

AP Physics Lab

Lab 2-B: *Velocity of a Dart Gun* (1 Dimension)

Equipment:

- dart gun & corresponding dart
- 2-meter stick

Purpose:

- Calculate the initial velocity of a dart, using 1 dimensional kinematics equations.

Procedures:

- Shoot the dart straight up into the air, using the stairwell for additional height if needed.
- Measure the maximum height achieved by the dart.

Report:

1. Record the number of your dart gun and letter of your dart.
2. Calculate the total time required for the dart to reach its maximum height and return to the level of the gun.
3. Calculate the initial velocity of the dart.
4. How does the velocity of the dart change throughout its path? How does the acceleration of the dart change throughout its path?