

# What Is The Scientific Method?

## Reaction Time

**Background:** : It is surprising how quick we are when it comes to jumping out of the way of something coming toward us. Or how fast we are when we need to put on the breaks of bicycle we are riding. We seem to be very quick when it comes to grabbing a ball as it goes by us. The time it takes for a message to enter your eyes and reach the tip of your fingers must be very fast. Let us try to figure out a way to find the amount of time it takes information to move along our nerves.

**PROBLEM:** How much time does it take information to travel from your eye through the brain, and then to your hand?

**HYPOTHESIS:** Make a prediction as to how long it takes for information to travel from your eye to your fingertips.

### EXPERIMENT:

#### MATERIALS:

Ruler/ meter stick  
Partner

#### PROCEDURE:

1. Hold a ruler at one end so it hangs vertically, and the "bottom" end is dangling between your index finger and thumb. Your finger and thumb should be at zero centimeters, and about one centimeter away from the ruler on each side. This space on each side will be enough for the ruler to fall in.
2. Your partner will drop the ruler without warning. As the ruler falls, it is up to you to stop it as quickly as you can by pinching your finger and thumb together.

3. Record your observations in your data table. The distance at the point at which you stopped the ruler.

### OBSERVATIONS:

Make a data table to record your observations for each of the trials. (What are your dependent and independent variables?)

\*Be sure each person does this at least three times, and keeps a record of what happened. If it is too hard to stop the ruler with the finger and thumb, use both hands. Just clasp your palms together when the ruler is dropped.

Trial	Distance Ruler Fell
1	_____
2	_____
3	_____

Total (add all 3) \_\_\_\_\_ Average Distance = \_\_\_\_\_  
To get an average: After adding up the three numbers, divide the total by three to get the average distance.

### CONCLUSION: