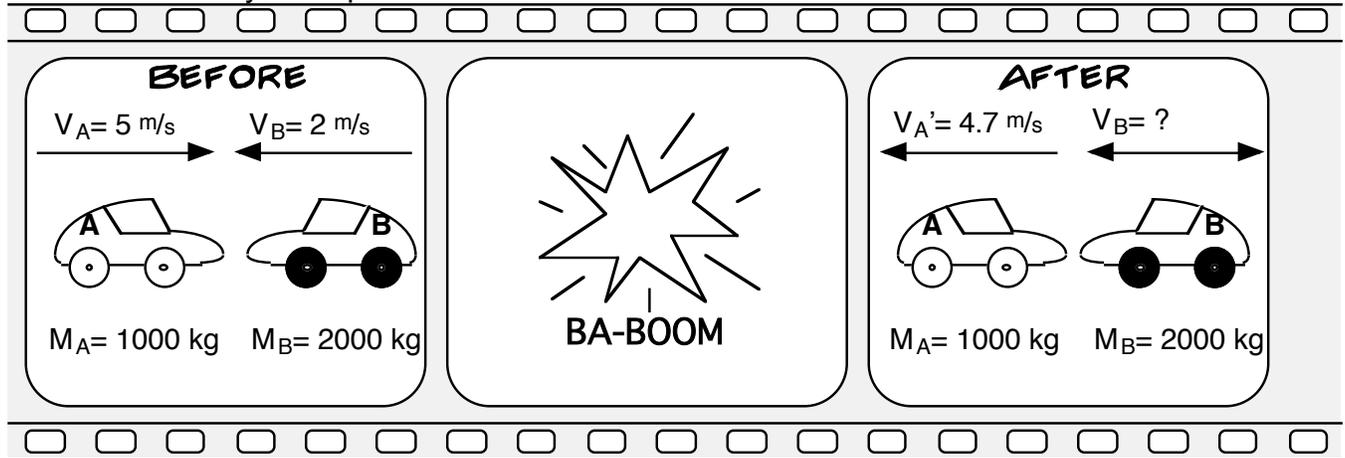


# Impulse and Momentum Mastery Assignment

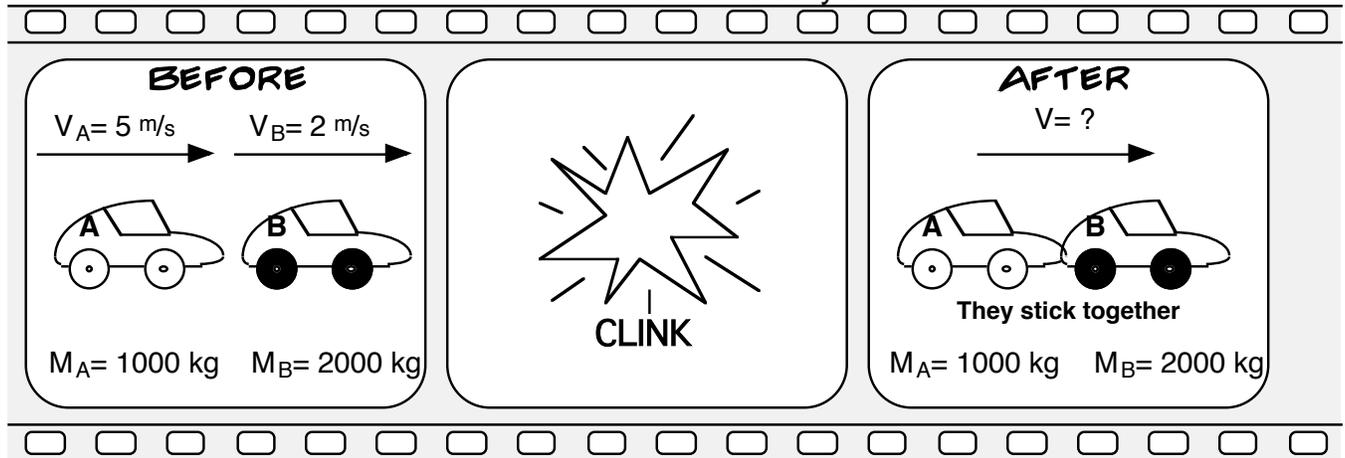
This assignment is to be completed on time. You show it to the teacher (Do not turn it in) and then look at the answers followed by asking the teacher any follow-up questions.

1. A collision occurs as shown below. What is the final velocity of car "B" after the collision?  
Show all of you steps.

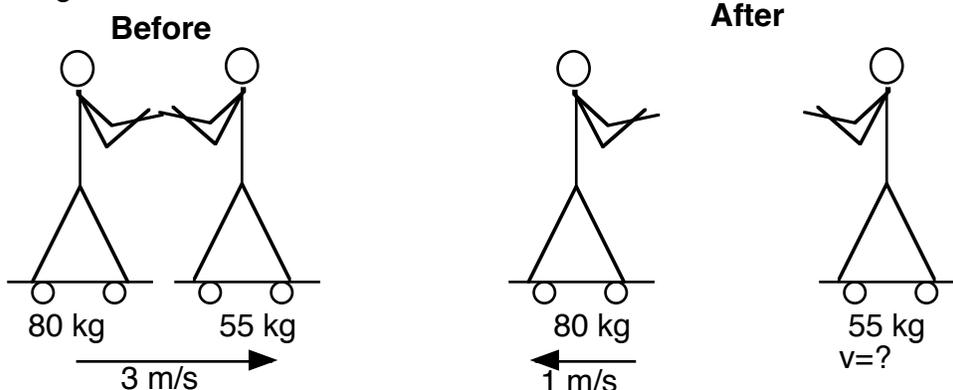


2. Find the impulse on car "A" in the collision above.

3. Two cars collide as shown below. What is the velocity of the cars after the collision?



4. Two skate borders are trying a new trick, they are moving together while holding hands when the push off each other while still moving. What is the final speed of the skater to the right?



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5. A 145 g baseball was pitched at 44 m/s. A batter hit it directly back at the pitcher at 92 m/s. If the ball made contact with the bat for 0.80 seconds then what was the magnitude of the applied force to the ball?
6. A 7.0 gram toy car is moving at 2.0 m/s along a track when it enters a “speed booster.” As the car entered the booster, it was not placed properly on the track and caused the booster to deliver the force diagramed below. What was the final speed of the car as it exited the booster?

