

Oct 18


Newton's 2nd Law
of Motion (continued)

$F = MA$

F - Force (Newtons)
 M - Mass (Kg) $(\frac{2 \text{ mph}}{s})$
 A - acceleration $\frac{m}{s}$ but $\frac{m}{s^2}$???

$\frac{m}{s \times s} = \frac{m}{s^2}$


No Friction



For this situation...

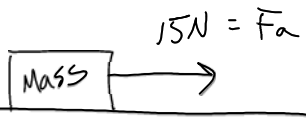
1. we have a small force and we get small acceleration.
2. We have a large force on the same mass and Large acceleration.

- Baby vs. Bowling Ball
- SK8 Demo

10N F_f ←  25N F_a

$F_{net} = F_a - F_f \dots$
 $= 25N - 10N$
 $= 15N$

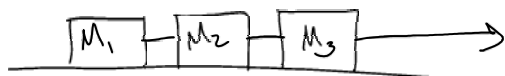
No friction



15N = F_a

almost

$$F_{\text{net}} = \underline{\underline{M}} A$$



$$M_{\text{system}} = M_1 + M_2 + M_3 \dots$$

$$F_{\text{net}} = M_{\text{sys}} A$$