TOPICS 3-4

**The Nervous System**

**Which of Your Senses Gives You the Fastest Reaction Time?**

Question:

Which sense, out of **sight**, **touch**, or **sound**, gives you the fastest reaction time?

Hypothesis:

If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Materials: Ruler

Procedure:

1. **General Guidelines** 🡪 See details below for Sight, Tough, and Sound
2. In groups of two, one student will drop the ruler and one will catch it. Both students will use the same data. To have VALID DATA, only ONE person does the catching during the entire experiment!
3. The student who is dropping the ruler holds it vertical at the end of the ruler – the 30 cm mark.
4. The student who is catching the ruler puts the top of their index finger at the 0 cm mark and their thumb on the other side of the ruler. This allows the student to grab or pinch the ruler. The catching student has their fingers **close** but not touching the ruler.
5. Once the ruler has been caught, the highest point on the ruler where the catching student’s index finger is located is recorded on the handout.

1. **Sight**
* The student who catches puts their finger at the 0 cm mark. The dropping student drops the ruler without any other clues. The catcher tries to grab the ruler once it is dropped. Record your results in cm. Repeat four more times.
1. **Touch**
* The student who catches puts their finger at the 0 cm mark and **closes his/her eyes**. The student who drops the ruler taps the catcher on the arm and drops the ruler at the same time. Once the catcher’s arm is touched, s/he tries to grab the ruler. Record your results in cm. Repeat four more times.
1. **Sound**
* The student who catches puts their finger at the 0 cm mark and **closes his/her eyes**. The student who drops the ruler says “now” and drops the ruler at the same time. Once the catcher hears “now”, s/he tries to grab the ruler. Record your results in cm. Repeat four more times.

**Data:**

Complete the data chart below. Record your measurements in **cm** (centimeters). Cut this table our & attach it in your ISN, on page 32

|  |  |  |  |
| --- | --- | --- | --- |
| **Trial** | **Sight****(cm)** | **Touch****(cm)** | **Sound****(cm)** |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| Average (add measurement from each trial and divide by 5) |  |  |  |

Analysis:

1. Below the Data Table, on ISN p.32, create a **Bar Graph** of your results. Make sure to give the graph a **title & label** **the axes.**

***Answer these questions below your graph:***

1. Which sense was the fastest? Which sense was slowest?
2. Why did you perform five trials for each sense instead of just one?
3. Write a statement that summarizes your findings and answers the initial question.
4. Do your results support your hypothesis?