Matter

Density: $d = \dfrac{m}{V}$　　　　　　　　　　　$density = \dfrac{mass}{volume}$

Force and Motion

Average Speed: $s = \dfrac{d}{t}$　　　　　　　　$speed = \dfrac{distance}{time}$

Newton's Second Law: $F = ma$　　　　$force = mass \times acceleration$

Kinetic Energy: $KE = \dfrac{1}{2}mv^2$　　　　$kinetic\ energy = \dfrac{1}{2}mass \times velocity\ squared$

Waves and Light

Wave Speed: $v = f\lambda$　　　　　　　　$wave\ speed = frequency \times wavelength$

Wave Energy: $E \propto A^2$　　　　　　　$energy\ is\ proportional\ to\ amplitude\ squared$

Units, Constants, and Conversions

Energy: 1 Joule $=$ 1 Newton • meter

Force: 1 Newton $= 1 \dfrac{kilogram \cdot meter}{second\ squared}$

Hertz: 1 Hz $= 1 \dfrac{cycle}{second}$

Acceleration Due to Gravity: $g = 9.8 \dfrac{m}{s^2}$

Length: 1 m $=$ 100 cm
1 km $=$ 1000 m

Mass: 1 kg $=$ 1000 g

Volume: 1 L $=$ 1000 mL $=$ 1000 cm^3

Water at Room Temperature: 1 mL $=$ 1 cm^3 $=$ 1 g