**Brain Structure**

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| ***Pic*** | ***Section*** | | | ***Function*** |
| *250px-Human_brain_right_dissected_lateral_view_description.JPG* | *A. The Cerebrum* | *•****Parts****:*  *–Divided into* ***right*** *and* ***left*** *cerebral hemispheres*  *–The cerebral cortex is divided into* ***LOBES*** *which control various functions*  *•****Structure****:*  *–Covered by:*  *•Folds called* ***convolutions***  *•grooves called* ***sulci*** *(little groves)*  *•****Fissures*** *(big grooves)*  *–It has a* ***cortex****: an outer covering*  *about 2 mm thick*  *–****Gray*** *matter vs.* ***white*** *matter*  *•****White****: Myelinated Axon is white (insulation on the nerve)*  *–****Function****: Tissue through which messages pass between different areas of gray matter within the nervous system*  *•****Grey****: absence of Mylin.*  *–****Function****: muscle control, sensory perception such as seeing and hearing, memory, emotions, speech, decision making, and self-control.*  *–While 20% of all oxygen taken in by the body goes to the brain, 95% of that goes specifically into the grey matter*  *•Connected by the corpus callosum* | | |
|  | ***Lobes****:*  ***1. Frontal Lobe***  *–Control of voluntary muscles in the body*  *–Motor speech (Broca’s area)*  *–Voluntary eye movement*  *–Concentration, planning, problem solving*  *–Rational thought, intelligence*  ***2. Motor Area (frontal)***  *movement of skeletal muscles*  ***3. Pre-Motor Area (frontal)***  *learned motor skills*  ***4. Motor Speech Area (Broca’s) (frontal)***  *controls mouth movement for speech* | | |
| ***5. Parietal Lobe***  ***–*** *touch, taste and other sensory info*  *–understanding speech, using words (Wernicke’s*  ***6. Sensory Area (frontal/parietal)***  *• conscious awareness of sensations*  *•interpretation of sensory experiences* | | |
|  | *A. The Cerebrum* | ***7. Temporal Lobe***  *–smell and hearing*  *–interpretation of sensory experiences*  ***8. Auditory Area (temporal)***  *•Hearing is processed* | | |
| ***9. Occipital Lobe***  *– visual senses*  ***10. Visual Area (occipital)***  *–Processes input from optic nerves* | | |
|  | ***Cerebral Hemispheres (11)***  *•Hemisphere = half of sphere (brain)*  *•The right side of the brain controls the left side of the body and vice versa*  *•Hemispheres connected by the Corpus callosum* | | |
| *Right Vs Left – Creativity*  *Left_Vs_Right_Brain.gif* [*http://blogs.scientificamerican.com/beautiful-minds/2013/08/19/the-real-neuroscience-of-creativity/*](http://blogs.scientificamerican.com/beautiful-minds/2013/08/19/the-real-neuroscience-of-creativity/) | | | | |
| *18008_9562_5.jpg* | *B. Cerebellum #13* | | *•Processes sensory information about limbs, joints, and other body parts to determine desired positions.*  *•Balance, coordination of skeletal muscle, posture* | |
| *image-of-brain-stem-upb1eeft.jpg* | *C. Brainstem (14)* | | *•Brainstem: Connects the cerebrum to the spinal cord*  *–****Midbrain (15)****: visual and auditory reflex center*  *–****Pons****:(#16) transfers nerve impulses from cerebrum to cerebellum*  *–****Medulla Oblongata****: (#17) controls heart and breathing rates, controls blood pressure, vessel changes* | |
| *thalamus-hypothalamus.jpg* | *D. Diencephalon (18)* | | *•****Thalamus****-(#19)*  *-Receives all sensory impulses and relays them to the appropriate region of the cerebral cortex*  *-Produces awareness of sensation*  *•* ***Hypothalamus*** *– (#20)*  *–Links the nervous system to the endocrine system*  *–Regulates heart rate, blood pressure, body temp, hunger, gland secretions, sleep etc.*  *–Maintains homeostasis-links nervous to endocrine system* | |

**Summary:**