

Dropping Ruler Lab- What is your reaction time? In this lab we will calculate your reaction time in catching a ruler.

Materials- Ruler

1. Catcher, hold thumb and index finger 3cm apart.
2. Dropper, hold ruler with the mark for 0 cm right in between catching fingers.
3. Dropper, drop whenever you want
4. Catcher, catch it as quick as you can, but don't anticipate.
5. Do three trials and then calculate your reaction time.

Catcher 1-

Distance in cm	Distance in m	Calculated Rxn time $d=v_i t + \frac{1}{2} a t^2$

Catcher 2-

Distance in cm	Distance in m	Calculated Rxn time $d=v_i t + \frac{1}{2} a t^2$

Motion Questions (D,D,S,V,A)

1. Bill starts at home and travels 45 miles east to get to work, then travels 13 miles west to go out for lunch, then after that travels back to work. What is the distance and what is the displacement for the following scenario?
2. What is the acceleration of a car that starts at 44.3m/s and then goes to 13.4m/s in 32s when they approach a construction area.
3. What is the speed of a car that travels 45m east in 145s, and then 22m west in 203s, and then 13m east in 323s?
4. What is the velocity of a car that travels 45m east in 145s, and then 22m west in 203s, and then 13m east in 323s?
5. What is the acceleration of a rock that is dropped from a bridge and gets up to 39.2m/s in 3 seconds?