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**ÉPREUVE SPÉCIFIQUE MENTION « SECTION EUROPEENNE OU DE LANGUE ORIENTALE »
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Binôme : Anglais / SVT

Sujet n°10

THEME: 3B NERVOUS SYSTEM SÉRIES S, ES, L

BRAIN PLASTICITY AND MOVEMENTS

5 In most neuroscience literature, the term brain plasticity refers to the brain's ability to learn, as well as recover from brain injury (Johnston, 2004). The underlying mechanism of brain plasticity is simple: neurons communicate with each other. Connections strengthen between neurons that constantly communicate with each other, forming neural networks. Communication between the neurons allow people to think, make decisions, perceive and interact with the world. When a person comes across an experience repeatedly, stronger connections are formed. Similarly, connections become weaker when one does not encounter an experience frequently. In principle, plastic changes in neuronal circuits are likely to reflect either modifications of existing circuits or the generation of new circuits (Kolb, Gibb & Robinson, 2003). This explains how people are able to learn abilities
10 such as playing soccer or new information such as facts. Though the brain has a genetic blueprint of development, it is also shaped by the environment, and this can be interpreted as adaptive plasticity.

When people learn new motor skills, there are plastic changes in the structure of cells in the nervous system that underly motor skills. If the plastic changes are somehow prevented from occurring, the motor learning does not occur (Kolb, Gibb & Robinson 2003). Various investigators have shown
15 that housing animals in complex versus simple environments produces widespread differences in the number of synapses in specific brain regions.

From <http://neur2201.unsw.wikispaces.net/Brain+Plasticity>

Sum up this article and explain the main ideas using your scientific knowledge