Life Science #: _____
Miss McDavitt
Name: _____ Date: _____ Block: _____

Stimulus-Response Lab

Step 1: Pose Questions

Which stimulus, auditory, visual, tactile, or visual with distractions, will produce the fastest catching response when a ruler is dropped between two fingers?

Step 2: Form a Hypothesis

Your Hypothesis:
If a ruler is dropped between my two fingers then I will respond to the _____stimulus the fastest.

On what information or experience is your hypothesis based?

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Step 3: Design an Experiment

Procedure

1. You will place your arm on a flat surface with the hand extending beyond the edge.

2. Your partner will hold the ruler so that the end of the stick is between the thumb and the forefinger. There should be enough space so that the ruler can move between the fingers.

3. The person holding the ruler will drop the stick at the same time as a stimulus is given. Then you will watch the person drop it and try to catch it as fast as you can.

4. Record the distance at which the ruler was caught in centimeters on data table under Visual Stimulus. Repeat this procedure 2 more times.

5. Repeat steps 1 and 2 but for step 3 you will **close your eyes** and the person dropping the ruler say "Now" when they drop it.

6. Record the distance at which the ruler was caught in centimeters under Auditory Stimulus. Repeat this procedure 2 more times.

7. Repeat steps 1 and 2 but for step 3 you will **close your eyes** and **put your fingers on the edge of the ruler**. You should try to catch it as soon as possible when you "feel" it fall.

8. Record the distance at which the ruler was caught in centimeters under Tactile Stimulus. Repeat this procedure 2 more times.

9. Repeat the visual stimulus trial, but this time you will be **counting backwards from 99 to 1 or forwards 1 to 99** while watching for the ruler to drop.

10. Record the distance at which the ruler was caught in centimeters under Visual Stimulus with Distractions. Repeat this procedure 2 more times.

Step 5: Collect & Interpret Data

Stimulus	Response Distance Trial 1	Response Distance Trial 2	Response Distance Trial 3	**My** Average Distance (cm)
Visual				
Auditory				
Tactile				
Visual with Distractions				

Observations

Include which stimuli made it hard to catch the ruler and which made it easy to catch the ruler. Why?

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Graph Data

On a piece of graph paper, make a bar graph of the My Average Distance (cm) for all of the stimuli.

Step 6: Drawing Conclusions

Answer the following questions in paragraph form.

1. Indicate whether or not your hypothesis was supported. Include what your hypothesis was and the data to support your answer.
2. How did the visual stimulus response time without distraction compare to the response time with distraction for your data?
3. How could these results be applied to real life experiences involving your reaction time?

Step 7: Communication

Discuss **strengths and weaknesses** of your experiment (Be specific). **Suggest a follow up experiment**.

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