

Reading Practice: The Architecture of the Human Mind



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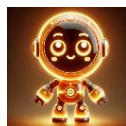
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المزيد من مادة
لغة انجليزية:

إعداد: Abdelsalam Awad

التواصل الاجتماعي بحسب الصف العاشر المتقدم



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف العاشر المتقدم والمادة لغة انجليزية في الفصل الأول

10 grade of coverage English The 2025/2026
الهيكل اللغة الإنجليزية الصف العاشر المتقدم العام الدراسي
advanced New INTERACTIONS 2025-2026

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الدليل الإرشادي (الهيكل الوزاري) للقواعد المقررة في الامتحان النهائي المسار المتقدم

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حل أوراق عمل مراجعة قواعد شاملة

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كتاب الطالب Coursebook

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كتاب دليل المعلم

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Reading Practice

ANSWER KEY

The Architecture of the Human Mind

The human brain, weighing a mere 1.4 kilograms, remains the most sophisticated processor in the known universe. Comprising approximately 86 billion neurons, this complex organ operates an intricate communication network powered by bioelectrical impulses and neurochemical signaling. Far from being a static control unit, the brain possesses extraordinary structural plasticity, the dynamic ability to continuously reorganize its biological pathways in response to novel experiences, environmental stimulation, and cognitive training. This cellular adaptability underpins our capacity to master intricate skills and recover from traumatic neurological injuries.

Central to this dynamic system is the process of synaptic pruning, a developmental mechanism where the brain deliberately eliminates underutilized neuronal connections while reinforcing frequently used pathways. During early childhood and adolescence, this efficiency-driven refining process peaks, optimizing the efficiency of neural networks. Conversely, if specific mental faculties are neglected, the associated neural circuits gradually *wither*, a biological phenomenon often summarized by the adage "use it or lose it."

Beyond individual network refinement, the brain relies on specialized structural divisions to process vast streams of information. The prefrontal cortex acts as the primary command center, orchestrating high-order executive functions such as abstract reasoning, emotional regulation, and long-term goal setting. Positioned beneath this evolutionary advanced region lies the limbic system, an ancient circuit responsible for emotional responses and memory consolidation. The ongoing dialogue between these two areas largely dictates human behavioral choices, as rational impulses routinely struggle to moderate deep-seated emotional drives.

Despite consuming roughly twenty percent of the body's total energy, the brain maintains remarkable operational efficiency. It continuously filters incoming sensory data, ignoring predictable patterns to preserve metabolic energy for novel or threatening stimuli. However, modern lifestyles characterized by chronic stress, sleep deprivation, and digital overstimulation threaten this delicate equilibrium. Prolonged exposure to elevated stress hormones like cortisol can impair hippocampal function, reducing the brain's ability to form lasting memories. Maintaining cognitive resilience therefore requires intentional lifestyle choices that safeguard neural integrity against contemporary environmental pressures.

Choose the best option for each question:

1. What primary conclusion can be drawn about the brain's structural plasticity?

- A) It keeps the physical weight of the organ constant throughout adulthood.
- B) It allows the brain to modify its neural pathways based on active engagement.
- C) It prevents the physical brain from suffering structural damage during injury.

2. Which phrase could best replace the word "wither" as it is used in paragraph 2?

- A) Deteriorate gradually
- B) Expand rapidly
- C) Remain unchanged

3. What triggers the process of synaptic pruning during developmental stages?

- A) The continuous addition of new biological pathways.
- B) The complete shutdown of emotional circuits during childhood.
- C) The natural elimination of unexercised neural connections.

4. What is the main point of the third paragraph?

- A) Executive reasoning and emotional processing depend on distinct, interacting regions.
- B) The limbic system is more evolutionary advanced than the prefrontal cortex.
- C) Emotional responses completely overpower long-term goal setting in decision-making.

5. How does the prefrontal cortex differ from the limbic system in influencing behavior?

- A) The prefrontal cortex stores sensory memories, whereas the limbic system ignores threat stimuli.
- B) The prefrontal cortex manages logical decisions, whereas the limbic system handles emotions.
- C) The prefrontal cortex consumes metabolic energy, whereas the limbic system functions without energy.

6. Why does the brain discard predictable sensory information?

- A) To conserve energy resources for significant events.
- B) To increase the size of the prefrontal cortex.
- C) To prevent physical damage to the hippocampal region.

7. Why is managing chronic stress essential for long-term mental performance?

- A) Unmanaged stress leads directly to an immediate loss of overall brain weight.
- B) High energy consumption prevents the brain from entering sleep cycles.
- C) Cortisol buildup harms regions responsible for memory formation over time.

8. Which statement best summarizes the overall message of the entire text?

- A) Environmental factors alone determine human intelligence and executive control.
- B) The brain's adaptable nature requires conscious care to maintain optimal function.
- C) Biological features of the brain are set at birth and deteriorate with age.