**Chapter 3 – Practice – Parts of the Brain**

***Purpose:*** To describe the functions of the various areas of the brain and apply them to how they work. This activity will dispute the myth that we only use 10% of our brain.

***Directions:*** Pretend you are in a car with some friends and you are taking a road trip to Las Vegas for some fun or to Minneapolis/St. Paul to visit the Mall of America. Complete ***at least 12 of the 17 parts*** of the brain identified in the chart below. First, by explaining what the area of the brain does, and second, how that part of the brain may be used in the simple task of driving a car. Most of the areas will be very apparent of how they are used in driving. Some of the areas may *seem* irrelevant in driving but use your imagination and you will be able to come up with something. (Example: “Pons” has been done for you)

|  |  |  |
| --- | --- | --- |
| **Name: Part of the Brain** | **Describe: What is the Function of this area?** | **Apply: How would this area be helpful or be used in driving on a road trip?** |
| Medulla | Controls the automatic processes like breathing and heart rate | Helps you stay calm while driving in busy areas |
| Pons | Relays information from the cerebellum to the rest of the brain | Assists in the coordination of driving motions. |
| Reticular Formation | Regulates sleep/wake schedule and alertness | Helps you sleep to be refreshed next day of travel and alert to surroundings |
| Cerebellum | Receives messages from muscles to control balance and coordination | Helps steer and stay in your lane |
| Basal Ganglia | Nerves that control voluntary movements | Help you stay the speed limit and not go over |
| Thalamus | Sensory relay for all senses except smell | Helps you hear cop cars so you can pull over |
| Hippocampus | Learning and memory | Notice landmarks to find way home |
| Amygdala | Emotion and tying emotion meaning to memories | Make memories on road trip seeing attractions |
| Hypothalamus | Regulates body temperature and appetite | Keeps your body comfortable in extreme weather while driving and tells you when to stop for food |
| Pituitary Gland | Regulate growth, regulate hormone release, pain relief | Helps you not have headaches while driving |
| Corpus Callosum | Allows the two hemispheres to communicate | Helps you use both hands while driving |
| Frontal Lobe: Motor Cortex | Plans and communicates movement | Helps you plan to merge into another lane when a lane is closed |
| Frontal Lobe: Prefrontal Cortex | Higher-level cognitive functioning | Helps you plan out your day and time manage during the trip |
| Temporal Lobe: Auditory Cortex | Processing auditory information | Helps you hear if your tire pops |
| Temporal Lobe: Secondary areas | Speech comprehension | Helps you ask for and interpret directions |
| Occipital Lobe: Visual Cortex | Interpret visual information | Helps you see if you should stop or go at stop lights |
| Parietal Lobe: somatosensory cortex | Process sensory information, such as touch, temperature, and pain | Helps you for what may have popped your tire |