Diameter of jumping ball = 30 mm = 1.18 inch

Mass of jumping ball = 14 gm

Spring OD Diameter available = 1.285 inch = 33 mm

Inner Diameter of Cylinder (required) = 35 mm

If Spring Length = 3 inches, then Maximum Safe Travel (x) = 2.7812 inch = 63.5 mm

Spring Material => Zinc plated wire steel => Spring Rate (k) = 306 lbs/inch = 5.46 Kg/mm

(½)\*m\*(v^2) = (½)\*(k)\*(x^2) => Velocity = 1.25 m/sec with selected spring

Projectile Equation: y = (x\*TanA) - (g\*x^2\*(sec^2)A)/(2\*u^2)

X = 3.048 m, y = 0.4572 m

Angle around 5 to 6 degrees