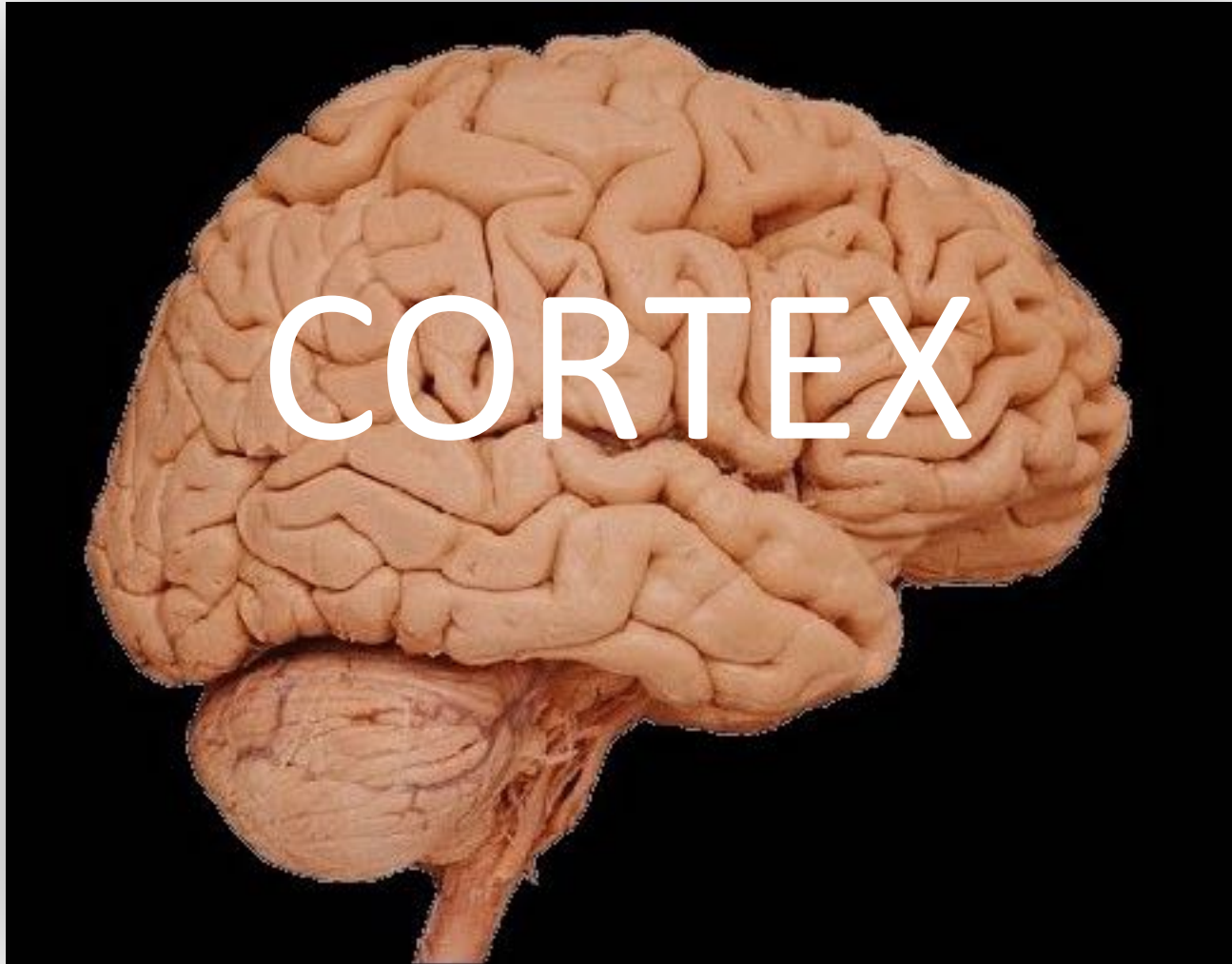


HUMAN BRAIN

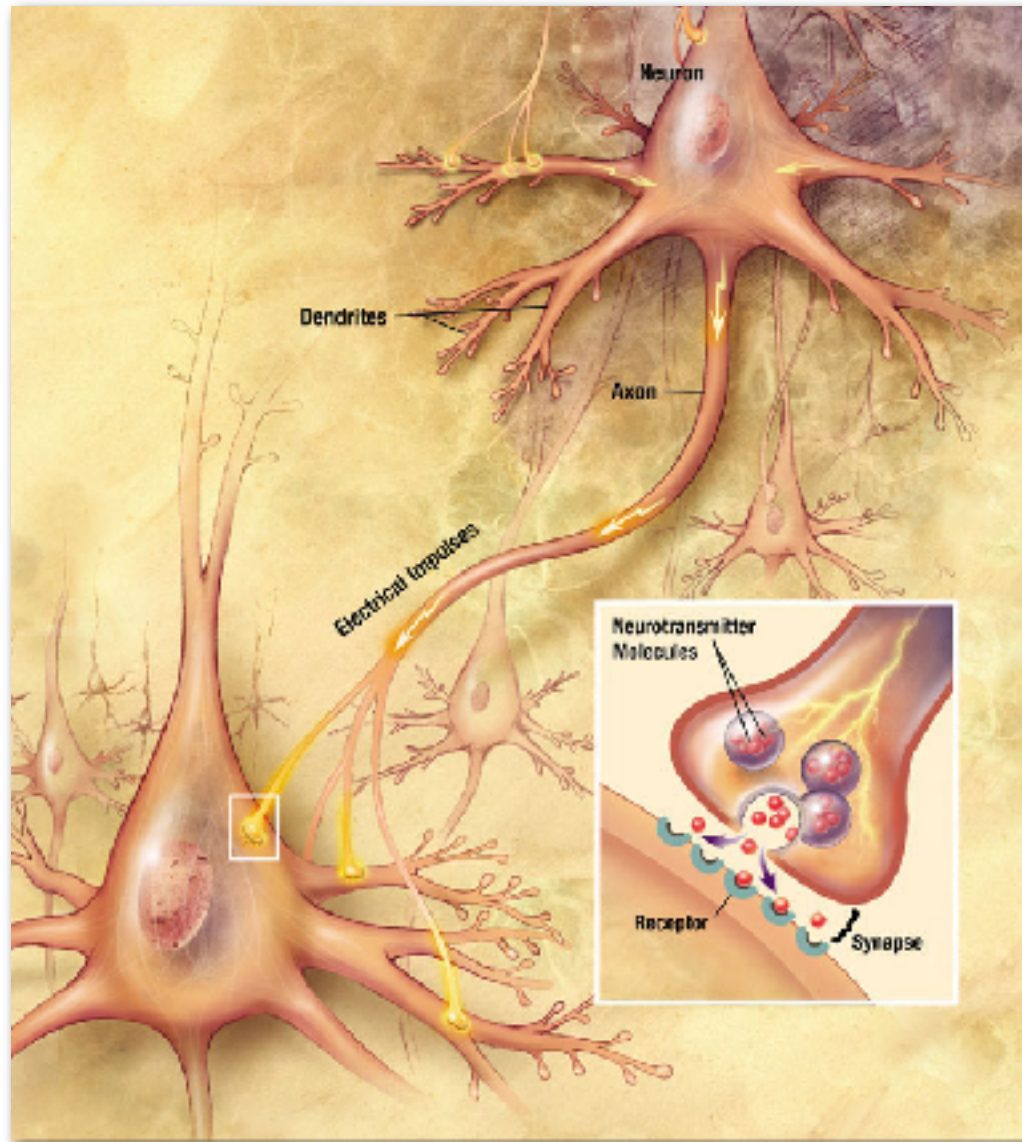


A microscopic image of neurons, showing a central cell body (soma) with numerous branching processes (dendrites and axons) extending outwards. The image is overlaid with a green, grid-like pattern, possibly representing a digital or computational network. The text "NEURONS" is prominently displayed in white, bold, uppercase letters across the center of the image.

