FORMULA CHART
for Grade 11 Science Assessment

Density = $\frac{\text{mass}}{\text{volume}}$	$D = \frac{m}{v}$
$\left(\begin{array}{c}\text{heat gained or}\\ \text{lost by water}\end{array}\right) = \left(\begin{array}{c}\text{mass in}\\ \text{grams}\end{array}\right)\left(\begin{array}{c}\text{change in}\\ \text{temperature}\end{array}\right)\left(\begin{array}{c}\text{specific}\\ \text{heat}\end{array}\right)$	$Q = (m)(\Delta T)(C_p)$
Speed = $\frac{\text{distance}}{\text{time}}$	$s = \frac{d}{t}$
Acceleration = $\frac{\text{final velocity} - \text{initial velocity}}{\text{change in time}}$	$a = \frac{v_\mathrm{f} - v_\mathrm{i}}{\Delta t}$
Momentum = mass × velocity	$p = mv$
Force = mass × acceleration	$F = ma$
Work = force × distance	$W = Fd$
Power = $\frac{\text{work}}{\text{time}}$	$P = \frac{W}{t}$
% efficiency = $\frac{\text{work output}}{\text{work input}} \times 100$	$\% = \frac{W_\mathrm{O}}{W_\mathrm{I}} \times 100$
Kinetic energy = $\frac{1}{2}$(mass × velocity^2)	$KE = \frac{mv^2}{2}$
Gravitational potential energy = mass × acceleration due to gravity × height	$GPE = mgh$
Energy = mass × (speed of light)^2	$E = mc^2$
Velocity of a wave = frequency × wavelength	$v = f\lambda$
Current = $\frac{\text{voltage}}{\text{resistance}}$	$I = \frac{V}{R}$
Electrical power = voltage × current	$P = VI$
Electrical energy = power × time	$E = Pt$

Constants/Conversions		
g = acceleration due to gravity = 9.8 m/s^2		
c = speed of light = 3×10^8 m/s		
speed of sound = 343 m/s at 20°C		
1 cm^3 = 1 mL		
1 wave/second = 1 hertz (Hz)		
1 calorie (cal) = 4.18 joules		
1000 calories (cal) = 1 Calorie (Cal) = 1 kilocalorie (kcal)		
newton (N) = kgm/s^2		
joule (J) = Nm		
watt (W) = J/s = Nm/s		
volt (V)	ampere (A)	ohm (Ω)