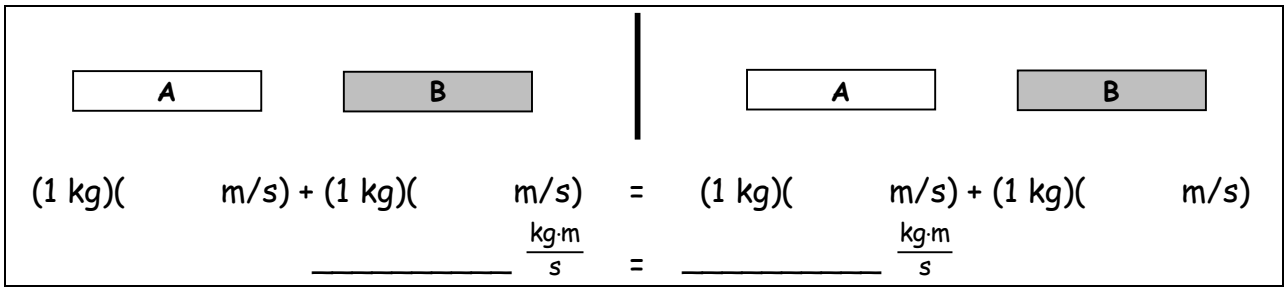
Lab: Conservation of Momentum **Name**_____

Part I: Elastic Collisions

BEFORE COLLISION AFTER COLLISION

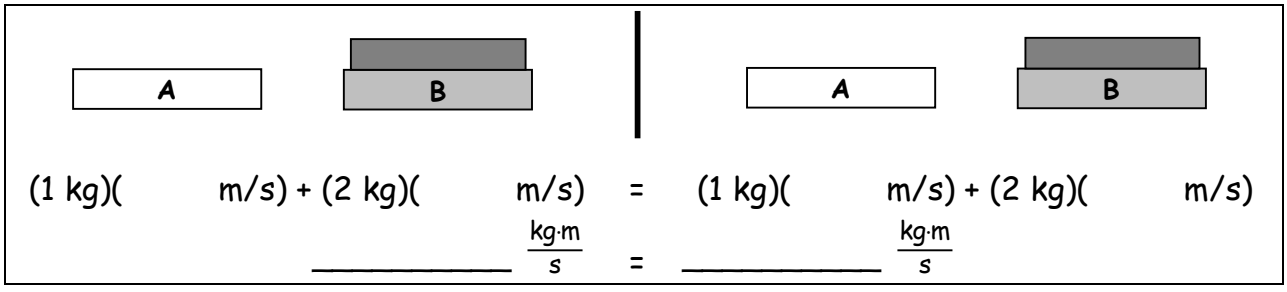
Case #1



(1 kg)(m/s) + (1 kg)(m/s) = (1 kg)(m/s) + (1 kg)(m/s)

_____ $\frac{kg \cdot m}{s}$ = _____ $\frac{kg \cdot m}{s}$

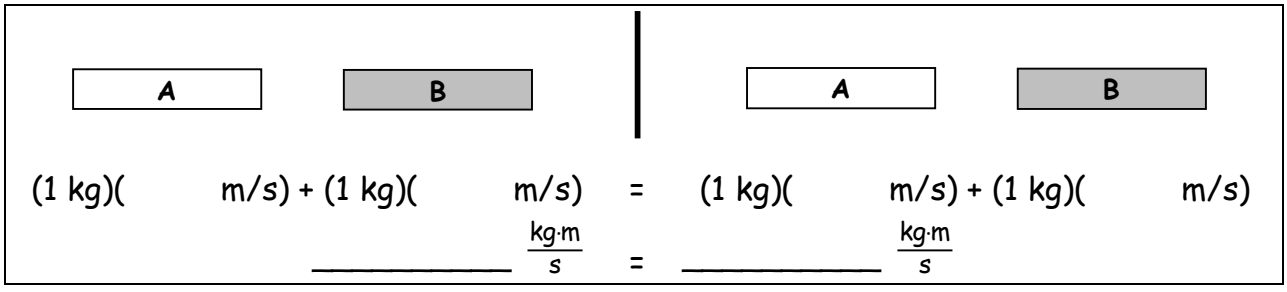
Case #2



(1 kg)(m/s) + (2 kg)(m/s) = (1 kg)(m/s) + (2 kg)(m/s)

