

The following information is on the BACK of the bubblesheet (answer sheet) that you will be given for all of the exams.

Periodic Table of the Elements

1A 1																	8A 18
1 H 1.008	2A 2											3A 13	4A 14	5A 15	6A 16	7A 17	2 He 4.003
3 Li 6.94	4 Be 9.01											5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18
11 Na 22.99	12 Mg 24.31	3B 3	4B 4	5B 5	6B 6	7B 7	8B 8	9	10	1B 11	2B 12	13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95
19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.39	31 Ga 69.72	32 Ge 72.61	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80
37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc (98)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.4
55 Cs 132.9	56 Ba 137.3	57 La 138.9	72 Hf 178.5	73 Ta 180.9	74 W 183.8	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89 Ac (227)	104 Rf (261)	105 Ha (262)	106 Sg (263)	107 Ns (264)	108 Hs (269)	109 Mt (272)									

58 Ce 141.1	59 Pr 140.9	60 Nd 144.2	61 Pm (145)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0
90 Th 232.0	91 Pa 231.0	92 U 238.0	93 Np (237)	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (262)

$$R = 8.314 \text{ J/mol}\cdot\text{K}$$

$$1 \text{ cal} = 4.184 \text{ J}$$

$$1 \text{ in} = 2.54 \text{ cm}$$

$$h = 6.6262 \times 10^{-34} \text{ J}\cdot\text{s}$$

$$R = 0.08206 \text{ L}\cdot\text{atm/mol}\cdot\text{K}$$

$$1 \text{ L}\cdot\text{atm} = 101.325 \text{ J}$$

$$1 \text{ lb} = 453.59 \text{ g}$$

$$c = 3.00 \times 10^8 \text{ m/s}$$

$$R = 1.987 \text{ cal/mol}\cdot\text{K}$$

$$1 \text{ atm} = 760 \text{ torr}$$

$$1 \text{ gal} = 3.785 \text{ L}$$

$$F = 96485 \text{ C/mol } e^-$$

$$0^\circ\text{C} = 273.15 \text{ K}$$

$$\text{Avogadro's number} = 6.022 \times 10^{23}$$

Water data

$$\Delta H_{\text{fus}} = 334 \text{ J/g}$$

$$\text{ice} = 2.09 \text{ J/g}\cdot^\circ\text{C}$$

$$\text{water} = 4.184 \text{ J/g}\cdot^\circ\text{C}$$

$$\Delta H_{\text{evap}} = 2260 \text{ J/g}$$

$$\text{steam} = 2.03 \text{ J/g}\cdot^\circ\text{C}$$

specific heats