Universal gravitation

force exerted between two objects

http://www.physicstutorials.org/images/stories/workk.png

Power;

http://www.physicstutorials.org/images/stories/power.png

Gravitational Potential Energy;

**PE=mg.h**m is the mass, g is the gravitational acceleration and h is the distance

Potential Energy of the Spring;

**Ep=1/2.k.x²**k is the spring constant and x is the amount of compression or streching

Kinetic Energy;

**Ek=1/2mv²**m is the mass, v is the velocity

The change in momentum formula is given as  
**Formula for Momentum**  
P = M \* V  
Where,  
p = momentum of the body,  
m = mass of the body and  
v = velocity of the body.  
  
The S.I unit for momentum is Kgms-1.

Impulse

|  |  |
| --- | --- |
| Equations: Derivation of Impulse. | Line 1: Force equals mass times acceleration.  Line2: Definition of acceleration.  Line 3: Algebraic rearrangement, the force multiplied by the time period equals the mass multiplied by the change in velocity. |

**Tangential Velocity;**

**V=2πr/time**where r is the radius of the motion path and T is the period of the  motion

**AngularVelocity;**

**ω=2π/T=2πf**where T is the period of the  motion and f is the frequency

**Angular Acceleration (Centripetal Acceleration);**

http://www.physicstutorials.org/images/stories/acentripetal.png**or http://www.physicstutorials.org/images/stories/acentripetal2.png**

where**ω**is the angular velovity, **r** is the radius and **v** is the tangential velocity

**Centripetal Force;**

**Fc=-m4π²r/T² or Fc=mv²/r**

Where, T is the the period, V is the tangential velocity and m is the mass of the object

**Torque;**

**Τ=Applied Force.Distance.sinΘ**

**Τ=F.d.sinΘ**

heat

http://images.tutorvista.com/cms/images/147/specific-heat-capacity.png

Where,

Q amount of heat  
m is the mass of the body,  
C is the specific heat,  
Δ T is the temperature difference.