AP Physics: Short Lab 5-B

Velocity of a Dart Gun

Name _____ Hour _____

Lab Partners _____

Purpose:

Calculate the initial velocity of a dart, using conservation of energy.

Equipment:

Dart gun & corresponding dart
Meter stick or 2-meter stick

Procedures:

1. If possible, obtain the same dart gun used in Lab 2-B and 3-A. Shoot the dart straight up into the air, using the stairwell for additional height if needed. Measure the maximum height achieved by the dart.

2. Use conservation of energy to calculate the initial velocity of the dart.

3. Calculate the velocity of the dart when it is at a height of .50 m.

Summary:

1. Why is the mass of the dart not required to complete this lab?

2. Do any outside forces do work on the dart as it is in flight? Do you think any such forces affect your answers? Explain.