90944MR

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## Pūtaiao, Kaupae 1, 2017

KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

90944M Te whakaatu māramatanga ki ngā āhuatanga o te waikawa me te pāpāhua<sup>1</sup>

9.30 i te ata Rāapa 15 Whiringa-ā-rangi 2017 Whiwhinga: Whā

### **PUKAPUKA RAUEMI**

Tirohia tēnei pukapuka hei whakatutuki i ngā tūmahi mō 90944M.

Tirohia mēnā e tika ana te raupapatanga o ngā whārangi 2–3 kei roto i tēnei pukapuka, ka mutu, kāore tētahi o aua whārangi i te takoto kau.

KA TAEA TĒNEI PUKAPUKA TE PUPURI HEI TE MUTUNGA O TE WHAKAMĀTAUTAU.

<sup>1</sup> kawakore

Taka Katote Table of Ions

+1	+2	+3	-3	-2	-1
NH <sub>4</sub> <sup>+</sup>	Ca <sup>2+</sup>	A1 <sup>3+</sup>		O <sup>2-</sup>	OH <sup>-</sup>
Na <sup>+</sup>	Mg <sup>2+</sup>	Fe <sup>3+</sup>		S <sup>2-</sup>	Cl <sup>-</sup>
K <sup>+</sup>	Cu <sup>2+</sup>			CO <sub>3</sub> <sup>2-</sup>	NO <sub>3</sub>
Ag <sup>+</sup>	Pb <sup>2+</sup>			SO <sub>4</sub> <sup>2-</sup>	HCO <sub>3</sub>
$\mathrm{H}^{+}$	Fe <sup>2+</sup>				F
	Ba <sup>2+</sup>				
	Zn <sup>2+</sup>				

# TAKA PŪMOTU PERIODIC TABLE OF THE ELEMENTS

18 2 He	10 Ne	18 Ar	36 <b>Kr</b>	54 Xe	86 <b>Rn</b>	
17	9 F	17 CI	35 <b>Br</b>	53 I	85 At	
16	0 8	16 S	34 <b>Se</b>	52 Te	84 <b>Po</b>	
15	Z	15 <b>P</b>	33 As	51 <b>Sb</b>	83 <b>Bi</b>	
4	9 C	14 <b>Si</b>	32 Ge	50 <b>Sn</b>	82 <b>Pb</b>	
73	<b>B</b>	13 Al	31 <b>Ga</b>	49 In	18 TI	
		12	30 <b>Zn</b>	48 C <b>d</b>	80 <b>Hg</b>	
		11	29 Cu	47 <b>Ag</b>	79 <b>Au</b>	<b>Rg</b>
		10	28 <b>Zi</b>	46 <b>Pd</b>	78 <b>Pt</b>	110 <b>Ds</b>
		0	27 <b>C0</b>	45 <b>Rh</b>	77 Ir	109 <b>Mt</b>
	1	∞	26 Fe	44 <b>Ru</b>	92 90	108 <b>Hs</b>
1 Н		7	25 Mn	43 Tc	75 <b>Re</b>	107 <b>Bh</b>
ho Number		9	24 Cr	42 <b>Mo</b>	74 <b>W</b>	106 <b>Sg</b>
Tau iraoho Atomic Number		Ŋ	23 V	14 <b>N</b>	73 <b>Ta</b>	105 <b>Db</b>
		4	22 <b>Ti</b>	40 <b>Zr</b>	72 Hf	104 <b>Rf</b>
		ო	21 Sc	39 Y	71 <b>Lu</b>	103 Lr
2	4 <b>Be</b>	12 <b>Mg</b>	20 <b>Ca</b>	38 <b>Sr</b>	56 <b>Ba</b>	88 <b>Ra</b>
1	3 Li	11 <b>Na</b>	19 <b>K</b>	37 <b>Rb</b>	55 Cs	87 Fr

	1
70	102
<b>Yb</b>	<b>No</b>
7 69 Tm	101 <b>Md</b>
68	100
Er	<b>Fm</b>
<b>OH</b>	99 100 <b>Es Fm</b>
66	98
Dy	Cf
64 65 Gd Tb	97 <b>Bk</b>
64 <b>Gd</b>	96 97 Cm Bk
63	95
Eu	Am
62 Sm	94 99
61	93
<b>Pm</b>	N <b>p</b>
<b>PN</b>	92 U
59	91
<b>Pr</b>	<b>Pa</b>
58	90
Ce	<b>Th</b>
57	89
La	<b>Ac</b>

### English translation of the wording on the front cover

# Level 1 Science, 2017

# 90944 Demonstrate understanding of aspects of acids and bases

9.30 a.m. Wednesday 15 November 2017 Credits: Four

### **RESOURCE BOOKLET**

Refer to this booklet to answer the questions for 90944.

Check that this booklet has pages 2–3 in the correct order and that none of these pages is blank.

YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.