

Free Fall Day 4

Name: _____



1. A ball is thrown upward at 30 m/s.
 - a) How long does it take to get to the top?
 - b) How long does it take to come back down from the top?
 - c) How high up did it go?

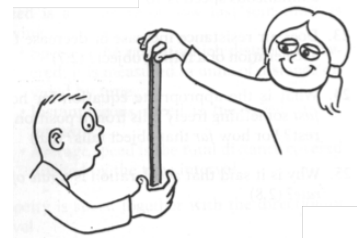


2. The Toy Projectile Launcher shoots a ball. It takes 2 seconds to get to the top, and 2 seconds to fall back down.
 - a) How fast did it shoot?
 - b) How fast is it going when it comes back down?

EXCEEDS OPPORTUNITY: Measure your reaction time.

Name: _____

1. Have someone hold a ruler as shown. Make sure your fingers are even with the bottom of the ruler.



Idea and drawing credit: Paul Hewitt, Conceptual Physics.

2. CLOSE YOUR EYES.
3. The other person should say "GO!" and drop the ruler at the same time.
4. Grab the ruler after you hear "GO!". FOR A FAIR TEST, DO NOT ATTEMPT TO GRAB EARLY.
3. Measure the number of centimeters that dropped before you grabbed it.
4. Convert those centimeters to meters (divide by 100.)
5. Use the distance equation to calculate your reaction time. (Show calculation below.)