

Momentum:

- A way to measure the amount of force an object will generate when it hits something else
- Momentum depends on velocity – faster things have more momentum
- Momentum depends on mass – more massive things have more momentum

Momentum can be transferred

- When one object hits another, some or all of its momentum is moved to the second object
- Momentum allows us to predict how objects will move after they collide

Momentum is calculated by multiplying an object's mass and velocity:

$$p \left(\frac{\text{kg} \cdot \text{m}}{\text{s}} \right) = m (\text{kg}) \cdot v \left(\frac{\text{m}}{\text{s}} \right)$$

momentum = mass × velocity
units = "kilogram
meters per
second ..."

Bregar on sidewalk. His $v = 0 \frac{\text{m}}{\text{s}}$.
His mass = 70 kg. What is p ?

①a $v = 0 \frac{\text{m}}{\text{s}}$ $m = 70 \text{ kg}$

①b p

② $p = m \cdot v$

③ $p = 70 \text{ kg} \cdot 0 \frac{\text{m}}{\text{s}}$

④

$p = 70 \cdot 0$

$p = 0 \frac{\text{kg} \cdot \text{m}}{\text{s}}$ North

⑤ check....

no velocity?
NO
MOMENTUM!