_____ $\frac{kg \cdot m}{s}$ = _____ $\frac{kg \cdot m}{s}$

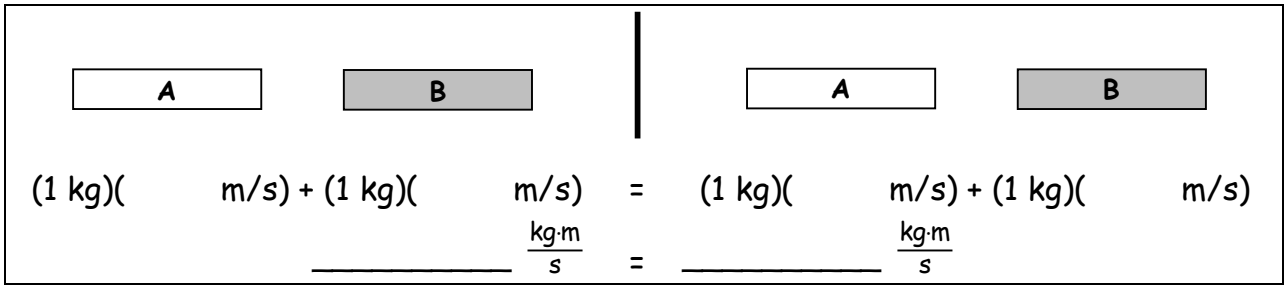
Case #3



(1 kg)(m/s) + (1 kg)(m/s) = (1 kg)(m/s) + (1 kg)(m/s)

_____ $\frac{kg \cdot m}{s}$ = _____ $\frac{kg \cdot m}{s}$

Case #4



(1 kg)(m/s) + (1 kg)(m/s) = (1 kg)(m/s) + (1 kg)(m/s)

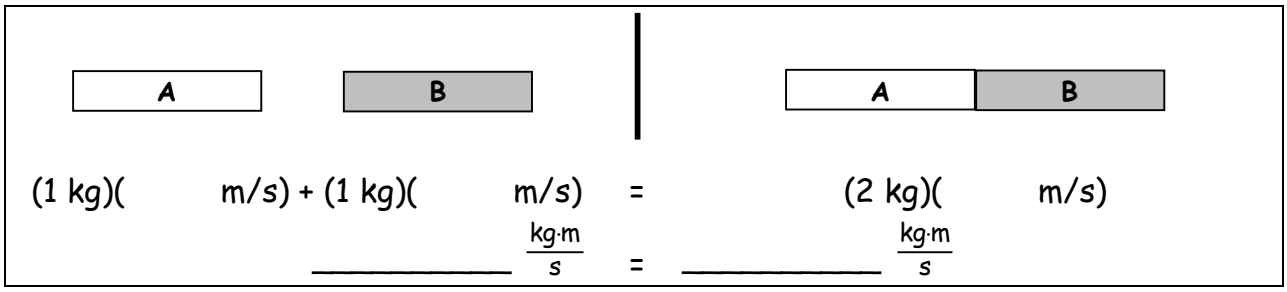
_____ $\frac{kg \cdot m}{s}$ = _____ $\frac{kg \cdot m}{s}$

