Physical Science Reference Sheet

Motion and Energy	**Description**
$v = d/t$ $d = vt$ $t = d/v$	v = velocity d= distance t = time
$a = F/m$ $F = ma$ $m = F/a$	a = acceleration F= Force m = mass
$F_w = mg$	F_w = Weight Force m = mass g = acceleration of gravity ($9.8\frac{m}{s2}$)
$W = Fd$	W = work F = Force d = distance
$P = W/t$	P =Power W = Work t = time
$PE = mgh$	PE = Potential Energy m = mass g = gravity h = height
$KE = 1/2mv^2$	KE = Kinetic Energy m = mass v = velocity
$T = 1/f$ $f = 1/T$	T = period f = frequency
$\lambda = \frac{v}{f}$	v = velocity f = frequency λ = wavelength
$d = m/V$	d = density m = mass V = Volume
$q = mC_p\Delta T$	q = heat energy (quantity of heat) m = mass Cp = specific heat ΔT = change in teperature
$F_g = G\frac{m_1 m_2}{d^2}$	F_g = force of gravity G = universal gravitation constant ($6.67x10^{-11}N\cdot m^2/kg^2$) m_1 and m_2 are masses of two objects d = distance between two objects
p=mv	*p = momentum* *m = mass* *v = velocity*
$T^2 \alpha R^3$	*T = orbital period* *R = orbital distance*
$E_{mechanical} = E_{potential} + E_{kinetic}$	E = energy
Chemical Equilibrium	A+B↔C+D
Synthesis	A + B → AB
Decomposition	AB → A + B
Single Replacement	A + BC → AC + B
Double Replacement	AX + BY → AY + BX