

MOTION AND FORCE

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Balance Forces

1. do not change motion
2. do not cause objects to move
3. net force is zero
 - a. net force is the combination of all the forces on an object

Unbalance Forces

1. do not cancel completely
2. when two opposing forces are applied on an object the object will move in the direction of the greater applied
 - a. net force is always greater than zero
3. sometimes forces combine to act like a single force

Friction opposes the applied force

1. acts on moving and nonmoving objects
 - a. Example
 1. Car in motion
 - a. hydroplaning
 - b. tires against the road
 2. Car standing still

Static Friction

1. friction between surfaces (stationary)

Kinetic Friction

1. sliding friction
2. rolling friction
 - a. rolling friction is usually less than sliding friction

Air resistance also opposes motion

1. fluid friction
 - a. streamlining

Harmful friction can be reduced

1. make surfaces smoother
 - a. lubricants
 - b. sandpaper

Helpful friction

1. makes surfaces rougher
 - a. sand on icy roads
 - b. gloves for baseball, golf