Reaction Times Experiment Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Aim**

To calculate the reaction time for a simple task.

**Materials**

Metre ruler

**Procedure**

1. Work in pairs or groups of three.
2. The person being tested (the subject) should sit with their elbow resting on the edge of a table.
3. The other person (the investigator) holds the ruler by the 100cm mark so that it hangs vertically, with the 0cm mark between the thumb and forefinger of the subject.
4. When the investigator releases the ruler, the subject tries to catch it as quickly as possible, using just their thumb and finger.
5. Record the distance the ruler has fallen, and convert it to ‘time’ using the graph shown below.
6. Repeat the experiment five times   
   to determine an average reaction   
   time.
7. Complete steps 1-6 using your non-dominant hand (the hand you didn’t use the first time!).

**Results**

Enter the data into the table below, and calculate the average reaction time.  
  
Results for dominant hand:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Attempt | 1 | 2 | 3 | 4 | 5 | **Average** |
| Distance on Ruler (cm) |  |  |  |  |  |  |
| Time (s) |  |  |  |  |  |  |

Results for non-dominant hand:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Attempt | 1 | 2 | 3 | 4 | 5 | **Average** |
| Distance on Ruler (cm) |  |  |  |  |  |  |
| Time (s) |  |  |  |  |  |  |

**Discussion**

1. Compare your reaction time for your dominant hand with those of other students. Complete the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Student Name | Reaction Time (s) | Student Name | Reaction Time (s) |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. Propose reasons for any differences in reaction time. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Compare results for the dominant and non-dominant hands. Propose reasons for any differences. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Interpret your results to decide whether your reaction time improved with practice. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Propose how factors such as fatigue, alertness or distractions might affect your reaction time. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Describe how your approach to catching the ruler changed as the experiment progressed. Propose why these changes took place. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_