Shoot the Zombies

Name: _____ Date: _____

Your Task

Using a zombie blaster you will fire a sticky dart at the target (half of a zombie can). The can will be placed at the edge of the table so that you can measure the time or distance where the dart-can (stuck together) land after being shot from the blaster.

1. You will need to know the speed that the dart leaves the gun.
2. You can only measure the mass of the dart using a scale. You will measure the mass of the half zombie can after your experiment in order to determine the experimental error.
3. You can measure the time and/or the height of the table and distance where the dart-can lands. (You may use tape measures, rulers, slow motion video (note that that time is typically 1/8 of real time in this videos).

Your Written Report

Your written report can be done as a pair and can be hand written although doing it as a word-processed document or other multi-media format is also permitted.

Your report must include…

- Introduction to the task
- Procedure outlining exactly what is done (how to find the muzzle velocity, how to set up the experiment, what to measure, which equations, diagram and concepts will be used, etc.)
- Measurements and calculations – show all measurements clearly as well as the calculations
- State your final result for the experimental mass
- Compare the experimental mass to the measured (use a scale) mass of the half zombie can. Comment on how accurate the results are.
- Discuss experimental errors and what could be done to improve the experiment.
- If you have video data include a shortened URL link to the YouTube video where it can be found.