Independent Schools Examinations Board

COMMON ENTRANCE EXAMINATION AT 13+

SCIENCE

LEVEL 2

CHEMISTRY

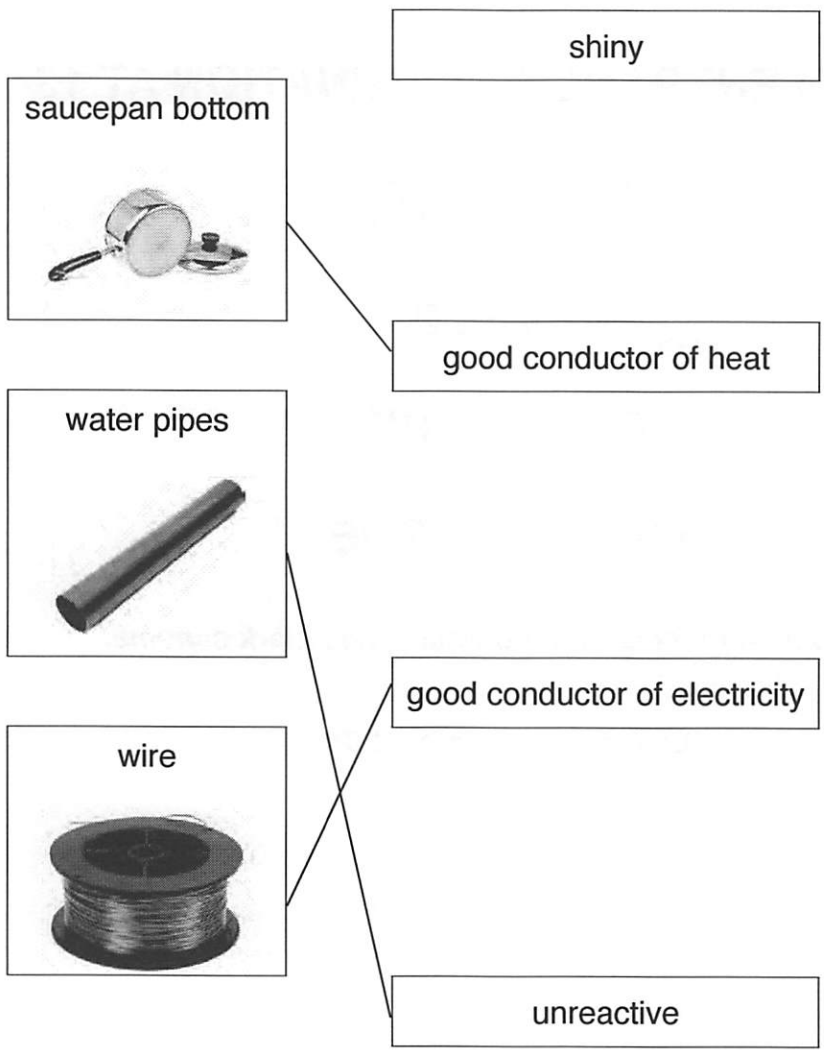
MARK SCHEME

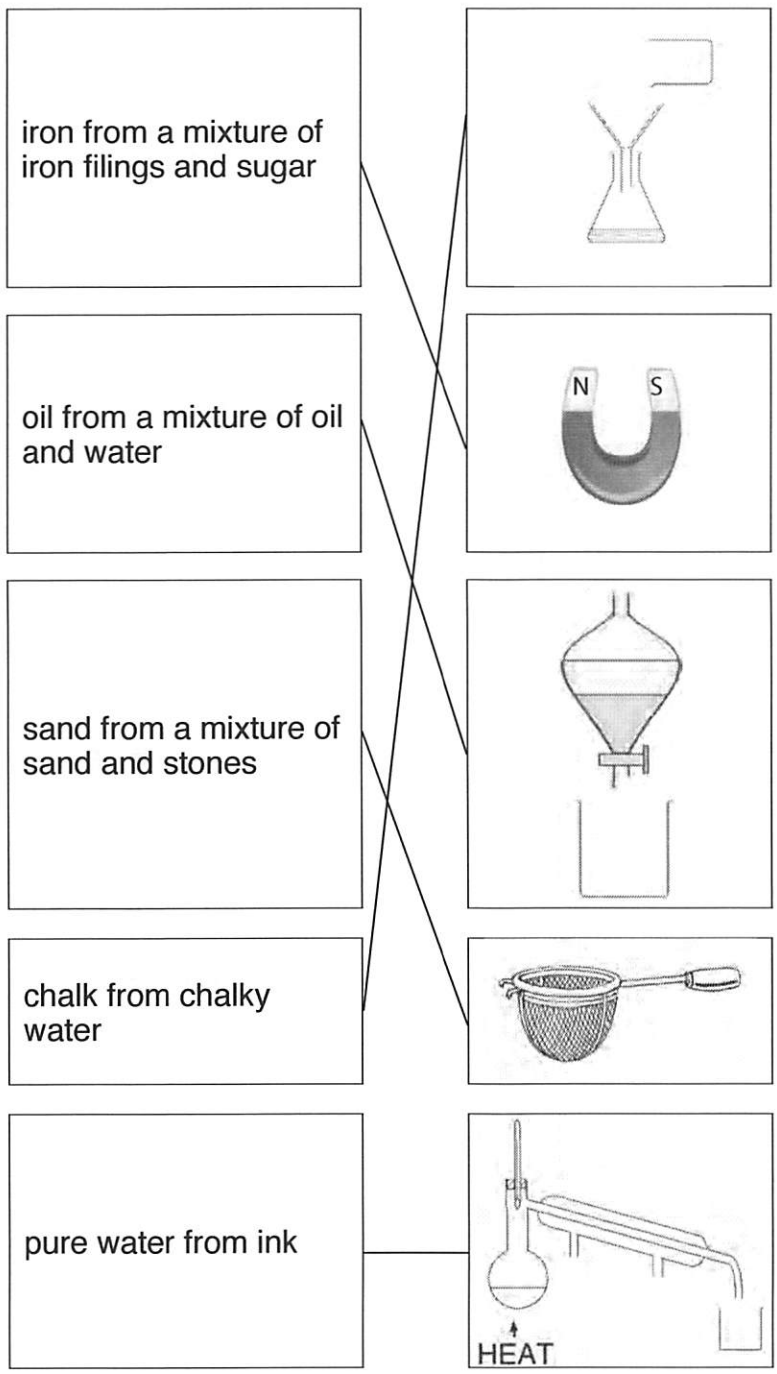
This is a suggested, not a prescriptive, mark scheme.

