

Formula Table

Formula Name	Symbol	Formula	Example of Units – there may be others that will apply	Content Standard Correlation
Average	\bar{x} or Avg.	$\frac{(a_1 + a_2 + \dots + a_n)}{n}$ where n = number in set	integer	Any Content standard/objective
Population Density – Area*	ρ	$\frac{\# \text{ of individuals}}{\text{Area}}$ where N = Population size	$\frac{\text{squirrels}}{\text{km}^2}$	C4.2
Percentage	%	$\frac{\# \text{ of favorable}}{\# \text{ of possible}} \times 100$ or $\frac{\text{part}}{\text{total}} = \frac{\text{part}}{100}$	%	C2.2
Population Growth Rate*	PGR	$\frac{B - D}{t}$ where B = Birth D = Death t = time OR $\frac{\text{final population} - \text{initial population}}{\text{initial population}}$		C4.2
Probability (Genetics)	P	$\frac{\# \text{ of favorable outcomes}}{\# \text{ of possible outcomes}}$	$integer \leq 1$	C2.2 Example: Punnett squares, pedigrees, appearance of traits
Rate	Rate	$\frac{\text{any unit}}{\text{time}}$	$\# \frac{\text{any unit}}{\text{time}}$	C1.1b Example: fluid flow, movement of living and nonliving components of the biosphere, or animal movement
Surface Area – Square	A	$l \times w$ where l = length w = width	m^2	C 1.1a Example: Plant cell membrane, or a population survey plot
Volume – Cube	V	$l \times w \times h$ or $1 \text{ cm}^3 = 1 \text{ mL}$ where l = length w – width h = height	m^3	C1.1a and b Example: volume inside a plant cell, ratio of cell membrane to cell volume or a population survey plot

*Refer to P3.3 on page 47, and C4.2 on page 142 for additional information.