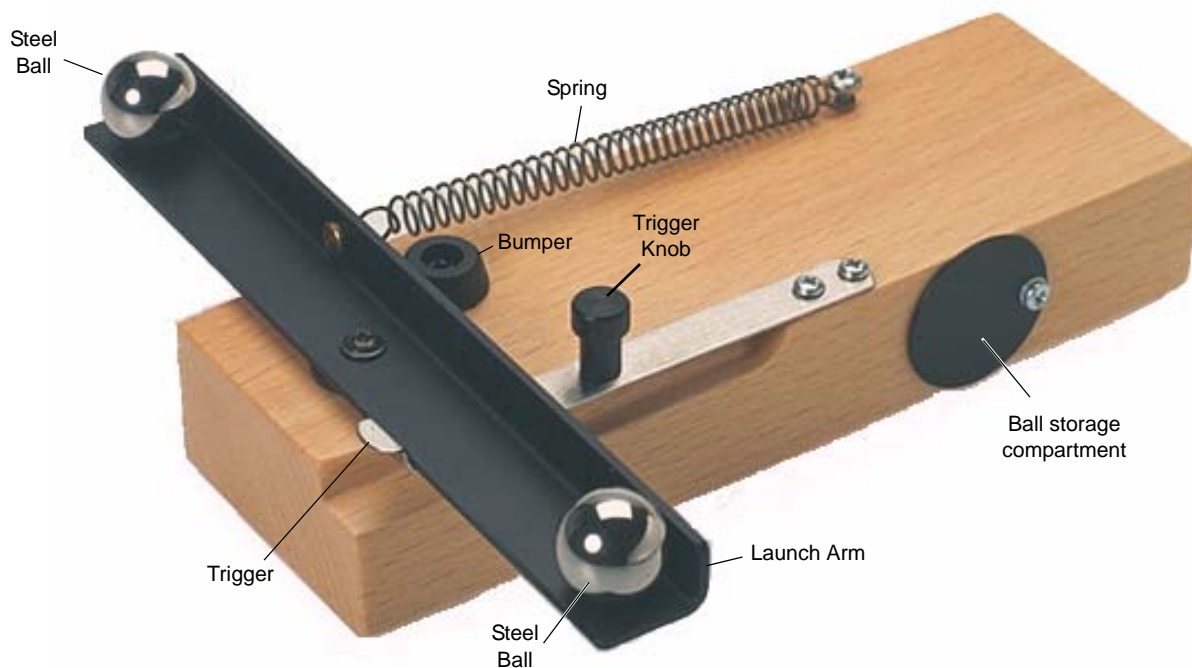




# Vertical Acceleration Demonstrator

SF-9339



## Equipment

Included Item	Qty
Vertical Acceleration Demonstrator	1
Steel Ball, 19 mm diameter	2

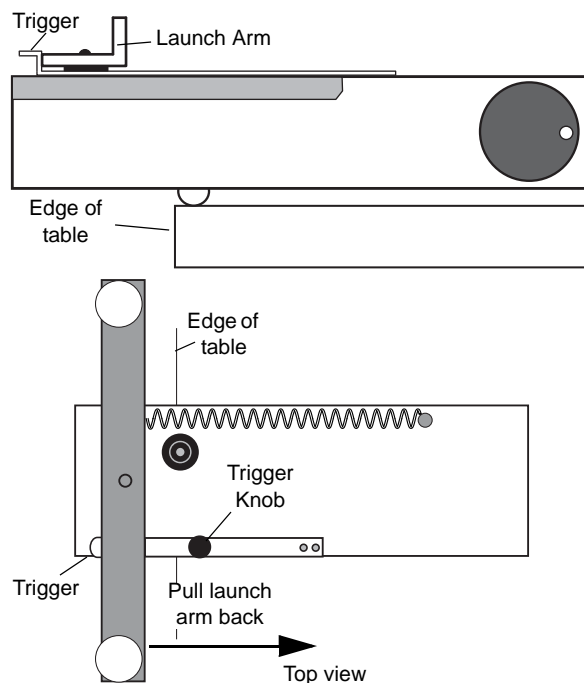
## Introduction

The SF-9339 Vertical Acceleration Demonstrator provides a convincing demonstration of the independence of the vertical and horizontal components of projectile motion. In the absence of air resistance, the horizontal component of a projectile's velocity is constant. The vertical component has a constant acceleration.

The demonstrator sets two steel balls in motion simultaneously. One ball falls vertically with no velocity in the horizontal direction. The other ball falls vertically but also has an initial horizontal velocity. It follows a parabolic trajectory. Your students will hear simultaneous "clicks" as the balls hit the floor at the same time.

## Usage

1. Place the Vertical Acceleration Demonstrator on a level table, with the launch arm of the demonstrator beyond the edge of the table as shown. Be sure that the floor is also level.
2. Pull the launch arm back against the pull of the spring until the launch arm catches on the trigger.
3. Mount a steel ball on each end of the launch arm in the small hole at each end of the arm.
  - The steel balls are stored in the ball storage compartment. Rotate the cover to remove the balls.
4. Press the Trigger Knob down. One ball will drop straight down and the other will be projected horizontally.
5. Listen for the click of the balls as they strike the floor. If the apparatus and the floor are both level, the two balls will strike the floor simultaneously.



## Technical Support

For assistance with any PASCO product, contact PASCO at:

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Roseville, CA 95747-7100

Phone: 916-786-3800 (worldwide)  
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Web: [www.pasco.com](http://www.pasco.com)

Email: [support@pasco.com](mailto:support@pasco.com)

For more information about the Vertical Acceleration Demonstrator and the latest revision of this Instruction Sheet, visit the PASCO web site at [www.pasco.com](http://www.pasco.com) and enter SF-9339 in the Search window.

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