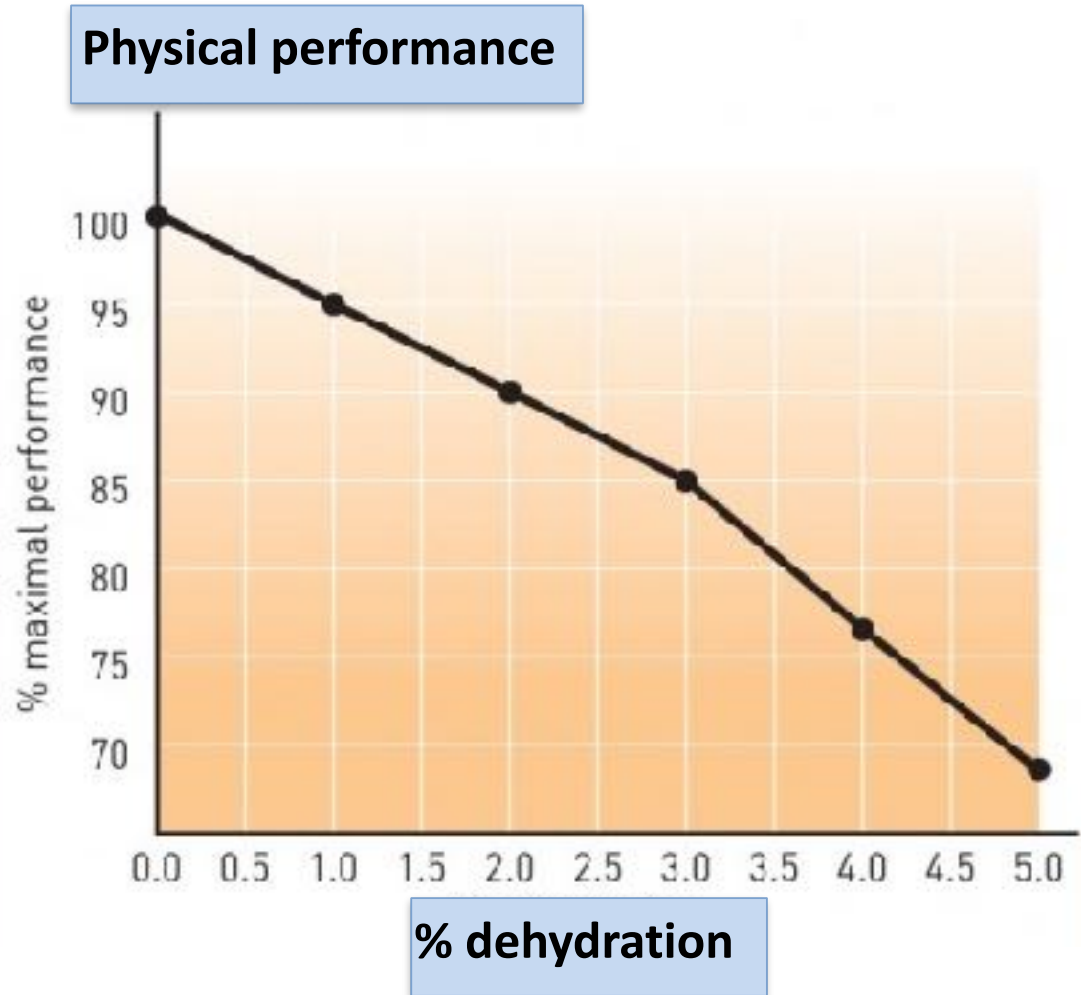
NEURONS

Tiny Cells That Think!

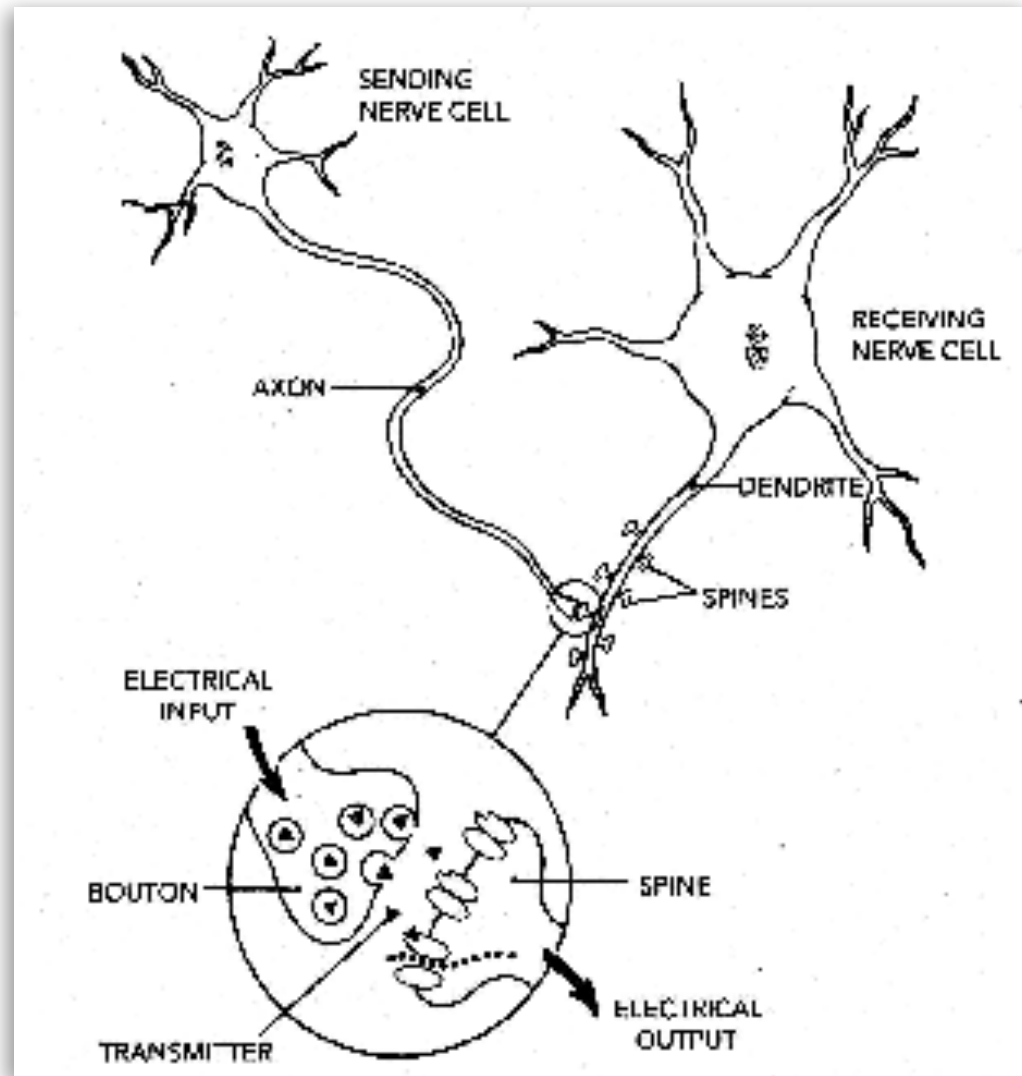
Powered By Electricity!



