

1(a)(i)	table drawn with a minimum of two columns and a header line ; appropriate column / row headings, with units for height ; recording two (final) heights ; (1%) 13 ± 1 (mm) and (4%) 23 ± 1 (mm) recorded ;
1(a)(ii)	the higher concentration (of glucose solution) the, greater / faster, the (rate of) respiration (in yeast) ; ora
1(a)(iii)	<i>independent variable</i> : concentration of glucose ; <i>dependent variable</i> : height (of the yeast in the large test-tube) ;
1(a)(iv)	(use a) thermostatically controlled water-bath / AVP ;
1(a)(v)	to avoid, contamination / AW ;
1(b)	<i>glucose</i> : 3 cm^3 and <i>distilled water</i> : 2 cm^3 ;
1(c)	add Benedict's (reagent) ; heat ;
1(d)(i)	cloudy / white / milky ;
1(d)(ii)	<i>any one from</i> : keep away from, flames / fire / Bunsen / burner ; cover the container (to prevent evaporation) ; (use in a) well-ventilated area / fume cupboard / AW ; wear goggles ;

2(a)(i)	<i>any two from</i> : volume of yeast ; time for equilibration / AW ; same time for, counting bubbles / respiration ; same type of yeast ;
2(a)(ii)	<i>error</i> : bubbles may be different sizes / too fast to count / AW ; <i>improvement</i> : measure the volume ;
2(b)(i)	26 ;;
2(b)(ii)	axes labelled ; suitable linear scale and plotted area occupies at least half the grid in both directions ; plots accurate to $\pm$ half small square ; smooth line / curve of best fit or points joined with straight lines ;
2(b)(iii)	as temperature increases, the number of bubbles / rate of bubble production, increases and then decreases ; reference to, peak / AW, at 50°C ;
2(c)	use limewater ; turns cloudy / milky / forms a white precipitate ; OR hydrogencarbonate indicator ; turns yellow ;

Question 19 (Answer: B)

- Cell division and muscle contraction both need ATP from respiration.
- Diffusion and osmosis are passive – they use the particles' own kinetic energy.
- So only the first and third require energy from respiration.