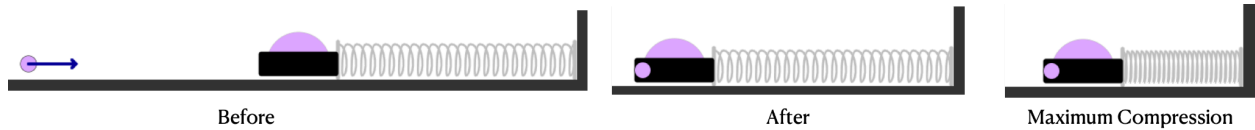


Momentum Conservation to Oscillation

Step 1: In the picture below fill in all the information about the system before the pellet collides with the hovercraft, right after it collides, and when the spring is experiencing maximum compression



Step 2: Show your calculation for the stored elastic energy when the spring has reached **maximum compression**

Step 3: Show the calculations required for finding the speed and kinetic energy of the system immediately **after** the collision

Step 4: Show the calculations to find the speed, momentum and the kinetic energy of the pellet **before** it collided with the hovercraft

Step 5: Show the calculation for the period of oscillation of the system **after** the pellet had collided with the hovercraft

Step 5: Show the calculations that you did to find the mechanical energy lost when the pellet became embedded into the hovercraft. Enter your answers into the program to make sure you did everything correctly.