Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_\_\_

**Student Handout 1.2: EEG Inquiry Lab**

| **Problem** | **“How would an EEG pattern change during (insert activity here)?”**  *You can choose from the list below for an activity:*   * *Sing a song in your head* * *Listening to a calm sound* * *Listening to \_\_\_\_\_\_ music* * *Writing a paragraph* * *Think a happy thought* * *Think of a sad thought* * *Think of a scary though* * *Listen to someone clapping 5 times* * *Stare at an art work for 2 minutes* * *Etc: (what activity would you like to explore?)* |
| --- | --- |
| **Hypothesis** | **“Compared to the EEG while you are relaxed with your eyes closed, I think that the EEG pattern will look/change \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ during \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ activity.”**  *You can also draw how your predicted EEG would look like during your chosen activity.* |
| **Materials** | Brain sensing device  Materials you would need for your chosen activity |
| **Procedure** | 1. Choose a person in your group who will wear the brain sensing device. Attach the brain sensing device to the student’s head based on the manufacturer's directions. 2. Connect or open the app to the brain sensing device and tell the student to take deep breaths to relax and to close their eyes. 3. Once in a relaxed state with eyes closed, draw the EEG pattern of the student as shown on the app. Record this pattern in your Data section below.   ***Note****: You can also take a screenshot of the data and copy-paste in the data table below.*   1. Then, have the student do the chosen activity (see from options in the Hypothesis section above). Have the student do this activity for about a minute. 2. Draw the EEG pattern of the student while doing the chosen activity. Record this pattern in your Data section below. 3. Repeat steps 3 to 5 about two more times. 4. If time permits, have another student in the group perform Steps 1-6. 5. Record all EEG patterns in the data section below. |
| **Data** | | **Student 1** | **Student 2** | | --- | --- | | EEG with eyes closed, relaxed (Insert drawing here)  EEG during \_\_\_\_\_\_\_\_activity (Insert drawing here) | EEG with eyes closed, relaxed (Insert drawing here)  EEG during \_\_\_\_\_\_\_\_activity (Insert drawing here) | |
| **Analysis** | **Compare and contrast the EEG for the relaxed state vs the activity state.**   * **What patterns do you observe in the data?**   Both EEG patterns are similar\_\_\_\_\_\_\_\_\_.  The EEG patterns are different \_\_\_\_\_\_\_\_\_\_. |
| **Conclusion** | **Refer back to the hypothesis.**   * **What does the pattern of data you see allow you to conclude from the experiment?** * **Does the observed data complement the hypothesis?**   My hypothesis and data show \_\_\_\_\_\_\_\_\_\_. I therefore conclude that\_\_\_\_\_\_\_\_. |