

Biology: Unit I
Senses Lab

Name: _____

Date: _____ Per: _____

Problem: Which of the three senses, **sight**, **touch**, or **hearing**, will have the fastest response time?

Hypothesis: Predict the results of your experiment using an "If...then...because" statement.

If the sense of sight, touch, or hearing are used to catch the ruler, **then** the sense of _____ will catch the ruler the fastest **because** _____

Materials: List all the things you will use in your experiment.

Procedure:

- 1) Two students in a group. One student drops the ruler and one catches the ruler. Both students will use the data of the student who catches the ruler.
Student dropping- Hold the ruler vertically at the 30 cm mark.
Student catching- Put the top of your index finger at the 0 cm mark and thumb on the other side of the ruler so you will be able to pinch the ruler to catch it. *Put your fingers close to the ruler but **not touching**.* The highest point on the ruler where the catching student's index finger is on will be recorded in your data table. ***Estimate and record your data to ONE PLACE PAST THE DECIMAL. (Ex. 13.1)**
- 2) **Testing the sense of sight-** The Dropper will release the ruler **WITHOUT** giving the catcher any clues of when the ruler will be dropped. The catcher will start with the index finger at 0 cm and will try to catch the ruler as soon as it is released. Repeat this 3 times. Record each trial in the data table.
- 3) **Testing the sense of touch-** The Catcher will start again at 0 cm **WITH EYES CLOSED**. The Dropper will tap the Catcher on the arm at the same time the ruler is dropped. Once the Catcher's arm is touched, catch the ruler. Repeat this 3 times. Record each trial in the data table.
- 4) **Testing the sense of hearing-** The Catcher will start again at 0 cm **WITH EYES CLOSED**. The Dropper will say "Now" at the same time the ruler is dropped. Once the Catcher's hears the word "Now," catch the ruler. Repeat this 3 times. Record each trial in the data table.

Data:

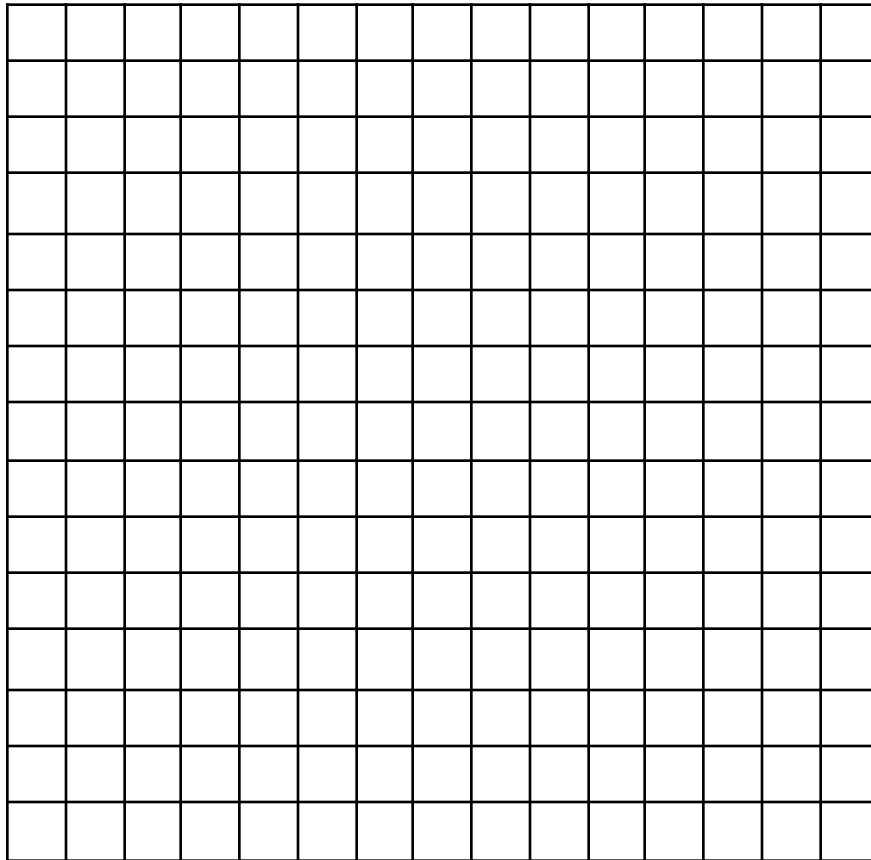
Trial #	Sight	Touch	Sound
1			
2			
3			
4			
Average			
Class Average			

Average Calculations: To calculate an average, add together all of the associated measurement values and then divide the sum by the **total number** of measurement values that were added together. Round the averages to **ONE PLACE PAST THE DECIMAL. (Ex. 13.1)**

Analysis:

- 1) Independent Variable: _____ Dependent Variable: _____
 - 2) Which sense was fastest? _____ Which sense was slowest? _____
 - 3) Did the ruler drop to the floor during any of your trials? _____
 - 4) Why did you perform four trials for each sense? _____
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5) Create a **BAR GRAPH** for **BOTH** your average **AND** class average of each of the senses on the x-axis and the numbers 0-30 cm on the y-axis. Make sure your graph has a **TITLE** and **LABELS** for both the axes.



Conclusion: Write a paragraph answering these questions about your experiment. Did your data support or refute your hypothesis? What were your results? How do your results compare to the class results? What errors may have happened during your experiment that could affect your results? Do you think your results are reliable? Why or why not?
