Physical Science Reference Sheet

The formulas below are provided to students during testing in both the online testing platform and the printed test booklet. This page may be printed for instructional use during the school year, but it MAY NOT be used as scratch paper during test administration.

Formulas

Energy, Force, and Motion

Velocity = $\frac{\text{displacement}}{\text{time}}$ $\left(v = \frac{d}{t}\right)$

Acceleration = $\frac{\text{final velocity} - \text{initial velocity}}{\text{time}}$ $\left(a = \frac{v_f - v_i}{t}\right)$

Weight = mass × acceleration of gravity $(w = mg)$

Force = mass × acceleration $(F = ma)$

Work = force × distance $(W = Fd)$

Mechanical advantage =

$\frac{\text{effort distance}}{\text{resistance distance}} = \frac{\text{resistance force}}{\text{effort force}}$ $\left(\text{MA} = \frac{d_e}{d_r} = \frac{f_r}{f_e}\right)$

Chemical Reactions and Properties of Matter

Volume of a rectangular solid = length × width × height $(V = lwh)$

Heat lost or gained =
mass × specific heat capacity × change in temperature $(Q = mc\Delta T)$

Waves, Electricity, and Magnetism

Voltage = current × resistance $(V = IR)$

Georgia Milestones Assessment System

Constants and Relationships

Kelvin = °Celsius + 273 (K = °C + 273)

Acceleration due to gravity: $g \approx 10 \frac{\text{m}}{\text{s}^2}$

newton: 1 N = 1 kg • $\frac{\text{m}}{\text{s}^2}$

joule: 1 J = 1 N • m