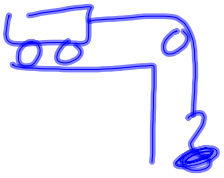
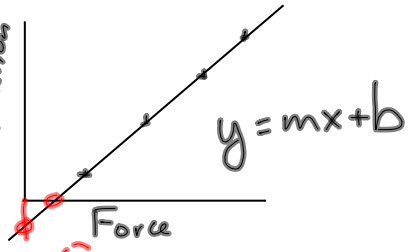
Newton's 2nd Law

Total Force → $a = \frac{\Sigma F}{m}$

$F = ma$

Changing force, keep mass constant





$a = \frac{\Sigma F}{m} = \left(\frac{1}{m}\right)(\Sigma F)$

$a = \quad F =$

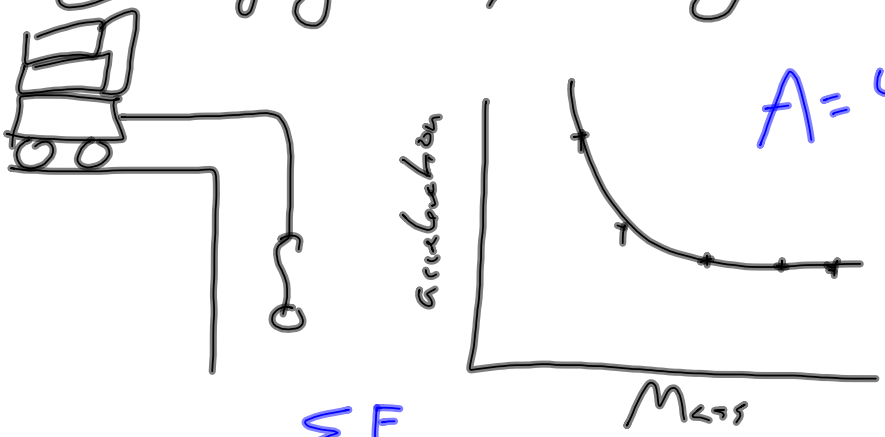
$a = \frac{1}{m}(\Sigma F) \rightarrow \Sigma F = F_g - F_{fr}$

$a = \frac{1}{m}(F_g - F_{fr})$

$a = \frac{1}{m}F_g - \frac{1}{m}F_{fr}$

Intercept: We need a minimum amount of force to overcome friction

Changing Mass, Keeping F constant



A = 4.1

$a = \frac{\Sigma F}{m}$

$F_g = 4.9$

$\Sigma F = F_g - F_s$

$a = \frac{\Sigma F}{m}$

$a = \frac{0.5N}{5kg}$

$a = 10N/kg$

$N = \frac{kg\,m}{s^2}$