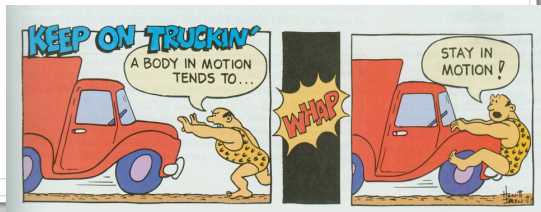


Newton's First Law

- An object in motion will stay in motion and an object at rest will stay at rest

UNLESS an external net force acts on it.



Inertia

- The **resistance** to change motion
- The greater the mass, the greater the inertia
- “laziness”



Inertia: Which one has more?

Demonstration #1

- Hypothesize: If I hold both objects behind my back, how can you tell which one is the heavy one and light one?
- Prediction:
- Explanation:

Inertia in everyday life....

- Watch video
- Observation:
- Explanation:

Equilibrium

- When the net force equals zero
 - NO ACCELERATION
- Constant speed At rest

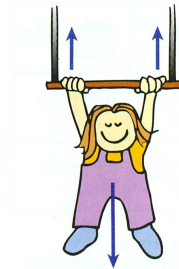


Figure 4.12 ▲
The sum of the rope tensions must equal your weight.

“Static Equilibrium”

At rest

Net force=zero

- Ex: If you are sitting in your seat (not moving) you are in *static equilibrium*.

Questions

	APPLIED FORCES	NET FORCE
1.		
2.		
3.		

- Find the Net Force.
- Will the object move? What direction?
- Which example is in equilibrium?