

University Physics 1A

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Impulse

Suppose you have a dead ball and a bouncy superball dropped from the same height on the surface. Which ball delivers more impulse?

Dead ball:

$$p_i = mv_0 \quad p_f = m(0) = 0$$

Superball:

$$p_i = mv_0 \quad p_f = -mv_0$$

Net impulse due to force is change in momentum ΔP .

$$\Delta p_{dead\ ball} = 0 - mv_0 = -mv_0$$

$$\Delta p_{superball} = -mv_0 - mv_0 = -2mv_0$$

You can find all my notes at <http://omgimanerd.tech/notes>. If you have any questions, comments, or concerns, please contact me at alvin@omgimanerd.tech