

90944R



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

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

## Level 1 Science, 2019

### 90944 Demonstrate understanding of aspects of acids and bases

9.30 a.m. Thursday 14 November 2019  
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.**

**Table of Ions**

<b>+1</b>	<b>+2</b>	<b>+3</b>	<b>-3</b>	<b>-2</b>	<b>-1</b>
$\text{NH}_4^+$	$\text{Ca}^{2+}$	$\text{Al}^{3+}$		$\text{O}^{2-}$	$\text{OH}^-$
$\text{Na}^+$	$\text{Mg}^{2+}$	$\text{Fe}^{3+}$		$\text{S}^{2-}$	$\text{Cl}^-$
$\text{K}^+$	$\text{Cu}^{2+}$			$\text{CO}_3^{2-}$	$\text{NO}_3^-$
$\text{Ag}^+$	$\text{Pb}^{2+}$			$\text{SO}_4^{2-}$	$\text{HCO}_3^-$
$\text{H}^+$	$\text{Fe}^{2+}$				$\text{F}^-$
	$\text{Ba}^{2+}$				
	$\text{Zn}^{2+}$				

# PERIODIC TABLE OF THE ELEMENTS

Atomic number																		1 <b>H</b>	18																	
1	2																17	18																		
3	4 <b>Li</b>	5 <b>Be</b>											6 <b>B</b>	7 <b>C</b>	8 <b>N</b>	9 <b>O</b>	10 <b>F</b>	11 <b>Ne</b>																		
11	12 <b>Na</b>	13 <b>Mg</b>											13 <b>Al</b>	14 <b>Si</b>	15 <b>P</b>	16 <b>S</b>	17 <b>Cl</b>	18 <b>Ar</b>																		
19	20 <b>K</b>	21 <b>Ca</b>	22 <b>Sc</b>	23 <b>Ti</b>	24 <b>V</b>	25 <b>Cr</b>	26 <b>Mn</b>	27 <b>Fe</b>	28 <b>Co</b>	29 <b>Ni</b>	30 <b>Cu</b>	31 <b>Zn</b>	32 <b>Ga</b>	33 <b>Ge</b>	34 <b>As</b>	35 <b>Se</b>	36 <b>Br</b>	37 <b>Kr</b>																		
37	38 <b>Rb</b>	39 <b>Sr</b>	40 <b>Y</b>	41 <b>Zr</b>	42 <b>Nb</b>	43 <b>Mo</b>	44 <b>Tc</b>	45 <b>Ru</b>	46 <b>Rh</b>	47 <b>Pd</b>	48 <b>Cd</b>	49 <b>In</b>	50 <b>Sn</b>	51 <b>Sb</b>	52 <b>Te</b>	53 <b>I</b>	54 <b>Xe</b>																			
55	56 <b>Cs</b>	57 <b>Ba</b>	71 <b>Lu</b>	72 <b>Hf</b>	73 <b>Ta</b>	74 <b>W</b>	75 <b>Re</b>	76 <b>Os</b>	77 <b>Ir</b>	78 <b>Pt</b>	79 <b>Au</b>	80 <b>Hg</b>	81 <b>Tl</b>	82 <b>Pb</b>	83 <b>Bi</b>	84 <b>Po</b>	85 <b>At</b>	86 <b>Rn</b>																		
87	88 <b>Fr</b>	89 <b>Ra</b>	103 <b>Lr</b>	104 <b>Rf</b>	105 <b>Db</b>	106 <b>Sg</b>	107 <b>Bh</b>	108 <b>Hs</b>	109 <b>Mt</b>	110 <b>Ds</b>	111 <b>Rg</b>	112 <b>Cn</b>	113 <b>Nh</b>	114 <b>Fl</b>	115 <b>Mc</b>	116 <b>Lv</b>	117 <b>Ts</b>	118 <b>Og</b>																		

57	58 <b>La</b>	59 <b>Ce</b>	60 <b>Pr</b>	61 <b>Nd</b>	62 <b>Pm</b>	63 <b>Sm</b>	64 <b>Eu</b>	65 <b>Gd</b>	66 <b>Tb</b>	67 <b>Dy</b>	68 <b>Ho</b>	69 <b>Er</b>	70 <b>Tm</b>	71 <b>Yb</b>
89	90 <b>Ac</b>	91 <b>Th</b>	92 <b>Pa</b>	93 <b>U</b>	94 <b>Np</b>	95 <b>Pu</b>	96 <b>Am</b>	97 <b>Cm</b>	98 <b>Bk</b>	99 <b>Cf</b>	100 <b>Es</b>	101 <b>Fm</b>	102 <b>Md</b>	103 <b>No</b>

