

## 1M40.41 - Ballistic Pendulum

Key words: Ballistic, Pendulum, Mechanics, Kinetic, Potential



### **Equipment List:**

1. Projectile launcher
2. Ballistic pendulum and mount
3. 25mm plastic ball
4. Small piece of paper
5. Safety glasses
6. Ramrod

### **How to assemble and operate:**

- Place a small piece of paper over the rubber end of the pendulum to reduce friction
- While wearing the safety glasses, place the ball into the launcher and use the ramrod to load the launcher
- When ready to use, lift the lever to fire the launcher and observe the height the pendulum reaches.

### **Description/Theory:**

This demonstration illustrates conservation of energy. The launcher stores potential energy, which is then converted to kinetic energy via the ball. The ball transfers this energy to the pendulum. By measuring the height reached by the pendulum, the potential energy can be calculated.

### **Comments/Notes:**

The maximum angle with full power is roughly 35 degrees. Caution should be taken when using the launcher.