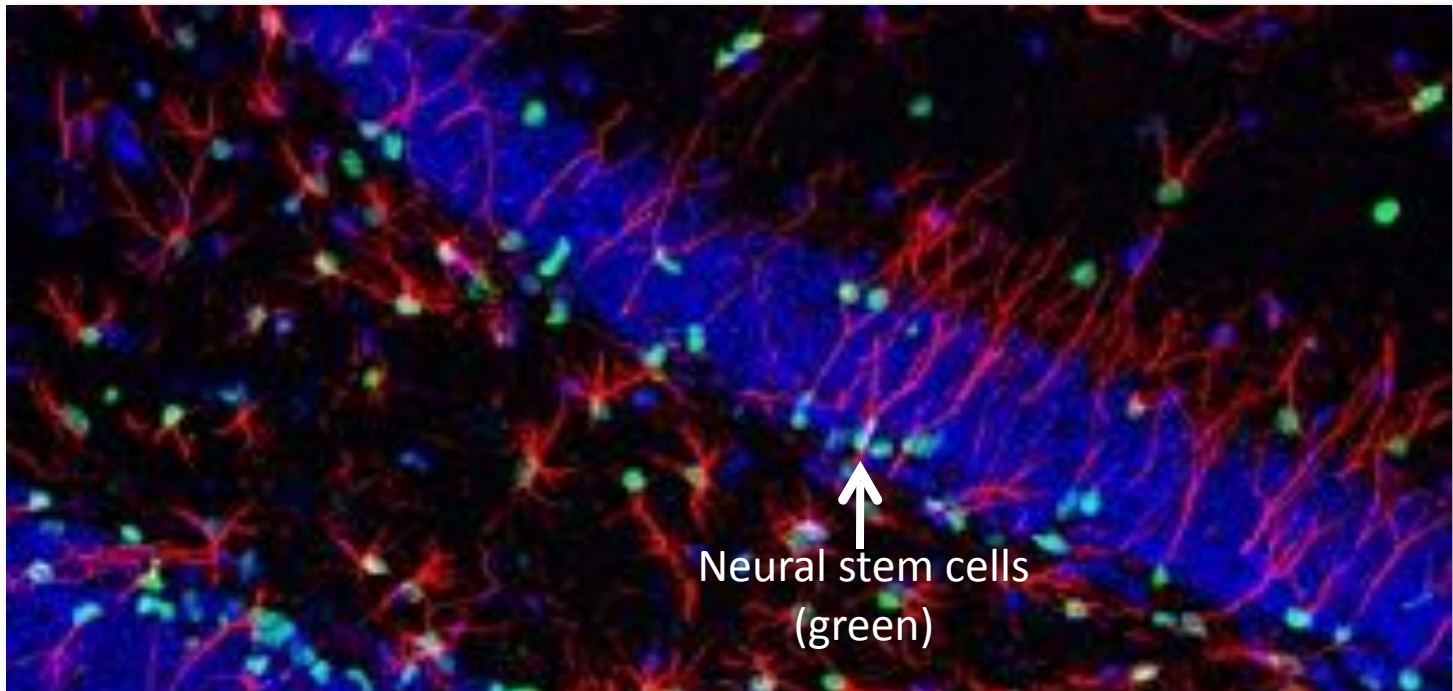
Benefits of Hydration



Neuron



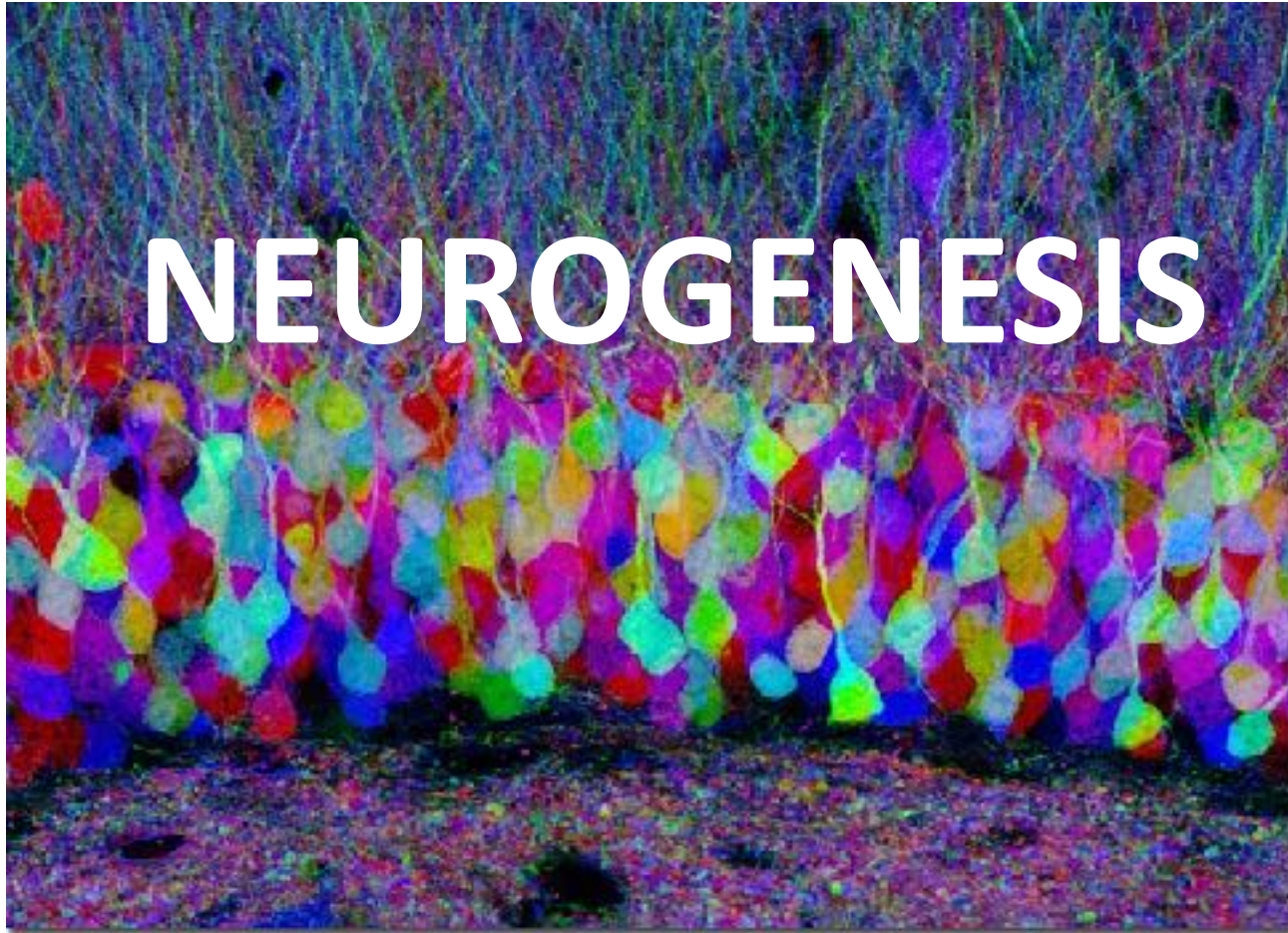
The brain produces new neurons daily!



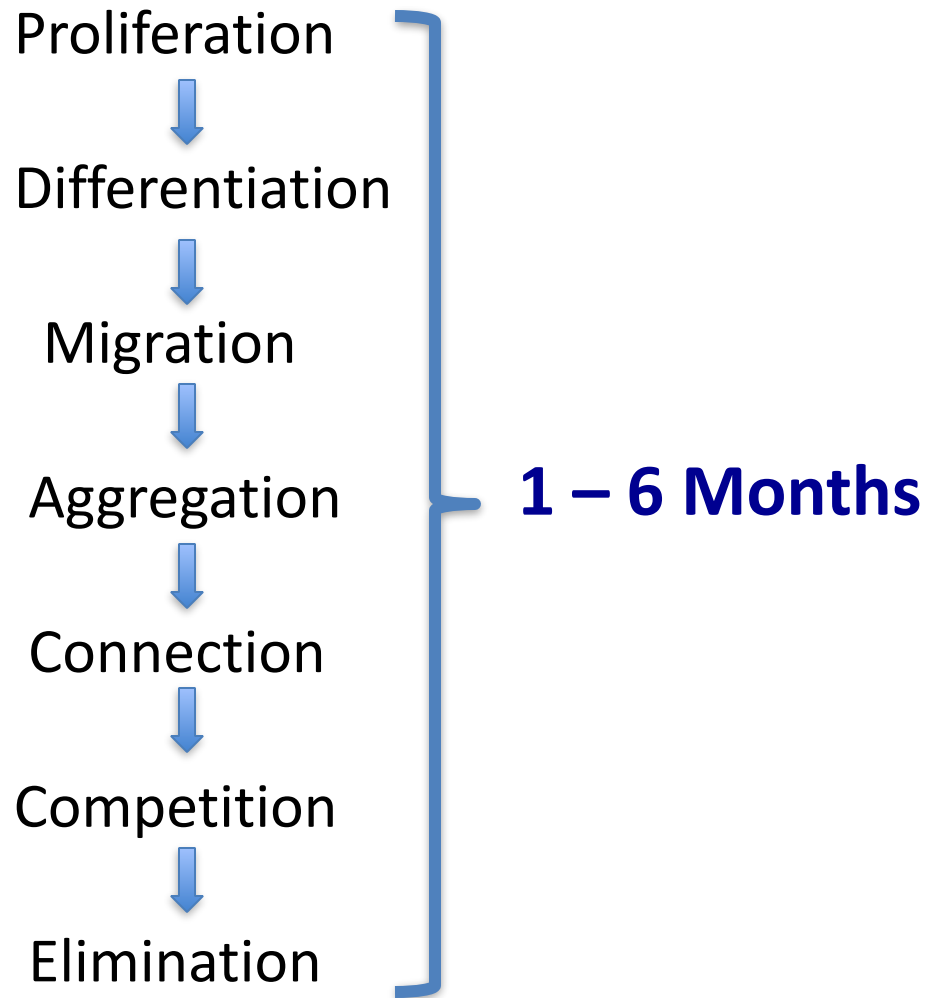
Fred H. Gage, Ph.D.

