Unit 5 Momentum Assessment

Equations Linked Here

1. Two physics students are having fun with Play-Doh. The red Play Doh has a mass of 0.3 kg and the purple Play-Doh has a mass of 0.4 kg. The red Play Doh is thrown at 3 m/s at the purple Play-Doh, which is at rest. The two stick together and move. What is the final velocity of the Play-Dohs when they stick together? Draw a before and after pictures and show all equations and work.

2. Two physics students are having fun with Play-Doh. The red Play Doh has a mass of 0.3 kg and the purple Play-Doh has a mass of 0.4 kg. The red Play Doh is thrown at 3 m/s at the purple Play-Doh, which is thrown towards the red Play Doh at -4 m/s. The Red Play Doh keeps moving in the same direction at 0.5 m/s. What is the final velocity of the purple Play Doh? Draw a before and after pictures and show all equations and work.

3. Two physics students are having fun with Play-Doh. The red Play Doh has a mass of 0.3 kg and the purple Play-Doh has a mass of 0.4 kg. The students want to have some more fun and put a small amount of explosives in between the two Play-Dohs (safely and outside of course). The purple Play-Doh explodes to the right with a velocity of 10 m/s. What is the final velocity of the red Play-Doh? Draw a before and after pictures and show all equations and work.

4. Choose 1 of the 3 gifs below.
    a. Draw a before and after picture of the gif (modeling)
    b. Describe the type of collision and why
    c. Describe how the impulse equation relates to the situation and why


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5.4 Impulse and Momentum: I can conceptually and mathematically determine the impulse and momentum of a collision.
5.5 Inelastic Collisions: I can conceptually and mathematically predict the outcome of an inelastic collision.
5.6 Elastic Collisions: I can conceptually and mathematically predict the outcome of an elastic collision. This includes explosion problems.