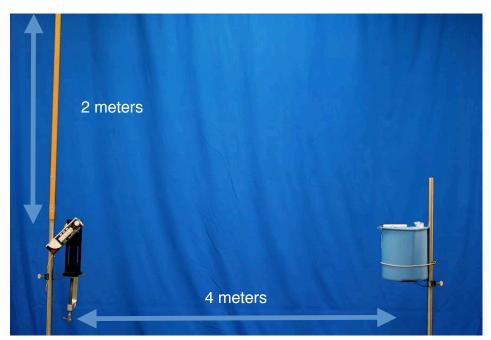
Mechanics Motion in Two Dimensions Projectile Motion







Concept:

Demonstrates the parabolic path, range and height of a projectile fired at various angles.

Procedure:

- 1. Launcher and bucket will be pre-set 4 meters apart.
- 2. Use plunger to place the ball in the launcher at maximum spring tension (Long Range),
- 3. Pull the launcher string to fire the ball straight up and notice it reaches the maximum height of about 2 meters.
- 4. Use the finger screws to change the launch angle to 45° and launch the ball into the bucket at the maximum range of about 4 meters.
- 5. Fire the ball at other angles and notice the ball's range, height and path shape.

Notes and Extras:

• For a more quantitative analysis, derive and calculate before demonstrating. $R_{\theta=45}=2H_{\theta=90}$ $\frac{H}{R}=\frac{\tan\theta}{4}$

Equipment:

- Projectile Launcher
- Yellow Ball
- Ball Plunger
- Padded Bucket
- Small Bungee Cord
- (2) Stands
- (2) Platforms
- C-Clamp
- 2 Meter Ruler
- Tape
- Tape Measure