“Work-life balance: Brain stem cells need their rest, too.” Salk Institute for Biological Studies,
Online: http://salk.edu/news/pressrelease_details.php?press_id=428

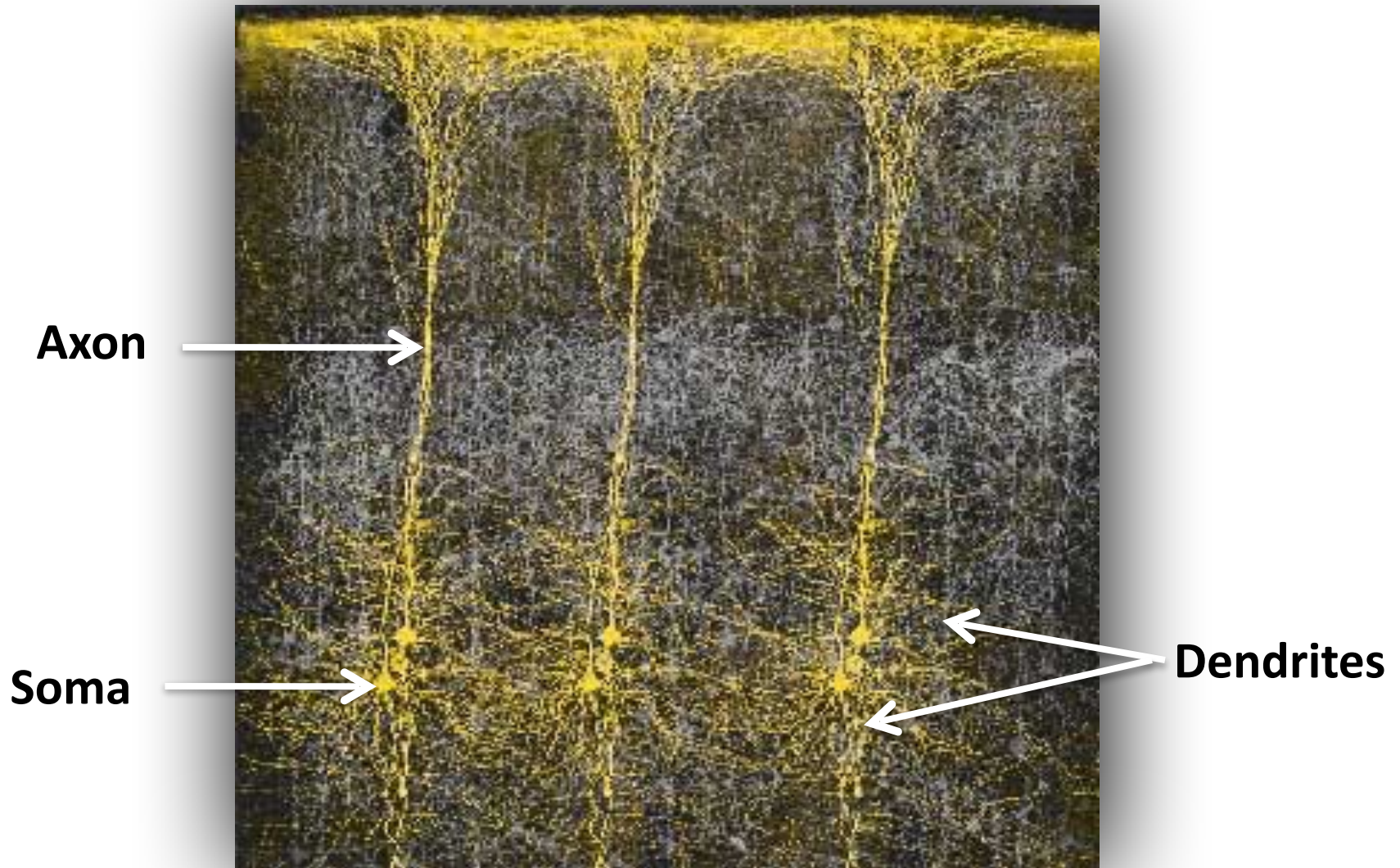
The brain produces new neurons daily!



Stages of Neural Organization

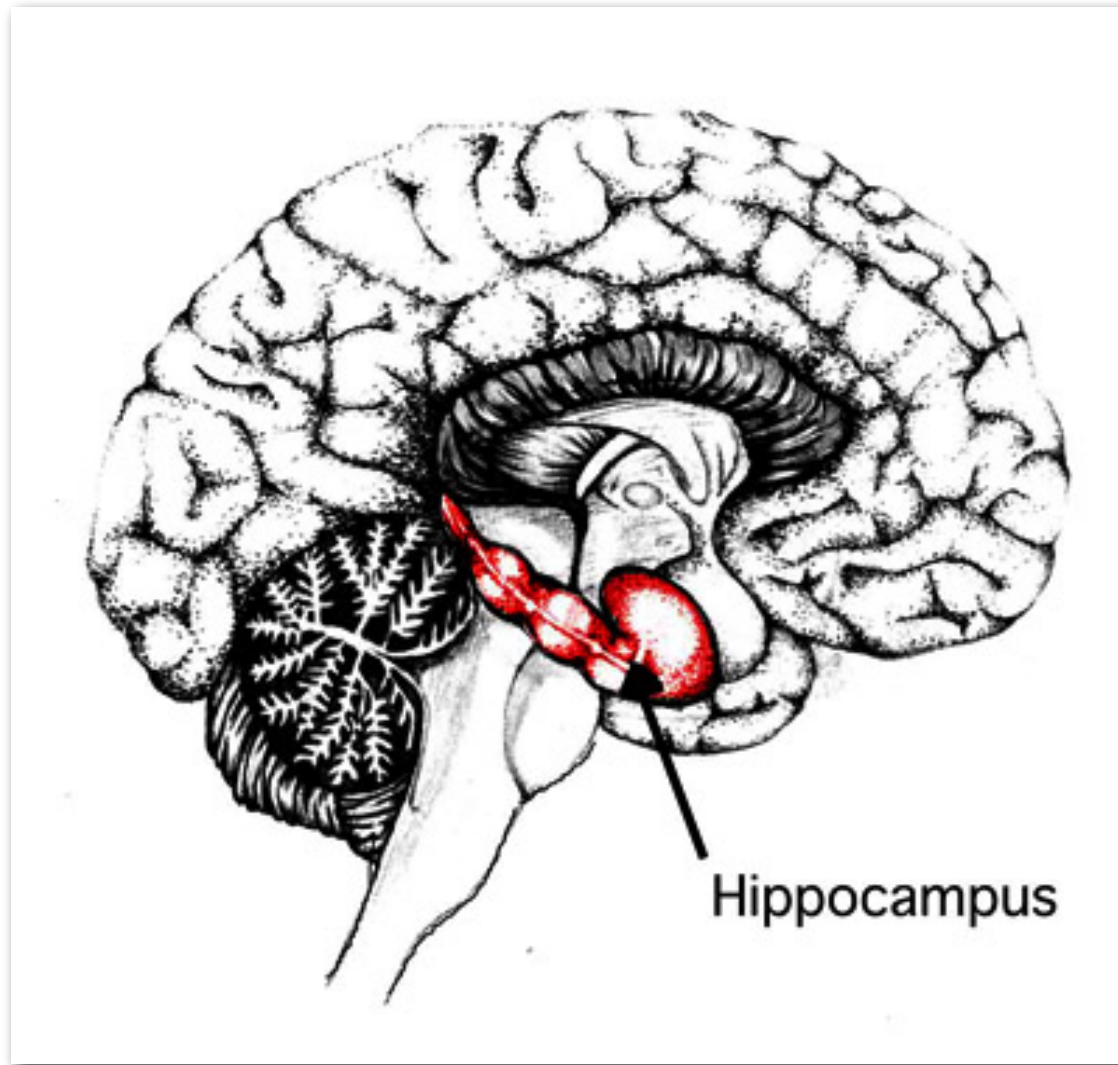


We get new neurons every day!



