Brain Structures and their Functions

Page	System or part	Function	Misc.
p. 55	Brainstem	Responsible for automatic survival functions	
	Spinal cord	Controls simple reflexes	Pathway for neural fibers to and from brain
p. 56	Medulla	Controls/regulates heartbeat & breathing	
p. 56	Reticular formation	Controls arousal; responds to change in monotony	
p. 56	Thalamus	Relays sensory information Switchboard between sensory neurons & higher brain regions	Deal w/ sight, hearing, taste, touch Transmits replies from higher brain to cerebellum and medulla
p. 57	Cerebellum	Influences memory and learning Coordinates voluntary movement and balance	Little brain
p. 57	The Limbic System	Links emotion (Fear/anger) & basic motives (Sex/food)	
p. 57	Hippocampus	Memory [remembering and learning]	
p. 57	Amygdala	Emotion, such as aggression, rage and fear	Kluver & Bucy lesioned monkey's amygdala
p. 58	Hypothalamus	Regulates thirst, hunger, body temperature and sexual behavior (hormonal release & monitors)	Controls & monitors glands, such as the Pituitary gland
p. 59		Controls & regulates maintenance functions, i.e., eating Linked to emotion & reward center	Helps keep the bodies internal steady Olds & Milner found the pleasure reward brain center
p. .57	Pituitary gland	Influences hormonal releases by other glands Master endocrine gland	Part of the endocrine system, not the brain; controlled by Hypothalamus
p. 59	Cerebral Cortex	Learning and thinking, enabling increased adaptability; decisions Associative areas: integrated thinking	Ultimate control and information processing center
p. 60	Frontal lobe	Speaking, muscle movements; making plans & judgments; controls motor cortex Decision making and attention	Behind forehead
	prefrontal cortex	feels remorse, learn moral behavior	
	frontal gyrus	focus/distraction	
	Motor cortex	Moves body parts/muscles; sends messages out to the body; controls voluntary movements	Runs along the fissure just behind the frontal lobe, from ear to ear
	Broca's Area	Produces speech	contained in left frontal lobe, in the left hemisphere
p. 62	Temporal lobe	Auditory	Just above ears; contains auditory cortexes contained in the left temporal lobe
	Auditory cortex	Used for hearing and processing sounds	In the left hemisphere
	Wernicke's Area	Processes speech sounds from others; language comprehension	
	Occipital lobe	Includes visual areas; receives visual info from opposite visual field	Back of the head; contains visual cortexes
	Visual cortex	Used for vision	
	Angular Gyrus	reading	
p. 61	Parietal lobe	Includes sensory cortex	At top & rear of cerebral cortex
	Sensory cortex	Incoming messages from skin and movement of the body parts; registers & processes body sensations; tactile [physical feeling]	Just behind and parallel to the motor cortex sense of touch
	Corpus callosum		Axon fibers connecting the two cerebral hemispheres
	Right hemisphere	Visual-spatial processing and comprehension, emotional expression, and music.	Spatial ability perceives and constructs patterns
	Left hemisphere	Language functions & abilities; processes information sequentially and is described as analytical because it specializes in recognizing parts which make a whole.	Separates out parts that make a whole Processing verbal language info