MOTION & FORCE SUMMARY CHART

CONCEPT	DEFINITION	STANDARD UNIT	PRIMARY FORMULA
Speed	Rate at which an object covers distance.	m/s	`s = d / t`
Velocity	Speed in a specific direction.	m/s + direction	`v = Î”x / t`
Acceleration	Rate of change of velocity.	m/sÂ²	`a = (v_f - v_i) / t`
Force	A push or pull acting on an object.	Newton (N)	`F = m Ã— a`
Momentum	Quantity of motion of a moving body.	kgÂ·m/s	`p = m Ã— v`

Newton's 1st Law

Inertia: Objects at rest stay at rest, objects in motion stay in motion unless acted upon by a force.

Newton's 2nd Law

Acceleration: Force equals mass times acceleration (F=ma). Acceleration is proportional to force.

Newton's 3rd Law

Action/Reaction: For every action, there is an equal and opposite reaction.

Physics Reference Sheet â€¢ Educational Template