

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