

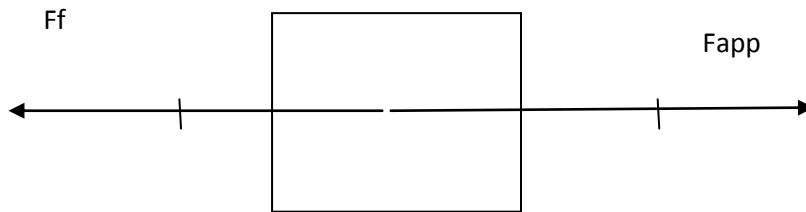
## Inertia – Newton's 1<sup>st</sup> Law – 3.2

Inertia = property of an object that resists change in motion. (object likes to keep doing what's it's already doing)

Galileo's Thought Experiment – sketch from textbook.  
You should know this!

Newton → used Galileo's idea and applied to moving and non-moving objects.

Newton's 1<sup>st</sup> Law – an object in motion will stay in motion and an object at rest will stay at rest UNLESS acted upon by an unbalanced force.



$$F_{net} = 0$$

$F_{net}$  = sum of all forces – if  $F_{net} = 0$ , you have balanced forces.

That block could be at rest and staying at rest....or...

Moving  $\rightarrow$  and still moving  $\rightarrow$  at constant speed.