

Modules 6 and 7



What is a naturally or experimentally caused destruction of the brain?

Lesion
What is an amplified recording of the waves of electrical activity sweeping across the brain's surface? EEG (electroencephalogram); waves measured by the electrodes placed on the scalp

ONMODULES 6 & 7

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What is a visual display of brain activity that detects where a radioactive form of glucose goes while the brain performs a given task? PET (positron emission

tomography); scans "hot spots" of the brain

What is a technique that uses magnetic fields and radio waves to produce computer-generated images of soft tissue? MRI (magnetic resonance imaging); shows brain anatomy

What is a technique that reveals blood flow in the brain but still shows the brain

function/structure? fMRI (functional MRI)

What is the brain's oldest and innermost region? The brainstem

What is located at the base of the brainstem and controls heartbeat & breathing? The medulla

What sits above the medulla and helps coordinate movements/control sleep? Pons

What plays an important role in controlling arousal and involves the nerve network

running through the brain stem & thalamus? Reticular formation

What is the area at the top of the brainstem that directs sensory messages to the

cortex and transmits replies to the cerebellum/medulla? Thalamus

What aids in judgement of time, sound, texture, discrimination, emotional control and

stores information of awareness? Cerebellum "little brain"; enables

nonverbal learning and skill memory

What sits between the brain's older parts and its cerebral hemispheres? The limbic system

What are the neural centers of the limbic system? hippocampus, amygdala, and

hypothalamus

What consists of two lima-bean sized neural clusters in the limbic system that is linked to emotion? Amygdala

What is the neural

structure lying below the thalamus and that directs several maintenance activities? Linked to emotion/reward Hypothalamus; helps govern endocrine system via the pituitary gland What is the center for emotions, memory and drives? Hippocampus How is the body wired? Nerves from the left side of the brain are mostly linked to the right side of the body and vice versa How many hemispheres does the brain have? How many lobes does each hemisphere have? 2 & 4 What is the thin layer of interconnected neurons covering the cerebral hemispheres? Cerebral cortex (aka the body's ultimate control and info processing center) What portion of the brain lies right behind the forehead and involves speaking/muscle movement and making plans/judgements? Frontal Lobe What portion of the brain lies at the top of the head and toward the rear and receives sensory input for touch/body position? Parietal Lobe What portion of the brain lies at the back of the head and receives information from visual field? Occipital Lobe What portion of the brain lies roughly above the ears and includes areas that receive information from the ears? Temporal Lobe Who discovered this at the rear of the frontal lobes and can cause body part movement? Fritsch & Hitzig; motor cortex What are the sensory function of the cortex? somatosensory cortex, visual cortex, auditory cortex What is the area at the front of the parietal lobes that registers and processes body touch and movement sensations? Somatosensory cortex What areas of the cortex are not involved in primary motor or sensory function but involved in higher mental functions such as learning, remembering, thinking and speaking? Association areas Which cortex involves occipital lobes, at rear of the cortex, and the brain receives input from your eyes? Visual cortex Which cortex involves the temporal lobes, located above the ears, and receives info from the ears? Auditory

cortex What happens when one hemisphere is damaged early in life? The other hemisphere will assume many functions by reorganizing or building new pathways; the brain sometimes mends itself by forming neurons through neurogenesis

What does constraint-induced therapy do? -aims to rewire the brain & improve dexterity of brain-damaged people

- blind/deaf people make unused brain read available for other uses
- similar reassignment occurs

What is split brain hemisphere? Isolating hemispheres by cutting fibers connecting them (mainly those of the corpus callosum)