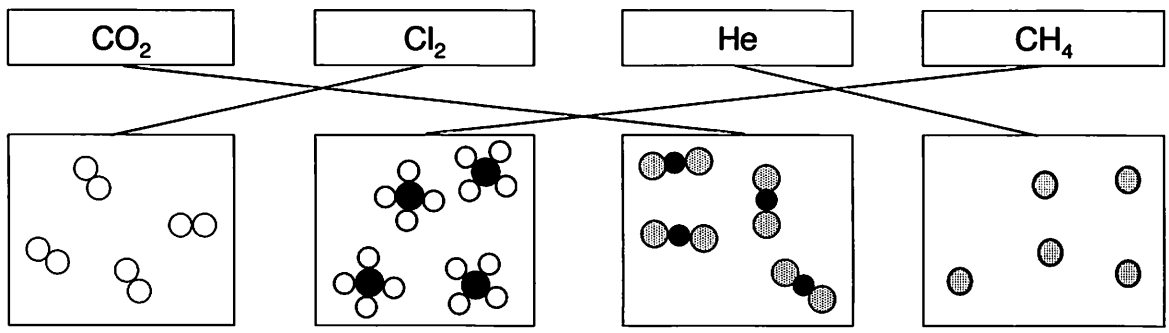
Tuesday 5 November 2013

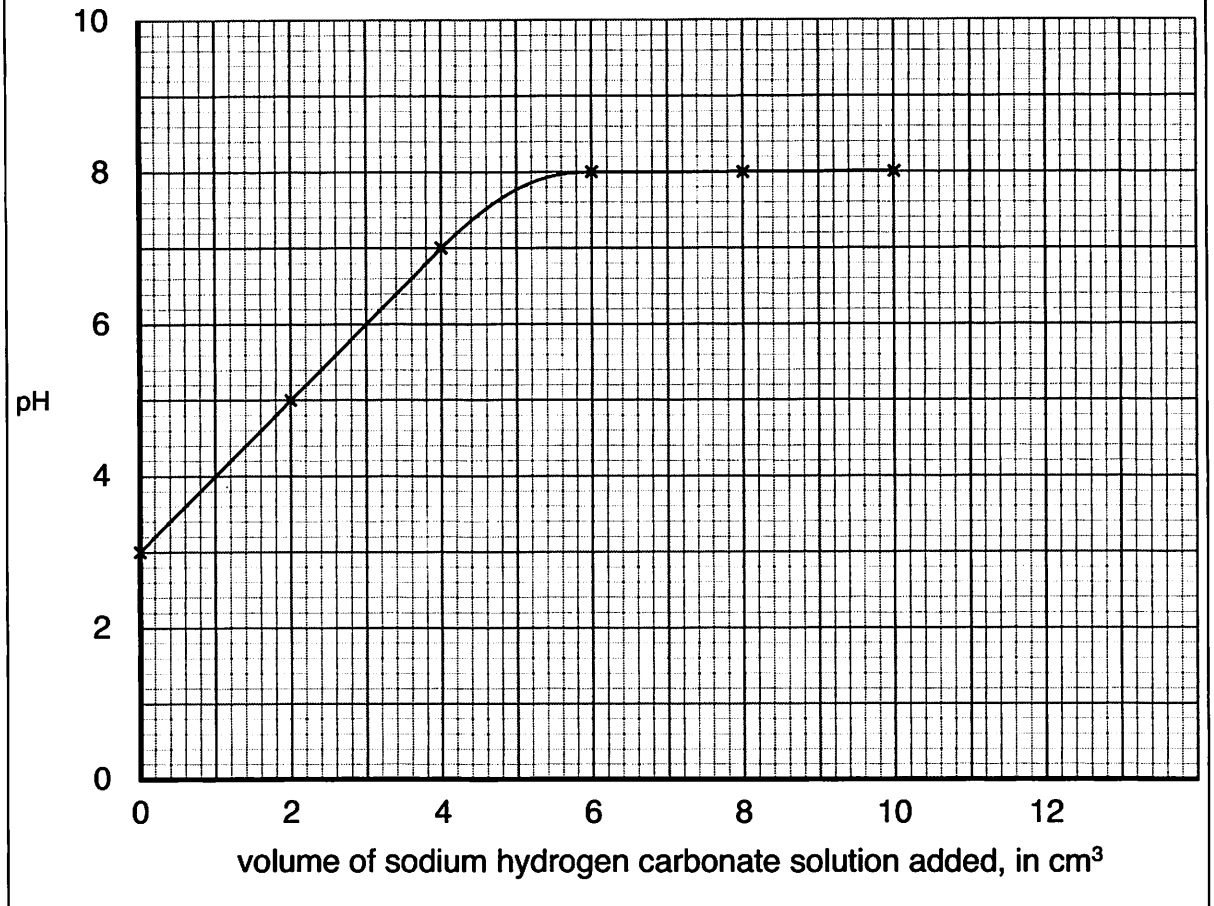
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Q.	Answer	Mark	Additional Guidance
1. (a)	carbon dioxide	1	
(b)	sulphur dioxide	1	
(c)	carbon	1	
(d)	sublime	1	
(e)	800 cm^3	1	
2.		3	

Q.	Answer	Mark	Additional Guidance
3. (a)		4	award 4 marks for all five correct 3 marks for four correct 2 marks for three correct 1 mark for one/two correct

Q.	Answer	Mark	Additional Guidance
4. (a) (i)	substance that cannot be broken down into anything simpler by chemical means/ contains only one type of atom	1	
(ii)	carbon, chlorine, hydrogen, oxygen	2	2 marks – four correct 1 mark – three or two correct
(b) (i)	two or more atoms joined together	1	
(ii)		3	award 3 marks for all four correct 2 marks for two/three correct 1 mark for one correct
(c)	movement: solid – vibrate; gas – free movement	1	
	arrangement: solid – regular/close together; gas – far apart/random	1	
5. (a) (i)	flame to be more wavy	1	
(ii)	yellow/orange	1	
(b)	easier to see	1	
(c)	less air/incomplete combustion	1	
	carbon formed instead of carbon dioxide	1	
(d) (i)	X just above inner cone	1	