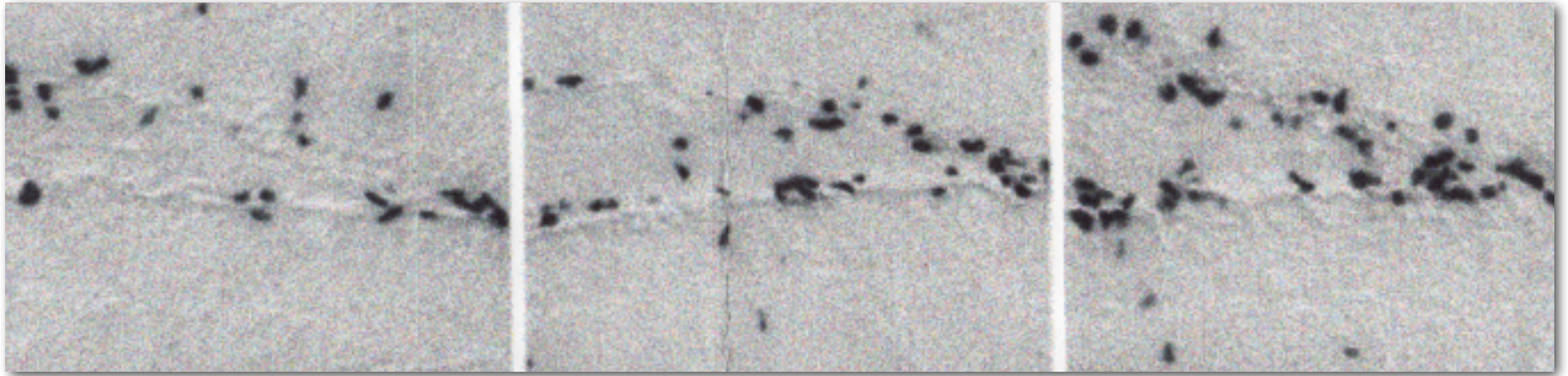
Brown, J. Cooper-Kuhn, C. Kempermann, G. Van Praag, H. Winkler, J. Gage, F. & Kuhn, H. "Enriched environment and physical activity stimulate hippocampal but not olfactory bulb neurogenesis. *European J. of Neuroscience*, 17 (10), 2042-2046.

HIPPOCAMPUS



Processes, labels and stores information as memories

Neurogenesis



STANDARD

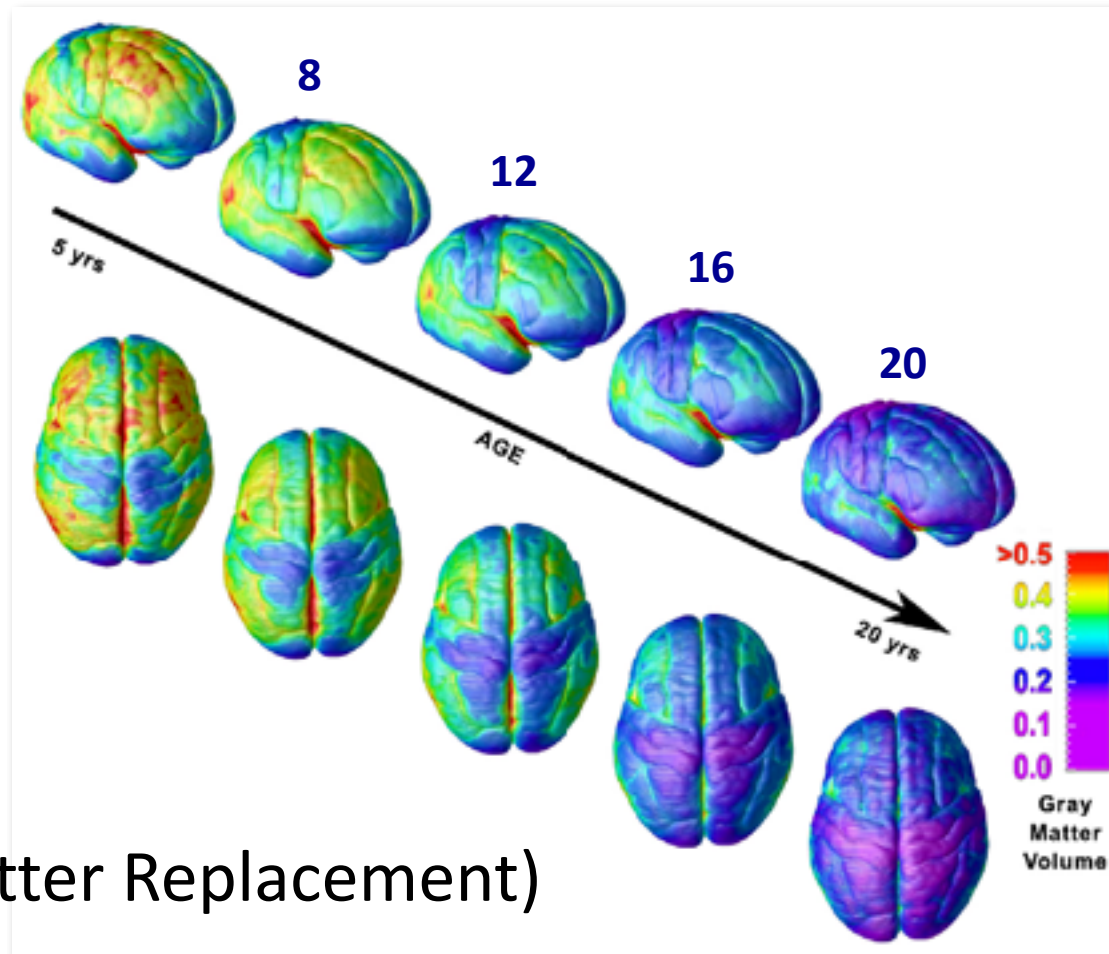
ENRICHED

EXERCISE

COMPARATIVE LEARNING ENVIRONMENTS

Brown, J., Cooper-Kuhn, C. Kempermann, G, Van Praag, H. Winkler, J, Gage, F. & Kuhn, H.
“Enriched environment and physical activity stimulate hippocampal but not olfactory bulb
neurogenesis. *European J. of Neuroscience*, 17 (10), 2042-2046.

Gray Matter: Peak and Decline

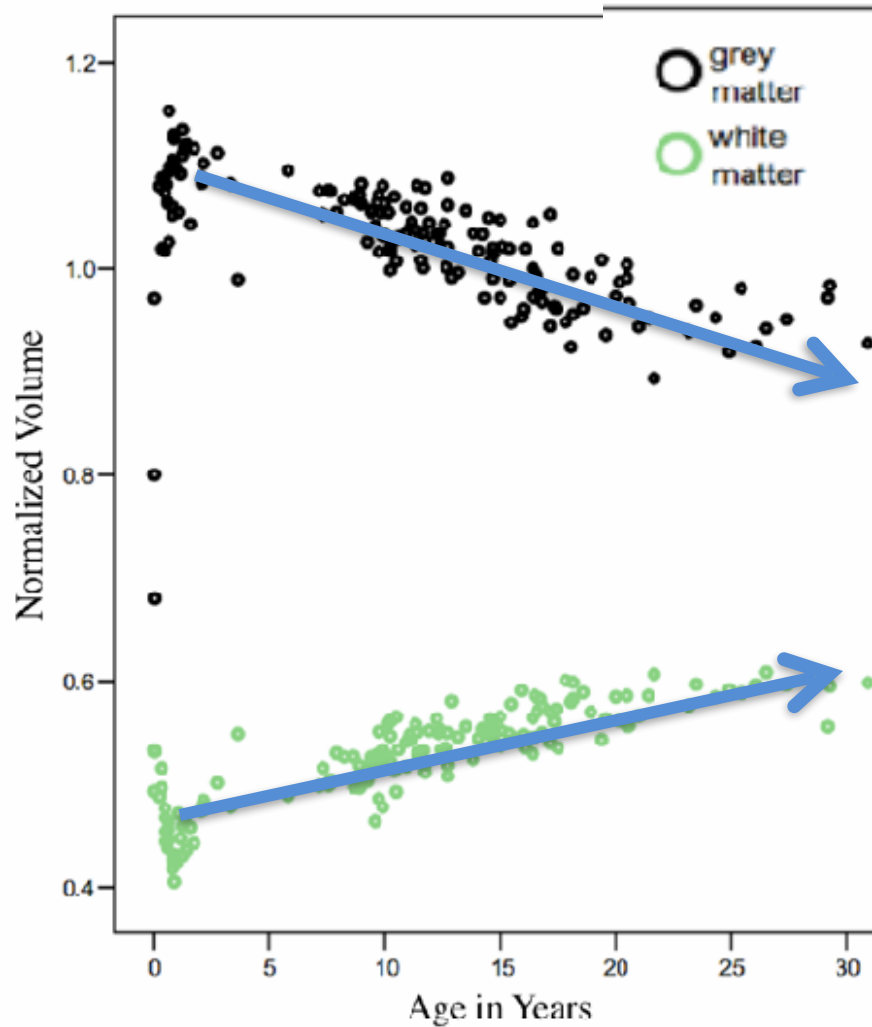


(White Matter Replacement)

