

Name: _____ Date: _____

Sensor System Investigation Setup and Testing

Part 1: Set Up and Calibrate the Force Sensor Systems

Use the 5N spring scale to determine the typical range for a small collision.

Number of Washers Used			
Cart		Box	
Measured Outputs			
Run 1	Run 2	Run 3	Run 4

Part 2: Test Sensor Systems

Use the 20N spring scale to test whether your force sensor systems can detect large collisions.

Reported Outputs for Large Collisions			
Run 1	Run 2	Run 3	Run 4

Part 3: Reflection on Designing and Testing the Force Sensor System

- How does the strength of the initial force affect how fast the cart moves and how much energy is transferred when it crashes?
- Was your code able to distinguish between low- and high-energy collisions? How do you know?
- How well did you support your group's focal Community Agreement?
- What would you do differently if you tackled a similar task again?