

01. 0620_s13_ms_63 Q: 1

- (a) (i) arrow / label underneath solid in tube (1)
- (ii) arrow / label in U-tube below level of ice (1) [2]
- (b) red / brown (1) [1]
- (c) water collected only from the reaction / owtte (1) [1]
- (d) test anhydrous / white copper sulfate / cobalt chloride (paper) (1)
- result turns blue / pink (1) **note:** do not allow physical tests [2]

02. 0620_s16_ms_62 Q: 1

(a)	stand; beaker;	1 1	2
(b)	arrow(s) underneath copper oxide;		1
(c)	black; to orange / red / brown / pink;	1 1	2
(d)	to condense (the water vapour);		1
(e)(i)	water;		1
(e)(ii)	test: anhydrous copper(II) sulfate; result: turns blue; OR test: cobalt(II) chloride (paper); result: turns pink;	1 1 1 1	2
(e)(iii)	boiling / melting point determination;		1

03. 0620_s18_ms_63 Q: 1

(a)(i)	balance	1
(a)(ii)	crucible	1
(b)	open	1
(c)	weigh the solid	1
	heat to constant mass	1
(d)	anhydrous copper sulfate / cobalt chloride paper	1
	turns blue / turns pink	1

04. 0620_w13_ms_61 Q: 6

mass of silica gel (1)

heat in oven > 100 °C (1)

for specified realistic time / until turns blue (1)

reweigh (1) record (1)

heat in oven again to check constant mass / indication of colour change (1)

calculation (1)

max [6]

05. 0620_w13_ms_63 Q: 3

(a) boiling points completed correctly (3),

-1 each incorrect

100, 121, 134, 139, 152, 159, 166

[3]

(b) points plotted correctly (3)

smooth curve through all points except anomalous point (1)

[4]

(c) point at 4 atmos / 139°C / 4th point (1)

off curve / outlier / anomalous (1)

[2]

(d) extrapolation (1)

value from graph (1)

168–170

unit °C (1)

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[3]

(e) test (1)

anhydrous copper sulfate or cobalt chloride(paper) (1)

result (1)

turns blue or pink (1)

ignore: original colour

[2]