Giedd, J. N., et al,
“Brain development during childhood and adolescence: a longitudinal MRI study.”
Nature Neuroscience, 2, 1999, pp. 861-863

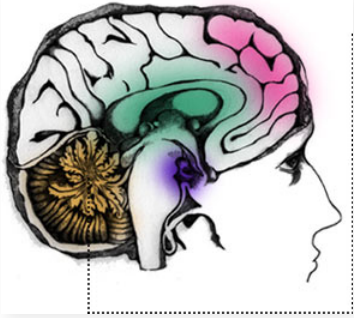
GRAY and

MATTER



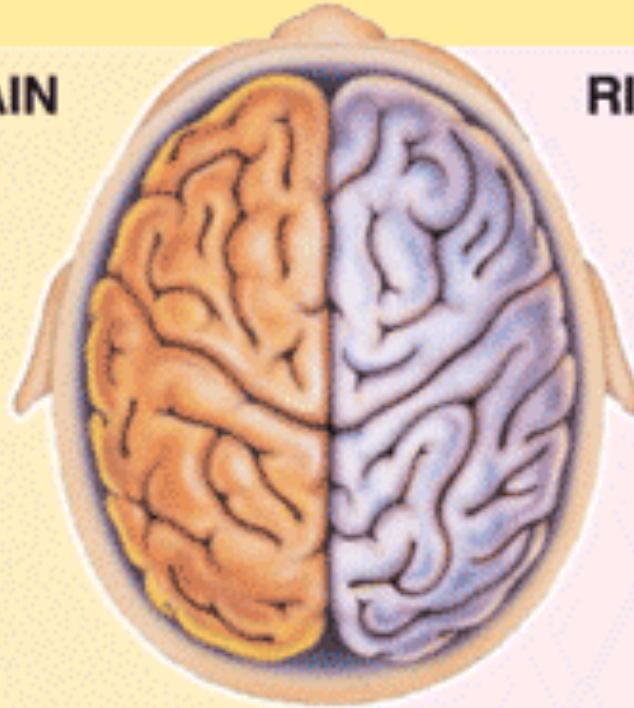
GRAY MATTER

Corpus Callosum



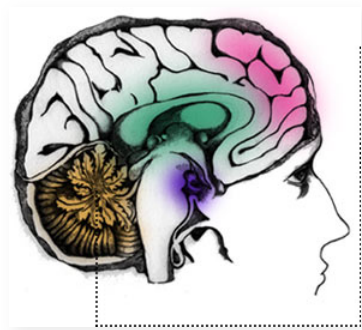
LEFT BRAIN

LOGIC
ANALYSIS
SEQUENCING
LINEAR
MATHEMATICS
LANGUAGE
FACTS
THINK IN WORDS
WORDS OF SONGS
COMPUTATION

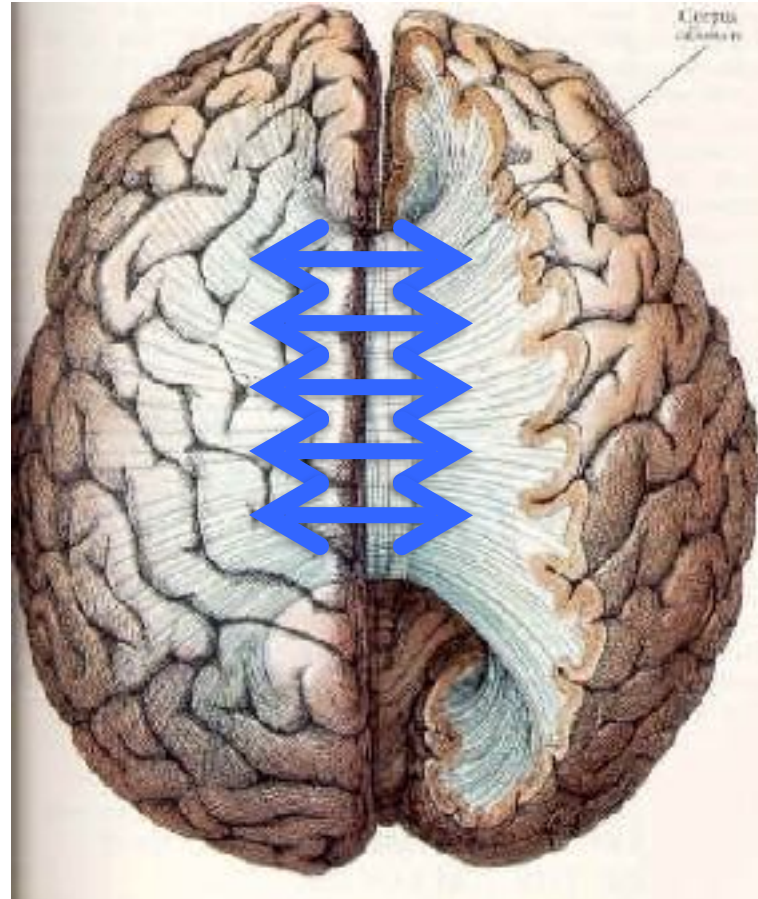


RIGHT BRAIN

CREATIVITY
IMAGINATION
HOLISTIC THINKING
INTUITION
ARTS (Motor skill)
RHYTHM (Beats)
NON-VERBAL
FEELINGS
VISUALISATION
TUNE OF SONGS
DAYDREAMING

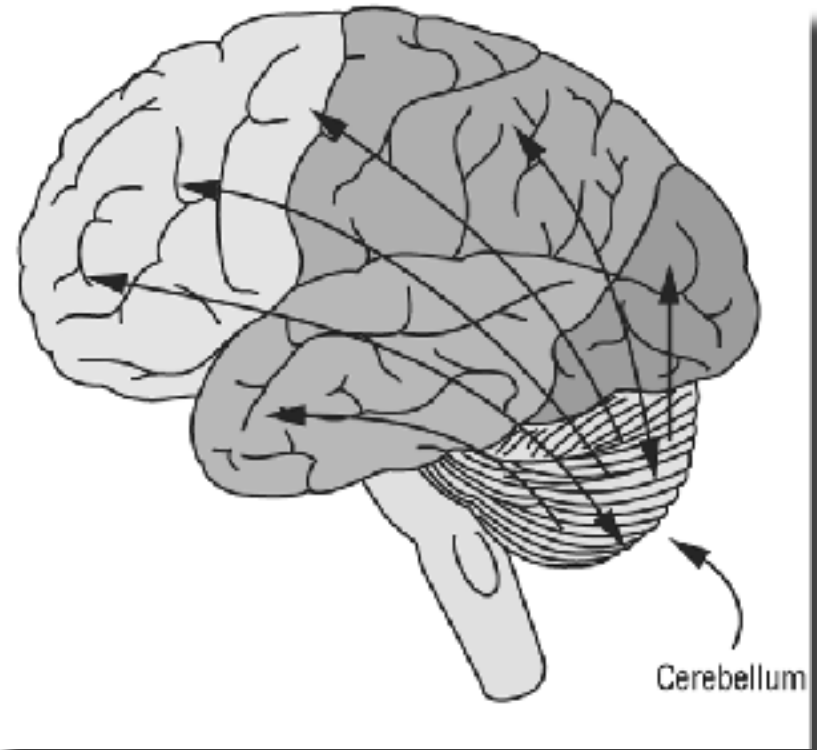
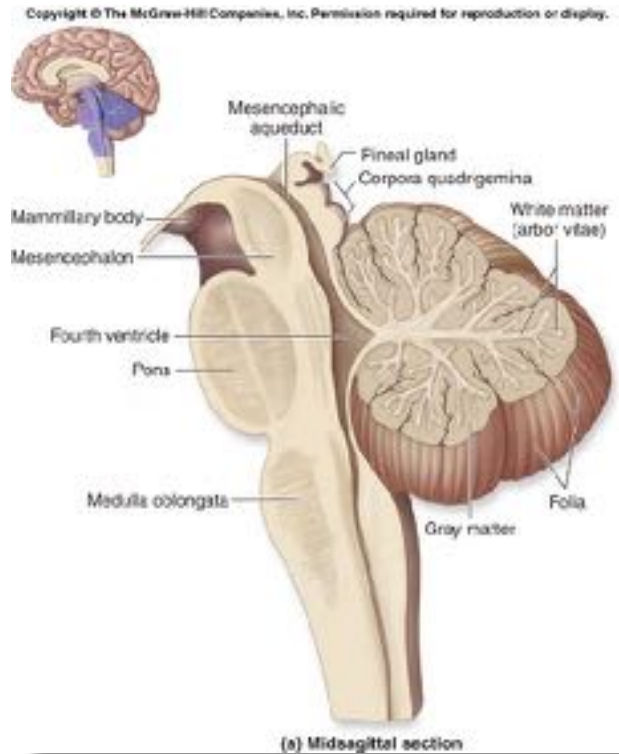


