

Query ID: test1554

Query Text: where does the brain get its energy from

**Retrieved Documents:**

1	doc55551	Brain. Brain tissue consumes a large amount of energy in proportion to its volume, so large brains place severe metabolic demands on animals. The need to limit body weight in order, for example, to fl
0	doc1404787	Hippocampus. The input to the hippocampus (from varying cortical and subcortical structures) comes from the entorhinal cortex via the perforant path. The entorhinal cortex (EC) is strongly and recipro
0	doc529684	Adenosine diphosphate. ADP cycling supplies the energy needed to do work in a biological system, the thermodynamic process of transferring energy from one source to another. There are two types of ene
0	doc223047	Chloroplast. Like mitochondria, chloroplasts use the potential energy stored in an H <sup>+</sup> , or hydrogen ion gradient to generate ATP energy. The two photosystems capture light energy to energize electrons
0	doc934190	Neck. In addition to nerves coming from and within the human spine, the accessory nerve and vagus nerve both cranial nerves, travel down the neck.
0	doc482915	Hearing. The inner ear consists of the cochlea, which is a spiral-shaped, fluid-filled tube. It is divided lengthwise by the organ of Corti, which is the main organ of mechanical to neural transductio
0	doc875841	Accommodation reflex. Information from the light on each retina is taken to the occipital lobe via the optic nerve and optic radiation (after a synapse in the lateral geniculate body of the posterior
0	doc579	Sperm. Motile sperm cells typically move via flagella and require a water medium in order to swim toward the egg for fertilization. In animals most of the energy for sperm motility is derived from the
0	doc1843559	Educational neuroscience. Educational neuroscience (or neuroeducation,[1] a component of Mind Brain and Education) is an emerging scientific field that brings together researchers in cognitive neurosc
0	doc84419	Brain size. Heritability varies regionally within the brain, with high heritabilities of frontal lobe volumes (90-95%), moderate estimates in the hippocampi (40-69%), and environmental factors influen
0	doc1159554	Emotional lateralization. Unilateral activation of the amygdala due to fearful stimuli may also produce unilateral activation of other regions.[n 10] The right middle temporal gyrus, right brainstem,
0	doc31061	Ice cream headache. In the palate, this dilation is sensed by nearby pain receptors, which then send signals back to the brain via the trigeminal nerve, one of the major nerves of the facial area. Thi
0	doc1371093	Land snail. The cerebral ganglia of the snail form a primitive brain which is divided into four sections. This structure is very much simpler than the brains of mammals, reptiles and birds, but noneth
0	doc1769809	Trigeminal neuralgia. The trigeminal nerve is a mixed cranial nerve responsible for sensory data such as tactition (pressure), thermoception (temperature), and nociception (pain) originating from the
0	doc1261729	Lipid metabolism. The second step in lipid metabolism is the absorption of fats. Absorption of fats occurs only in the small intestines. Once the triglycerides are broken down into individual fatty ac
0	doc641273	University of Maryland, College Park. The projects will allow the university to receive 15 percent of their purchased energy from these renewable energy resources. Also in 2010, the university's dinin
0	doc10934	Sympathetic nervous system. Sympathetic nerves arise from near the middle of the spinal cord in the intermediolateral nucleus of the lateral grey column, beginning at the first thoracic vertebra of th
0	doc1843572	Educational neuroscience. Goswami[22] also suggests that neuroimaging could be used to assess the impact of particular training programmes, such as the Dore, an exercise based programme based on the c
0	doc1652003	Causes of mental disorders. Biological psychiatry has tended to follow a biomedical model focused on organic or "hardware" pathology of the brain,[18] where many mental disorders are conceptualized as

