Name: _____

Collision and Momentum Lab

1. Go to: https://earthscience.xyz/collision or Google: Phet Collision Simulation
2. Click Intro
3. Uncheck all boxes and make sure the Elasticity is set to 100%
4. Check the box that says "More Data."
5. Change the mass of the blue ball to 0.25kg and its position to -1 m.
6. Change the mass of the pink ball to 3kg and its position to 1 meter.
7. Press the restart and play buttons to get the simulation going.
8. Fill out the table below. Always write the blue ball's velocity and momentum first and then the pink. Ex. -1.77/-.27.
9. Make sure to always fill in the Predict the outcome first. Just ask yourself, "What do I think is going to happen when the balls collide?"
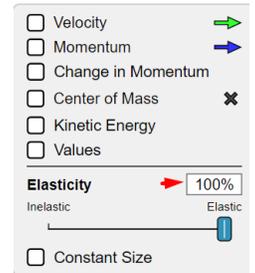
	Predict the outcome	Mass	Velocity	Momentum	Describe outcome
B/P		.25/3	/	/	
B/P		.50/3	/	/	
B/P		1/3	/	/	
B/P		2/3	/	/	
B/P		3/3	/	/	
B/P		3/2	/	/	
B/P		3/1	/	/	
B/P		3/.5	/	/	
B/P		3/.25	/	/	

8.   Now change the elasticity to 0%. Run the simulations a few times with different masses for the different balls.

9. Describe what you think an inelastic collision versus an elastic collision is.

10. Give a real-world example of an elastic collision.

11. Give a real-world example of an inelastic collision.