## Free-fall and projectile motion

## Free-fall Free-fall (on Earth) Projectile motion (on Earth) Object is near surface of Earth Object is subjected only Object is subjected only to gravitational force exerted by Earth (so $\vec{a} = 9.8 \frac{m}{s^2} \vec{u}_{DOWNWARD}$ ) to gravitational force(s) $v_{ m HORIZ} \neq 0$ $= mg \mathbf{u}_{\text{DOWN}}$ $\dagger \Delta \mathbf{v}_{2,3}$ $\dagger \Delta \mathbf{v}_{6,7}$