0	doc1095667	Nuclear binding energy. $E = mc^2$ ,
0	doc1301603	Thalamus. The exposure to SHH leads to differentiation of thalamic neurons. SHH signaling from the MDO induces a posterior-to-anterior wave of expression the proneural gene Neurogenin1 in the major (c
0	doc1807195	German Renewable Energy Sources Act. Despite the cutbacks in photovoltaic support, photovoltaic installations continued to boom. In December 2011 alone, 3000 MWp were added in an effort to beat the ta
0	doc732386	Theory of mind. Studies from Rebecca Saxe's lab at MIT, using a false-belief versus false-photograph task contrast aimed at isolating the mentalizing component of the false-belief task, have very cons
0	doc835382	Somatosensory system. All afferent touch/vibration info ascends the spinal cord via the posterior (dorsal) column-medial lemniscus pathway via gracilis (T7 and below) or cuneatus (T6 and above).
0	doc2072509	Nerve growth factor. Dysregulation of NGF signaling has also been linked to Alzheimer's disease.[28][29][30][31][32][33] Connective tissue cells genetically engineered to synthesize and secrete NGF an
0	doc1318359	Endocrine gland. The thyroid gland is located at the front of the neck, in front of the thyroid cartilage, and is shaped like a butterfly, with two wings connected by a central isthmus. Thyroid tissue
0	doc771089	Psyche (psychology). In psychology, the psyche /saki/ is the totality of the human mind, conscious and unconscious. Psychology is the scientific or objective study of the psyche. The word has a long
0	doc253613	Photoreceptor cell. Unstimulated (in the dark), cyclic-nucleotide gated channels in the outer segment are open because cyclic GMP (cGMP) is bound to them. Hence, positively charged ions (namely sodium
0	doc1979632	Biological thermodynamics. The change in Gibbs Free Energy can be used to determine whether a given chemical reaction can occur spontaneously. If G is negative, the reaction can occur spontaneously.
0	doc1365150	Neuroeffector junction. The close junctional neurotransmission is characterized by synapse like close contact between the pre-junctional release site and the post-junctional receptors. However, unlike
0	doc2504004	Pump It Up (video game series). Brain Shower was introduced in NXA. It is a new type of game that combines traditional timing of steps and arrows with mental exercises including mathematics, observati
0	doc1888073	Mental image. A mental image or mental picture is the representation in a person's mind of the physical world outside that person.[1] It is an experience that, on most occasions, significantly resembl
0	doc2325779	Artificial neural network. A fundamental objection is that they do not reflect how real neurons function. Back propagation is a critical part of most artificial neural networks, although no such mecha
0	doc1328343	Cortical homunculus. The amount of cortex devoted to any given body region is not proportional to that body region's surface area or volume, but rather to how richly innervated that region is. Areas o
0	doc580359	Pharynx. The laryngopharynx, (Latin: pars laryngea pharyngis), also known as hypopharynx, is the caudal part of pharynx; it is the part of the throat that connects to the esophagus. It lies inferior t
0	doc798594	Energy in the United Kingdom. During the 1940s some 90% of the generating capacity was fired by coal, with oil providing most of the remainder.
0	doc967926	Evaporation. Fuel droplets vaporize as they receive heat by mixing with the hot gases in the combustion chamber. Heat (energy) can also be received by radiation from any hot refractory wall of the com
0	doc2123812	Isothermal process. By convention, work is defined as the work on the system by its surroundings. If, for example, the system is compressed, then the work is positive and the internal energy of the sy
0	doc645076	Glycolysis. Fructose 2,6-bisphosphate (F2,6BP) is a very potent activator of phosphofructokinase (PFK-1) that is synthesized when F6P is phosphorylated by a second phosphofructokinase (PFK2). In the I
0	doc2602479	Energymomentum relation. For a massive object moving at three-velocity $u = (u_x, u_y, u_z)$ with magnitude $ u  = u$ in the lab frame:[1]
0	doc588982	Starfish. Primitive starfish, such as Astropecten and Luidia, swallow their prey whole, and start to digest it

		in their cardiac stomachs. Shell valves and other inedible materials are ejected through
0	doc2339371	Microbial metabolism. Methylophony refers to the ability of an organism to use C1-compounds as energy sources. These compounds include methanol, methyl amines, formaldehyde, and formate. Several oth
0	doc872994	Triceps brachii muscle. The lateral head arises from the dorsal surface of the humerus, lateral and proximal to the groove of the radial nerve, from the greater tubercle down to the region of the late
0	doc856152	Neuroanatomy of memory. Damage to the basal ganglia has been linked to dysfunctional learning of motor and perceptual-motor skills. Most disorders that are associated with damage to these areas of the
0	doc1611211	Qualia. The argument thus claims that if we find the inverted spectrum plausible, we must admit that qualia exist (and are non-physical). Some philosophers find it absurd that an armchair argument can
0	doc2220608	Fire making. An exothermic chemical reaction can generate enough heat as to catch itself or tinder on fire.[17][18] A few examples:
0	doc777266	Wind turbine design. The maximum theoretical power output of a wind machine is thus 0.59 times the kinetic energy of the air passing through the effective disk area of the machine. If the effective ar
0	doc2268953	Anterior cingulate cortex. The rostral ACC seems to be active after an error commission, indicating an error response function, whereas the dorsal ACC is active after both an error and feedback, sugge
0	doc753720	Genetics. This messenger RNA molecule is then used to produce a corresponding amino acid sequence through a process called translation. Each group of three nucleotides in the sequence, called a codon,
0	doc382745	Apollo 17. The study found lesions in the scalp itself and liver. The scalp lesions and liver lesions appeared to be unrelated to one another, and were not thought to be the result of cosmic rays. No
0	doc2432290	Sawfish. Their small intestines contain an internal partition shaped like a corkscrew, called a spiral valve, which increases the surface area available for food absorption.[citation needed]
0	doc282739	Fairbanks, Alaska. The University of Alaska Fairbanks operates its own coal-fired generating station on campus, providing electricity and steam heat to university buildings.[53]
0	doc1885777	Oxidative phosphorylation. The cytochrome c oxidase complex is highly efficient at reducing oxygen to water, and it releases very few partly reduced intermediates; however small amounts of superoxide
0	doc1640479	Handedness. Verbal processing in right-handed individuals takes place mostly in the left hemisphere, whereas visuospatial processing is mostly done in the opposite hemisphere. Left-handed individuals
0	doc291394	CannonBard theory. Cannon summarized research done by Bechterev regarding emotional expression.[10] In this research, it was argued that emotional expression must be independent of the cortex because
0	doc2242832	Endurance running hypothesis. Taken together, the flexibility in diet and the enhanced usage of fuel heightens the previously mentioned finding that, unlike quadrupeds, hominins do not have a single e
0	doc1326033	Spinal nerve. The medial branches of the lower six are distributed chiefly to the multifidus and longissimus dorsi, occasionally they give off filaments to the skin near the middle line. This sensitiv
0	doc1913313	Housefly. The mouthparts are specially adapted for a liquid diet; the mandibles and maxillae are reduced and non-functional and the other mouthparts form a retractable, flexible proboscis with an enla
0	doc2112241	Hedonism. According to Argonov, posthumans will be able to reprogram their motivations in an arbitrary manner (to get pleasure from any programmed activity).[35] And if pleasure principle postulates a
0	doc2228640	Ventral root of spinal nerve. A spinal nerve with its anterior and posterior.

#### Non-retrieved Relevant Documents: