

Functions of the Brain

The brain is the control center of the whole human body. It is essential to the overall proper function of the body. It tells all the other parts what to do, and when to do it. It sends signals through the nerves to certain parts of the body and makes them work. Each area of the brain has an associated function, although many functions may involve a number of different areas. The brain works as part of a network that includes the spinal cord and peripheral nerves. Together, they transmit and control any information sent to and from the other areas of the body.

Frontal Lobe

(behind the forehead)

Social behavior, problem solving, judgment, analytical & critical reasoning, cognition, memory, emotional traits, sexual behavior, speech, retention of long term memories, concentration, motor functions, higher order functions, planning, reasoning, impulse control, spontaneity and initiation

Temporal Lobe

(side of head above ears)

Sound, language, emotion, memory, speech, smell, reading, and visual processing

Limbic System

(deep inside the brain)

Thalamus- receives information from different brain regions, visual, auditory, touch, temperature, pain, body position, motor, sensory

Hypothalamus- regulates thirst, sexual satisfaction, anger, hunger, pain, pleasure, blood pressure, pulse, arousal & breathing after an emotional response

Amygdala- controls moods of fear, aggression and rage, recognizes danger

Hippocampus- converts short-term memory into permanent, long-term memory

Cerebral Cortex

(gray matter)

Memory, attention, perceptual awareness, thought, language, and consciousness

Parietal Lobe

(near the back & top of the head)

Processing body sensations like temperature, pressure, touch & pain, various joint movements, storing data, recognition of spatial relationships, object recognition, ability to read, ability to solve mathematical problems, speech, some extent of visual perception, cognition, math/science skills, number skills, analytical, objectivity, written language, logic, reasoning, 3-D shapes, music/art awareness, synthesizing, subjectivity, imagination, intuition, creativity, emotion, face recognition

Occipital Lobe

(located at the posterior end of the cortex)
Vision

Cerebellum

(base of skull)

Balance, equilibrium, coordination, motor control, cognitive functions such as attention & language, emotional functions

Brain Stem

(at the base of the brain connected to the spinal cord)

Breathing, blood pressure, circulating blood, heartbeat, consciousness, swallowing, alertness, attention, arousal, digestion, salivation, perspiration, dilation or contraction of the pupils, and urination



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