(ii)	use pure oxygen	1	

Q.	Answer	Mark	Additional Guidance
6. (a) (i)	lead + magnesium oxide	1	
(ii)	no reaction	1	
(b)	below copper/at the bottom	1	
(c)	pink/brown/orange solid appearing	1	
	blue colour of solution fading	1	
7. (a) (i)	the amount of sodium hydrogen carbonate added	1	
(ii)	pH	1	
(iii)	the volume of vinegar	1	credit any relevant point
(b) (i)		2	2 marks for six points accurately plotted 1 mark for three/four/five points accurately plotted
(ii)		1	1 mark for line of best fit – must be a curve

Q.	Answer	Mark	Additional Guidance
(c) (i)	3	1	
(ii)	$4\,cm^3$	1	
(iii)	8	1	
(d) (i)	it is alkaline/it is an alkali	1	allow 'base'
(ii)	neutralisation	1	
8. (a)	chromatography	1	
(b)	yellow, red and blue	1	all three needed
(c)	blue and yellow mixed together	1	
(d)	3.5 cm/5 cm = 0.7	2	
(e)	other colour is blue	1	
	spots drawn level with the red and blue on the chromatogram	1	
(f) (i)	value unchanged	1	
(ii)	different value	1	
9. (a) (i)	water	1	
(ii)	salt (sodium chloride)	1	
(b) (i)	hydrogen	1	
(ii)	lit splint	1	carry forward credit if incorrect answer given to (b)(i)
	burns with a pop	1	
(c) (i)	same	1	
(ii)	more	1	
Total		**60**	