

momentum

**P**

kg·m/s

$$p = mv$$

Before (1) → ← (2)

ELASTIC  
COLLISIONS

After ← (1) (2) →

BOUNCE  
APART

Before (1) → (2)

Inelastic  
Collisions

After

(1)(2) →

Collide  
+  
Stick  
Together

## ELASTIC

SLAP SHOT STICK + PUCK

RACKET + TENNIS BALL

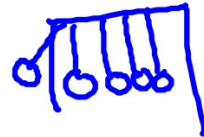
KICK BALL SOCCER FOOT/BALL

GOLF CLUB/BALL

CARS COLLIDING @ high Speeds

Newton CRADLE

KICK of Rifle



## INELASTIC

CAR HITS WALL

ARROW HITS TARGET

FIST / FACE

PUTTING PEN CAP ON

STICKER ON PAPER

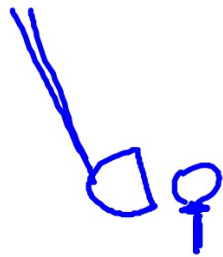
SITTING DOWN

TOMAHAWK @ TREE

CLOSING A DOOR

STEP  
FOOT &  
FLOOR

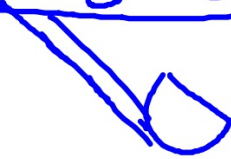
Before



$N_C$

$N_B = 0$

after



· When collision  
occurs called  
IMPULSE

IMPULSE = Change in momentum.

$$\Delta P = m \Delta v$$

$\Delta$  = change in....

ELASTIC

BOWLING BALL / PINS

RUBBER BALL  
WALL

PADDLE & PING PONG BALL

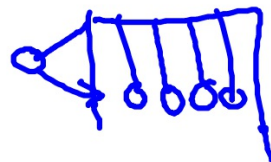
BUNGEE JUMPING

MISSED PASSES IN FOOTBALL

BOXING QUICK HIT

BULLET + BARREL

Newton's CRADLE

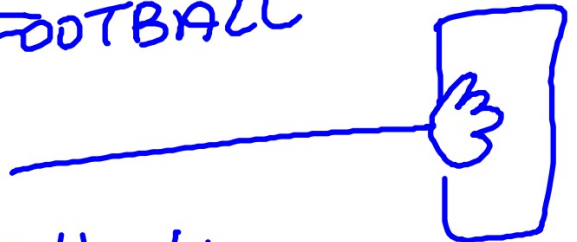


INELASTIC

CAR CRASHES

TACKLING IN FOOTBALL

STICKY hand



GOALIE SAVE IN HOCKEY

LANDING ON GROUND FROM A JUMP

BALL IN LACROSSE STICK

CATCHING A BALL WITH GLOVE

Chain of Skaters