90944MR

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QUALIFY FOR THE FUTURE WORLD KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

## Pūtaiao, Kaupae 1, 2018

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

9.30 i te ata Rāpare 15 Whiringa-ā-rangi 2018 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>&</sup>lt;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, 2018

# 90944 Demonstrate understanding of aspects of acids and bases

9.30 a.m. Thursday 15 November 2018 Credits: Four

### **RESOURCE BOOKLET**

Refer to this booklet to answer the questions for 90944.

Check that this booklet has pages 2 and 3 in the correct order and that neither of these pages is blank.

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