Corpus Callosum



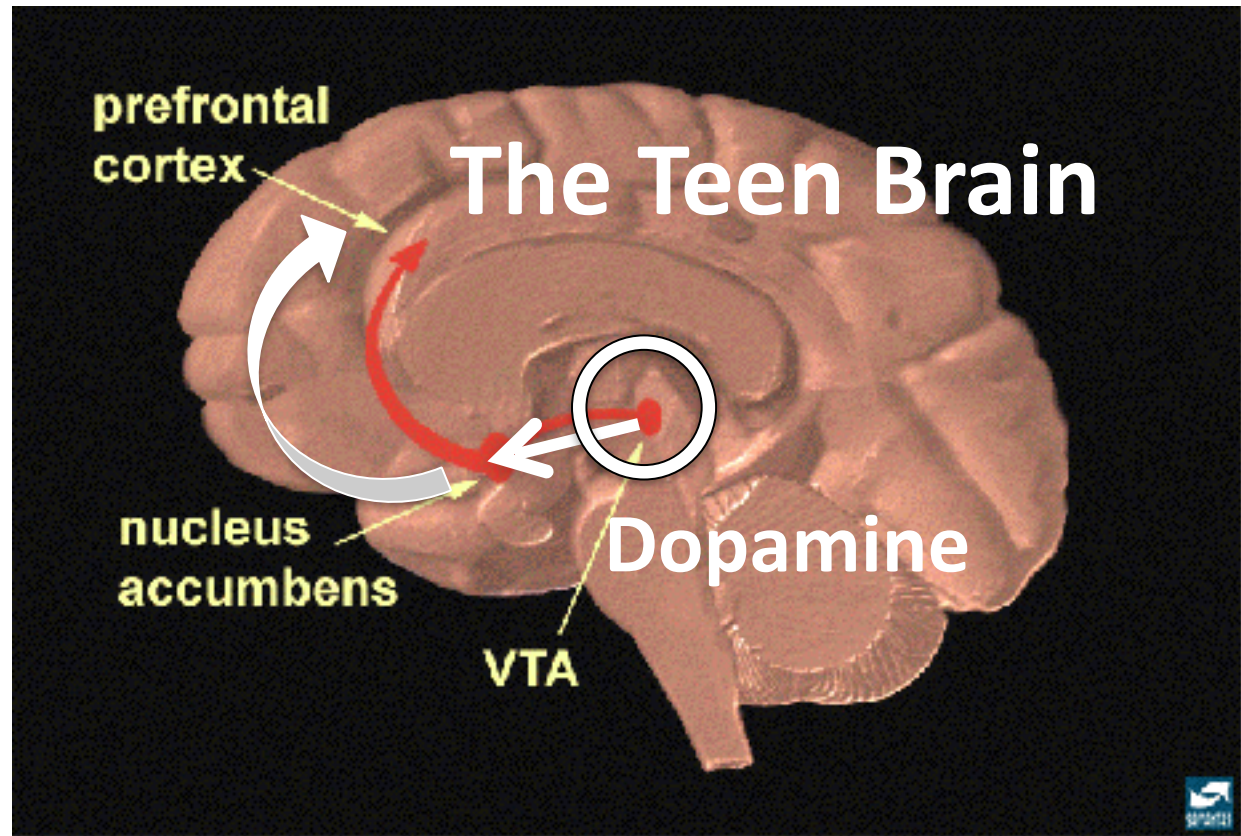
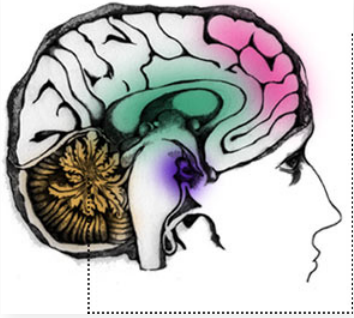
Controls Problem Solving and Creativity

Cerebellum



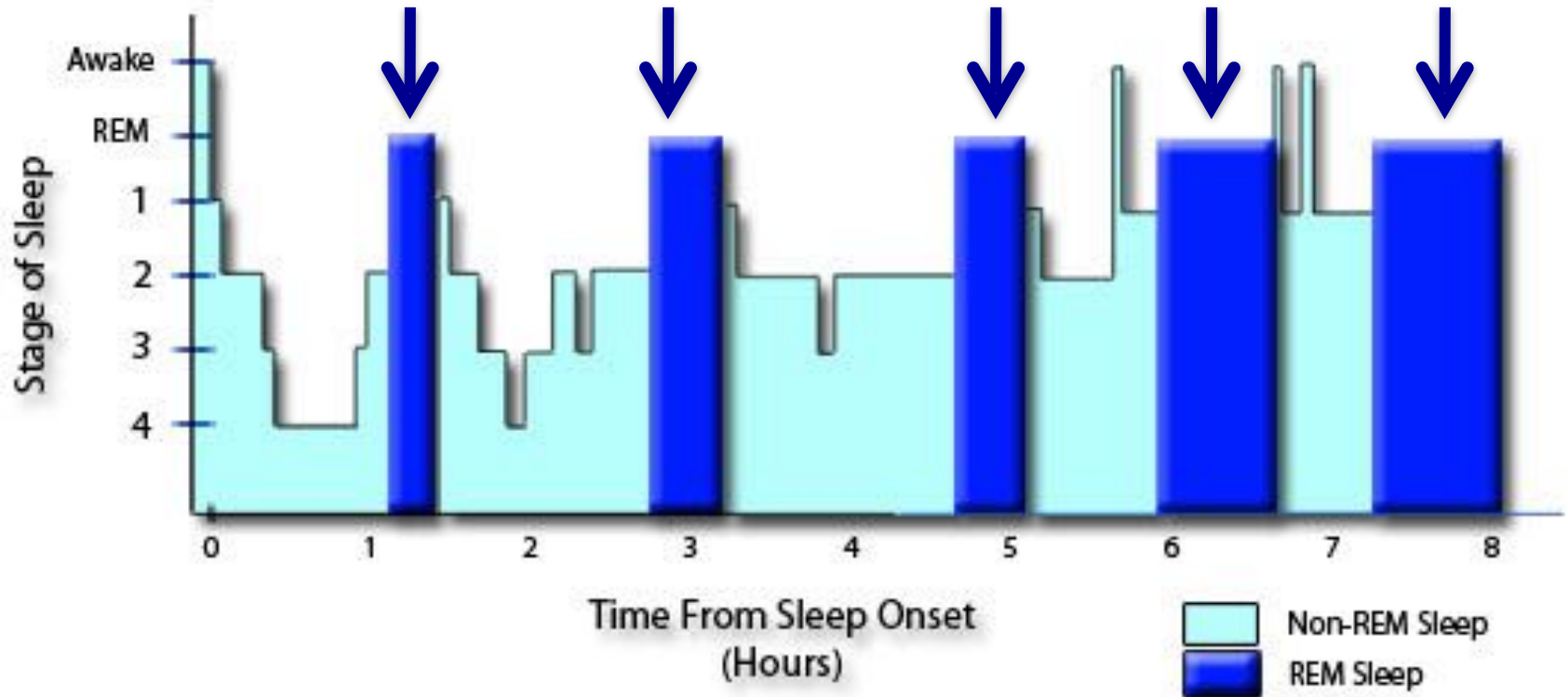
Controls Balance and Coordination
Activates the Frontal Lobes

