Mortar Ball: The Hottest Game This Summer

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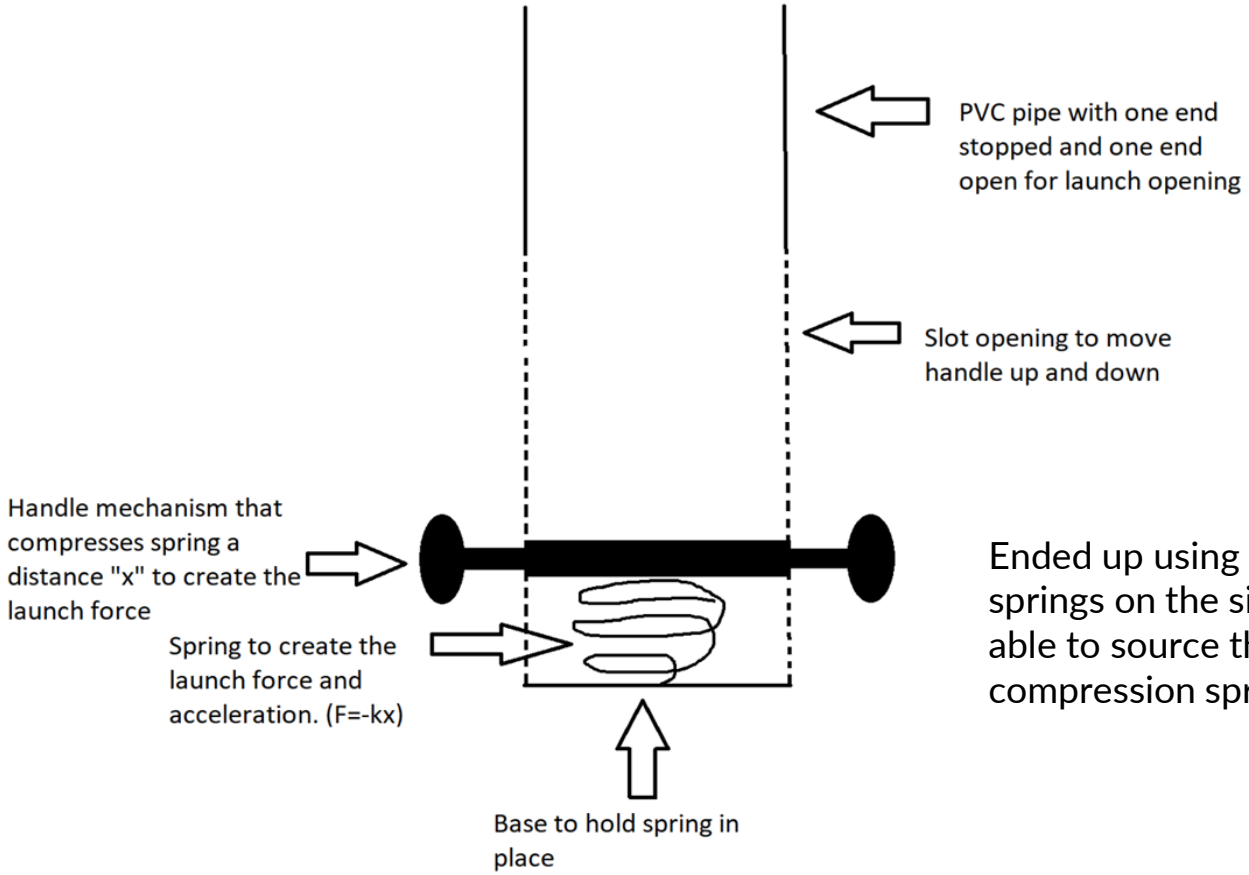
Description of Mortar Ball

- Try and land the three balls into the bucket using the provided mortar launcher to move to the next range.
- Complete all ranges and win.
- Can be played solo or with friends (4).

Kinematic PVC Pipe Launcher



Ended up using two extensions springs on the side due not being able to source the right compression spring

Engineering/Physics Principles Incorporated

Basic Kinematics, Law of Conservation of Energy, and the Range equation

$R=[v_o^2 \sin(2\theta)]/g)$

$E_1=E_2 \rightarrow U_s+U_1=K_2+U_2 \rightarrow 1/2k\Delta x^2+mgh_1=1/2mv_o^2+mg(h_2-h_1)$

$R=[[k\Delta x^2+2mgh_1-2mg(h_2-h_1)]\sin(2\theta_o)]/(mg)$

Check out the Pamphlet on how to caclulate how far you ball will travel!

Instructions For Use

Scan the QR code to open the pamphlet on how to calculate the range

Acquire and assemble mortar with parents, buckets, and balls.

Find a flat, open area, ie: backyard, park, basketball court.

Set the amount of buckets corresponding to the amount of players 10 feet away.

Once a player scores their bucket, then move their bucket 5 feet further away.

First person to repeat this 3 more times until your bucket is 25 feet away and win.

Breakdown of Cost

Download Cost Sheet

Cost to produce: $90

Cost to purchase: $89.99

Ad Video

Video Link