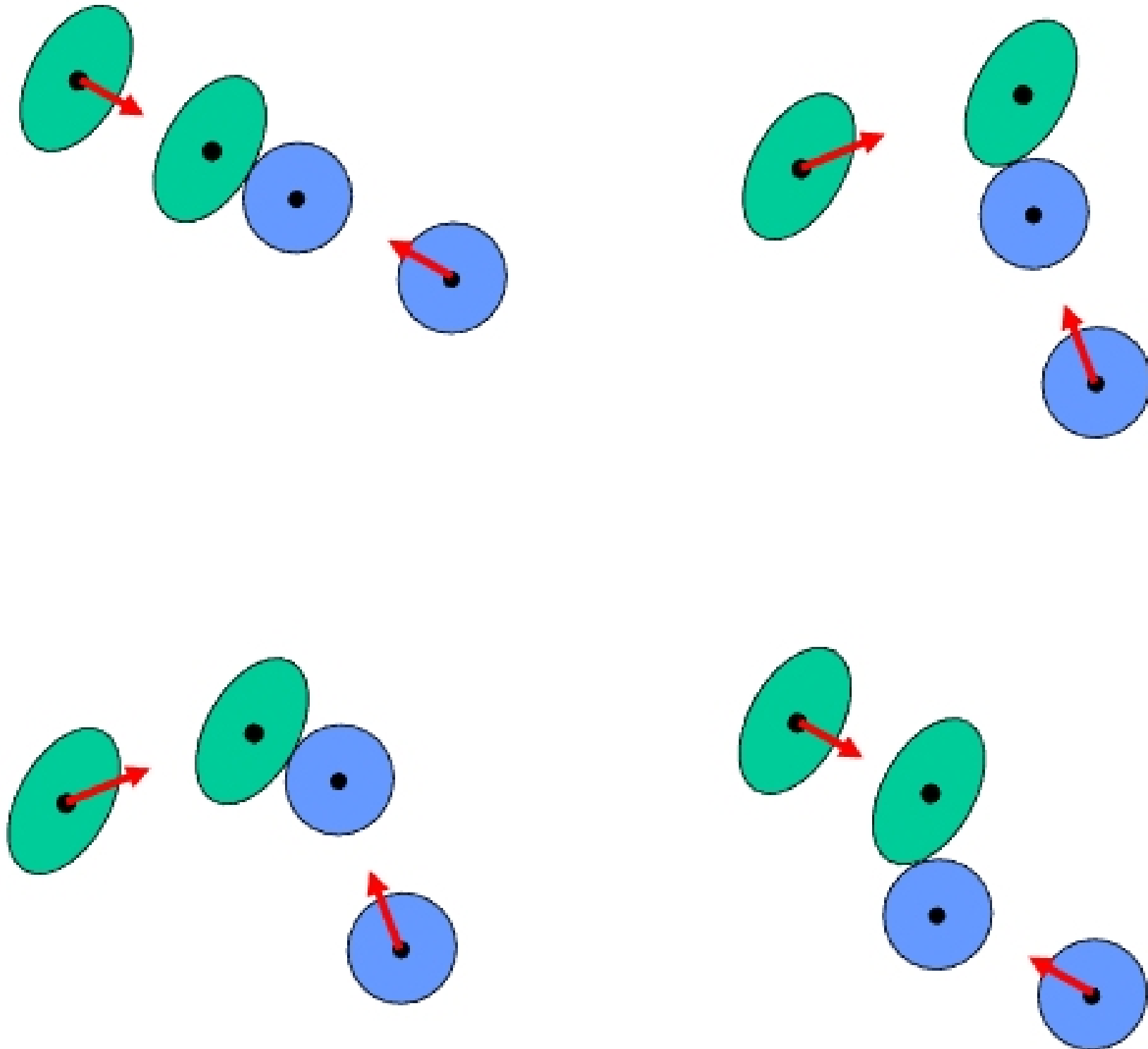


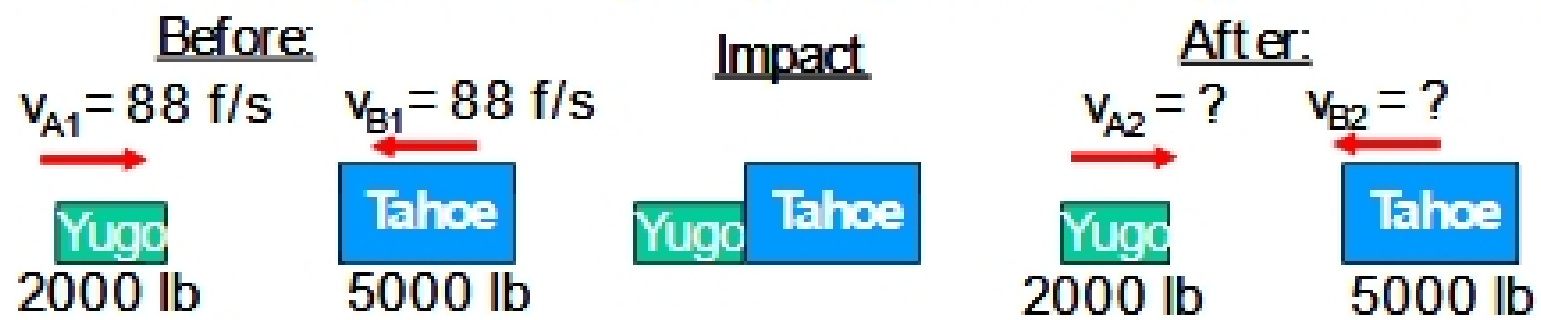
## Learning Exercise 10b: Analysis of Impact of Masses

**Objective:** To be able to apply the impulse-momentum method to analyze the motion of two masses impacting each other

1. Locate the contact point, draw the TP and LOI, then categorize each case with respect to direct, oblique, central, and eccentric conditions.



2. Given the speeds before impact, use the coefficient of restitution equation and conservation of linear momentum to verify the speeds after impact for the value of  $e = 0.5$ . Using this and the other results, compute the corresponding changes in kinetic energy for each case below.



3. 10.7 Mass B is fixed to the earth and the coefficient of restitution is 0.8. Find the magnitude and angle of velocity just after impact.