Lab: Conservation of Momentum **Name**_____

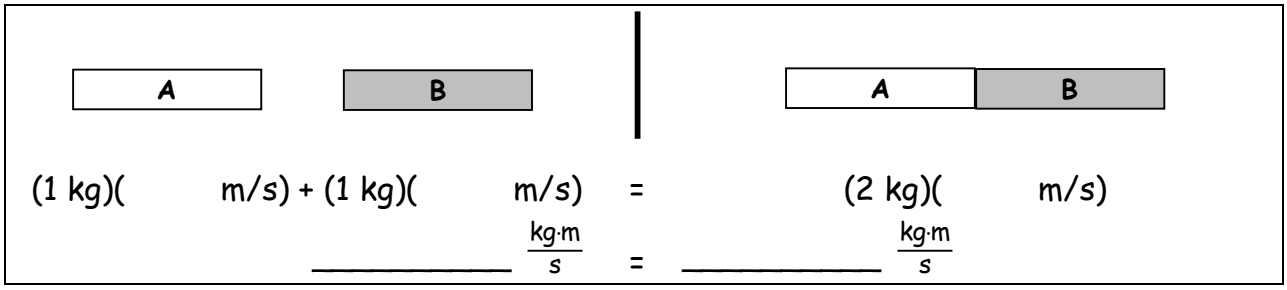
Part II: Inelastic Collisions

BEFORE COLLISION AFTER COLLISION

Case #5



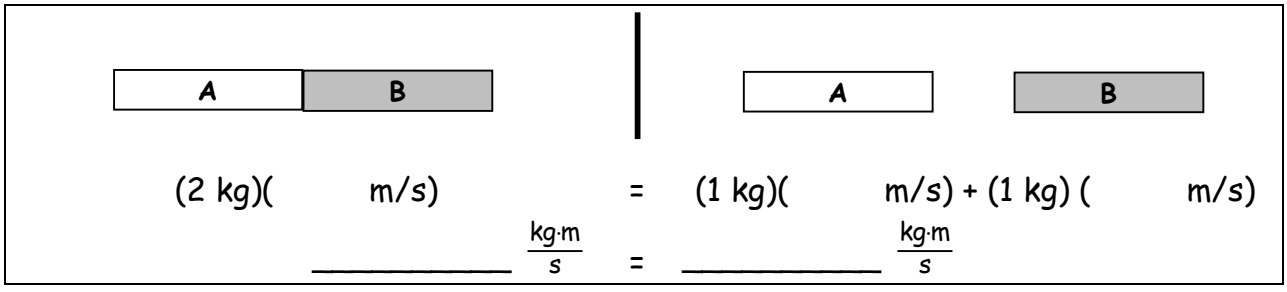
Case #6



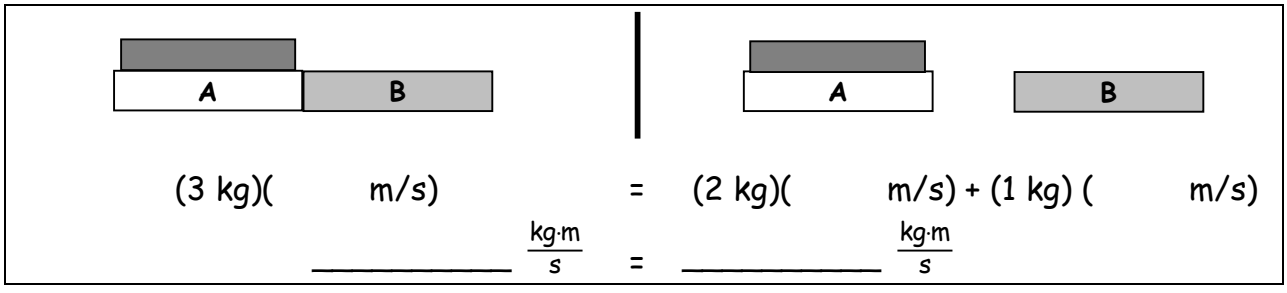
Part III: Explosions

BEFORE EXPLOSION AFTER EXPLOSION

Case #7



Case #8



Lab: Conservation of Momentum **Name**_____

Conclusion Questions

1. If a truck runs into a wall and stops, the truck loses momentum. Because momentum cannot be created or destroyed, where does it go?

2. Someone throws a heavy ball to you when you are standing on roller skates. You catch it and roll backwards. How does your speed compare to the speed of the ball, and why?

3. A prospector finds himself holding his bag of gold and standing in the middle of a large pond of frictionless ice. How can he get to the side before he freezes?