

1: Time to Fall

Name: _____

1. If you drop from rest from a 10 m diving platform into the water...

- How long will you be in flight?
- How fast will you be going when you hit the water?

2. Estimate the fastest speed something could have if dropped in this room. (Hint: this is a two-part problem, and you need to ask a question.)

3. If a penny were dropped from the observation deck of the Empire State Building (369 m), and if it experienced no drag on the way down...

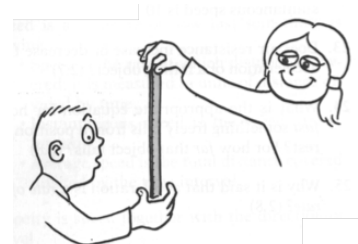
- How much time would it take?
- How fast would it be going when it reached the ground?
- Aren't you glad pennies experience a lot of air drag?

WOW 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.)