**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: \_\_\_\_\_**

**How Fast Do You React?**

When you want to move your hand, your brain must send a message all the way to the muscles in your arms. How long does that take? In this exercise you will work with a partner to see how quickly you can react.

1. Have a partner hold a metric ruler vertically above a desk or the floor.
2. Position your thumb and index finger around the zero end (centimeters) of the ruler but not touching it.
3. **In the first part**, your partner may drop the ruler whenever he or she chooses. Moving only your thumb and index finger, not your hand, you must catch the ruler as soon as it falls.
4. Record the distance, in centimeters, from zero that the ruler falls until it is caught.
5. Repeat 4 more times and record it each time.
6. **In the second part**, close your eyes and the person dropping the ruler should say “GO!” when he or she drops it. Again catch the ruler by moving only your thumb and index finger. Record the distance in centimeters
7. Repeat four more times and record the results.
8. **For the third part**, open your eyes and have your partner say “GO!” when he or she drops it. Do this 5 times and record the results on the table below.
9. Reverse roles and let your partner complete the experiment**.**

**Make a hypothesis**: In which part do you think that you’ll be able to catch it the fastest?

|  |  |  |  |
| --- | --- | --- | --- |
| Trial | Dropping Only | Eye’s Closed + “GO!” | Eyes Open + “GO!” |
| 1st Time |  |  |  |
| 2nd Time |  |  |  |
| 3rd Time |  |  |  |
| 4th Time |  |  |  |
| 5th Time |  |  |  |
| Average of 5 trials |  |  |  |

**Questions:**

1. In which part were you able to catch the ruler the fastest?
2. Why do you think that you were fastest on this part?
3. Does this answer match your hypothesis?
4. Compare your results with those of your partner. What factors might influence a person’s ability to react quickly?
5. How do you think your reaction time would change if you used your other hand?