

**Forces**

**I.** **Balanced Forces**

* **Produces no change in motion**

**II.** **Unbalanced Forces**

**A.** **Produce Change In Motion**

**1.** **Speed  distance / time**

1. **Constant speed**
2. **Instantaneous speed**
3. **Average speed**

**1) Deceleration**

* **slows down**

**(a)** **Friction**

**(b)** **Gravity**

**2) Acceleration  speed / time**

* **speeds up**

**(a)** **More Force**

**(b)** **Free Fall**

**B.** **Oppose Motion (Opposing Forces)**

**1.** **Friction**

**a.** **Rubbing or Sliding**

**b.** **Rolling (ball bearings)**

**c.** **Fluid (wind, water, fluids)**

* **Lubrication reduces friction**

**2.** **Gravity**

1. **When objects travel against gravity**
2. **Based on the attractive forces between two masses**

**3.** **Wind Resistance**

**a.** **Terminal Velocity**

