**Card Sort Activity**

*(BrainU – University of Minnesota)*

**Part I - Group Data Collection and Time Measurement**

Working in groups, you will collect data and measure the time it takes to carry out various card sorting tasks.

Determine who will be the two card sorters (this should be the “discernment” and “eye for color” participants), the timer, and the data recorder. For time sake, you may decide to have both sorters go at the same time and combine the data recorder and timer roles. When it is time to start a card sorting task, the timer will say "Go!" and start the stop watch. Be sure to shuffle the cards between each task.

Sort Task 1: Take every card in a 52-card deck and one by one discard them into one pile. Record the time taken to complete the task.

Sort Task 2: Sort the deck into two piles based on color. Record the time.

Sort Task 3: Sort the deck into 13 piles based on number or face card type. Record the time.

*(\*There are more sorting tasks that we have eliminated for time sake. It also might make sense to perform more trials and have all students participate)*

**Part II -** **Sorting by External Feedback**

Again, you'll work in groups, collect data, and record time. Determine who will take on the new role of feedback person; your teacher will give special instructions to the feedback person before Part II begins. *(\*The role of the feedback person may be played by the timer so that both sorters may continue to work simultaneously.)*

1. The card sorters will be sorting based on statements made by the feedback person. Time elapsed is recorded after the entire deck is sorted.
2. The sorter begins by placing two cards face up (one at a time), together in one pile or in separate piles, based on the sorting rule s/he thinks is in effect.

The feedback person who knows the rule will say "Yes" if the sorter is on the right track or "No" if the sorter is not on the right track and in need of a different rule for sorting. If “No” is the feedback, the sorter must take back the most recent card played and try sorting it in different ways until a “Yes” is given.

1. The sorter continues to lay down cards face up, receiving feedback for each card, until all the cards in the deck have been sorted. Record the final time on the data sheet.

**Sorter #1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task Number | Trial 1 | Trial 2 | Trial 3 | Mean |
| 1 one pile | **seconds** | **seconds** | **seconds** | **seconds** |
| 2 sort by color | **seconds** | **seconds** | **seconds** | **seconds** |
| 3 13 piles | **seconds** | **seconds** | **seconds** | **seconds** |
| 4 feedback sort | **seconds** | **seconds** | **seconds** | **seconds** |

**Sorter #2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task Number | Trial 4 | Trial 5 | Trial 6 | Mean |
| 1 one pile | **seconds** | **seconds** | **seconds** | **seconds** |
| 2 sort by color | **seconds** | **seconds** | **seconds** | **seconds** |
| 3 13 piles | **seconds** | **seconds** | **seconds** | **seconds** |
| 4 feedback sort | **seconds** | **seconds** | **seconds** | **seconds** |

**Part III -** **Data Representation and Follow-up Questions**

1. Develop a graphic representation of the data collected on your data table on the poster provided. Be sure to include appropriate labeling of axes and title. Make a quick and dirty sketch of the poster below.
2. What relationship seems to exist between the complexity of the task and the time required for task completion?
3. Look at the images of the brain and neuron included in this packet. How might you explain the time differences based on how the brain processes and responds to the information?

*(\*Depending on the level of the students, they may need more support in answering this question. Having them explain each of the steps involved in processing within the brain for each sort would be helpful – as would ordering the cognitive load on a continuum for each activity.)*

1. How could this understanding (of the relationship in question #2) apply to a real-life situation? Describe one or two instances in the life of a typical teen.