# Brain structures and functions worksheet

Brain Structures and Functions Worksheet PSY/340 Version 3 1 Brain Structures and Functions Worksheet Provide a brief description for each of the following functions: 1. Basal ganglia Controls cognition and movement coordination as well as voluntary movement. It is also a component of the corpus striatum and it consists of the subthalamic nucleus and the substantial nigra (About. com, 2012). 2. Corpus collosum There is a thick band of nerve fibers and these are called the corpus collosum. This is what divides the cerebrum into two hemispheres, a left and a right. It creates communication between the left and the right sides by connecting them. It also transfers motor functions, sensory, and cognitive information between the two hemispheres (About. com, 2012). 3. Temporal lobe The temporal lobe has three general function areas. These are the superior temporal gyrus, the inferior temporal cortex, and the medial temporal cortex. The superior temporal gyrus I where our hearing and language come in. The inferior temporal cortex helps us identify complex visual patterns. The medial temporal cortex is what we rely on for memory (Pinel, 2009). 4. Occipital lobe This is what is used to help us analyze the visual input which guides our behavior. Without it we may act differently than what we currently act because we wouldn’t see things the same way (Pinel, 2009). 5. Frontal lobe Each frontal lobe has two very unique functional areas which are the precentral gyrus and the frontal cortex which is right beside it which have motor capabilities. Frontal lobes are also one of the four main regions of the cerebral cortex. This is where all your planning and decision making goes on and how you solve problems (About. com, 2012). 6. Cerebrum Cerebrum means cerebral hemispheres. When comparing the cerebrum to the brain stem it is known to be more complex and have an adaptive process

such as your learning capabilities, your perception of things and your motivation towards doing things (Pinel, 2009). 7. Spinal cord The spinal cord combined with the brain is what makes up your central nervous system. It is a bundle of nervous tissue and supporting cells that extend from the medulla oblongata. It starts at the occipital bone and goes down to the area between the first and second lumbar vertebrae (About. com, 2012). 8. Cerebellum The cerebellum is also known as the “ little brain". It is a large convoluted structure on the brain stem’s dorsal surface and plays an extremely important role in motor control (Pinel, 2009). It is possibly involved in other cognitive functions such as language and attention. 9. Medulla The medulla oblongata is a portion of the hindbrain that would control the functions we know as breathing, heart and blood vessel, digestion, sneezing, and swallowing. The way that we move and the way the we hear are because neurons from the midbrain and the forebrain traveled through the medulla oblongata. The medulla helps the transference of messages between several areas of the brain and the spinal cord (About. com, 2012). 10. Pons When ascending and descending tracts and part of the reticular formation happen this can cause a bulge or what is also known as a pons. IT is located on the brain stem’s ventral surface. The pons is one of the major divisions of the Metencephalon and the other is the cerebellum (Pinel, 2009). 11. Hippocampus Hippocampus is a huge component of the brain of a human. It plays an important role with short-term and long term memory and spatial navigation. There are two hippocampus in each human brain and it is closely associated with the cerebral cortex (About. com, 2012). 12. Amygdala If you were to look at the temporal lobe of the brain you would find an almond shaped mass of a nuclei located very deep. It is a limbic system structure

and it is what we would know as what makes us cry and what makes us get motivated to exercise. It is also part of the brain that helps you process fear, anger and pleasure (About. com, 2012). 13. Pituitary gland It is a gland that dangles from the ventral surface of the brain. It exerts hormones and it’s literal meaning is snot gland, how lovely. It is known as the master gland because of how it directs other types of organs and endocrine glands. Those glands would consist of the adrenal glands which in turn can be used to suppress or amp up hormone production (Pinel, 2009). 14. Hypothalamus It is located right below the anterior thalamus and it has a huge role in the regulation of several motivated behaviors. It works with the pituitary gland and is able to be connected to the nervous system and to the endocrine system. It synthesizes and secretes certain types of neurohormones. It controls your body temperature, how hungry you are, how thirsty you are, if you are sleepy or really really tired (Pinel, 2009). 15. Thalamus The thalamus is located under the cerebral cortex in a dual lobed mass of grey matter. It is what is used to have sensory perception and how to regulate your motor functions. It also controls how much you sleep and how much you are awake (About. com, 2012) [pic]