hyd	lroxide			
c)	redox	reaction between	solution of iron	(II) nitrate and zir	nc metal			
	Compl	ete the table abo	ut these atoms a	and ions.				
		atom / ion	atomic number	mass number	protons	neutrons	electrons	
		³¹ ₁₅ P ³⁻						
					35	46	36	
	Calcul	ate the percentag						
			2NaCl	$+ 2H_2O \rightarrow Cl_2 +$	H ₂ + 2NaOH			
	0		6.71	(A		4023		
	Calcul	ate the mass of o	ne atom of ${}_3^{\prime}{\rm Li}$	(Avogadro cons	tant, L = 6.022 x	10 ²³ mol ⁻¹)		

	VV	$O_3 + 3H_2 \rightarrow W + 3H_2C$,	
	ras found that 25.00 cm ³ the concentration of the		ium hydroxide reacts wit ol dm ^{–3} .	th 26.38 cm ³ of nitric
	HNO₃(ag) +	NaOH(aq) → NaNO₃(a	a) + H ₂ O(I)	
	3(4)20(.)	
			•••••	
Draw stick diagra	ams and dot-cross diagr	rams for each of these r	nolecules.	
	Г			
	NH₃	CO ₂	HBr	N_2
	NH ₃	CO ₂	HBr	N ₂
stick	NH ₃	CO ₂	HBr	N ₂
stick diagram	NH ₃	CO ₂	HBr	N ₂
	NH ₃	CO ₂	HBr	N ₂
diagram	NH ₃	CO ₂	HBr	N ₂
	NH ₃	CO ₂	HBr	N ₂

a) Magnesium chloride has a high melting point. (3) b) Copper conducts electricity. (3) c) Methane has a low boiling point. (4) Aluminium oxide conducts electricity when molten but not as a solid. (5) d) Aluminium oxide conducts electricity when molten but not as a solid. (6) Helium has a very low boiling point. (7) (8) (9) Helium has a very low boiling point. (9) Helium has a very low boiling point. (9) (9) Helium has a very low boiling point. (9) (9) (10	12	Explain each of the following.								
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