Secondary Pleasure and Reward

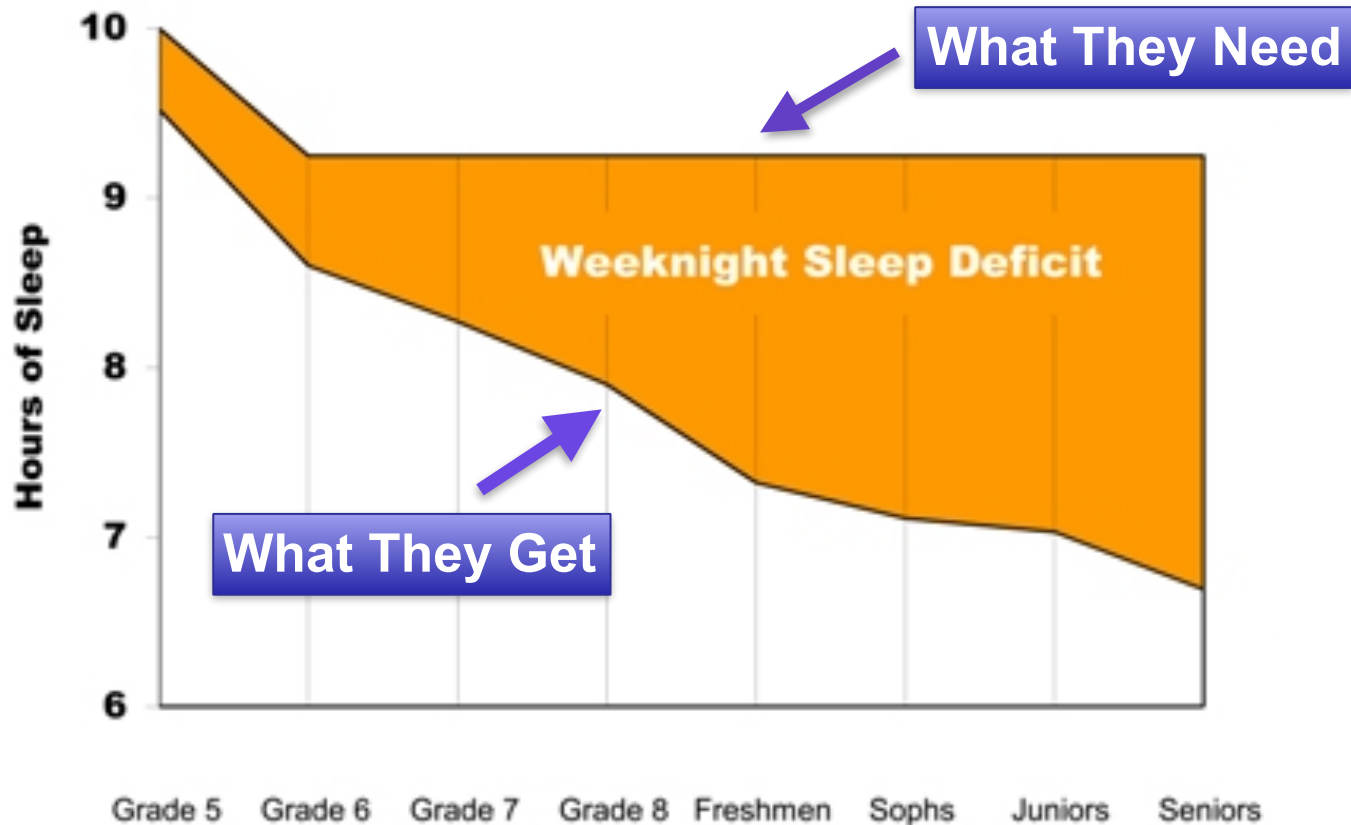


STAGES of SLEEP and LEARNING

Dream Cycles Through the Night



SLEEP REQUIREMENTS



“Poor Sleep Can Negatively Affect a Student’s Grades,” Fred Danner, Ph.D.
American Academy of Sleep Medicine, June 9, 2008

SLEEP and LEARNING

MEMORY ENCODING

'A' students

average 15 more minutes of sleep

than 'B' students,

average 15 more minutes of sleep

than 'C' students

THE TEEN BRAIN: A WORK IN PROGRESS

OPTIMIZE TEEN LEARNING & DEVELOPMENT: *BEST PRACTICES*

- **Mentorships**
- **Peer-to-peer teaching/coaching**
- **Service learning**
- **Cooperative learning**
- **Adventure learning**
- **Quiet downtime**

PERFORMANCE EDGE TIP



**STAY ENERGIZED:
GET HYDRATED!**

PERFORMANCE EDGE TIP



**ENRICH YOUR BRAIN
THROUGH LEARNING!**

PERFORMANCE EDGE TIP



**BE SMART:
EXERCISE YOUR BRAIN!**

PERFORMANCE EDGE TIP



**EAT FRESH, HEALTHY FOOD
(STAY AWAY FROM JUNK FOOD)**

PERFORMANCE EDGE TIP



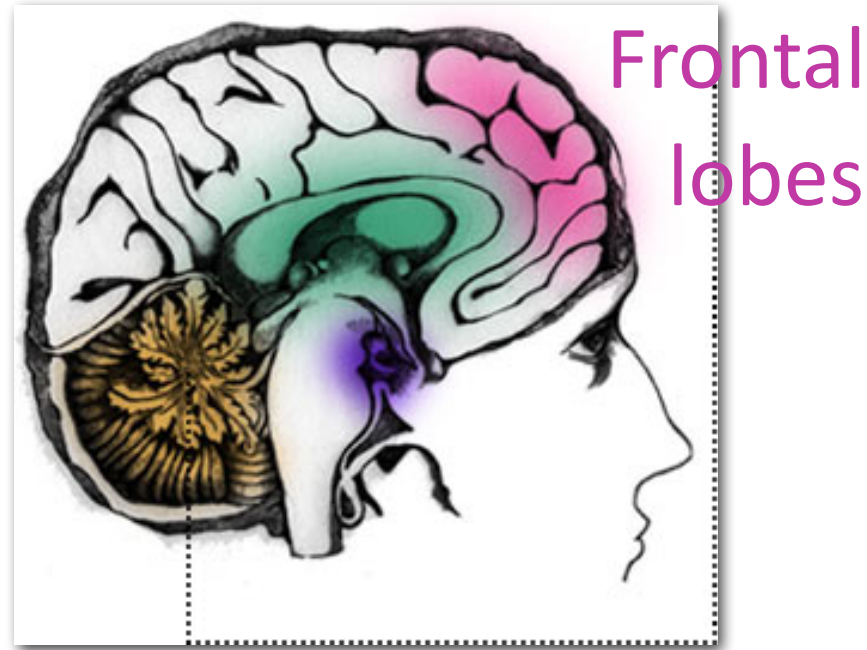
**SUCCESS IN *EVERYTHING* =
PRACTICE, PRACTICE, PRACTICE!**

PERFORMANCE EDGE TIP



**MUSIC, THE ARTS, SPORTS:
GO FOR IT!**

PERFORMANCE EDGE TIP



**THE FRONTAL LOBES:
YOUR TICKET TO SUCCESS!**

PERFORMANCE EDGE TIP



GET THE DOWNTIME ADVANTAGE!

PERFORMANCE EDGE TIP



**MINDFULNESS PRACTICE:
FOR BRAIN, MIND, BODY, SPIRIT**

PERFORMANCE EDGE TIP



**SLEEP:
DON'T LEAVE HOME WITHOUT IT!**