

Universal Forces - 4 major forces that control the universe

Electromagnetism
electricity and magnetism

Strong Nuclear
Holds the protons + neutrons together in the nucleus

Weak Nuclear
Beta decay
an electron leaves the nucleus and a neutron turns into a proton

Gravity
- Acts between any two objects with mass

* String theory tries to tie these all together

Newton's Law of Universal Gravitation -

every object in the universe attracts every other object

Centripetal force - the center directed force that orbiting objects have towards what they are circling

Types of Motion

1-Dimensional
1-D
- a car driving straight on a flat road

2-Dimensional
2-D
vertical + horizontal (y) (x)
- hitting a golf ball (with no side winds)

3 Dimensional
3-D
X, Y, Z
hitting a golf ball with side wind

Periodic/Circular
- repeating in cycles
- Bike tire
- orbits of earth, moon, etc.