National Consortium on Alcohol and NeuroDevelopment in Adolescence (NCANDA)

UC San Diego • SRI International • Duke University
Oregon Health & Science University • University of Pittsburgh

2018 Newsletter

SHOUT OUT to NCANDA - SRI International

Drs. Ian Colrain and Fiona Baker are the Lead Investigators for the NCANDA: SRI International site, located in Menlo Park, CA. Drs. Colrain and Baker have worked closely together in sleep and brain research and have published over 200 research papers on sleep and brain development in adolescents and on other topics on sleep disorders. They have an outstanding research team that conducts overnight sleep studies and other assessments with NCANDA SRI participants.
Find out more at ncanda.org/sri.php

What NCANDA has taught us about sleep in development…

NCANDA participants at SRI and University of Pittsburgh have had the chance to sleep in the lab, while we record their sleep patterns with polysomnography and fitness trackers. We are tracking the dramatic changes that occur in sleep across adolescence - with a 66% reduction in deep sleep that is totally normal - and, as we discovered, is related in part to normal developmental reductions in cortical thickness in the frontal and parietal regions of the brain. We are also investigating how behaviors, such as alcohol and substance use, as well as mood, affect sleep patterns.

Brain Power!

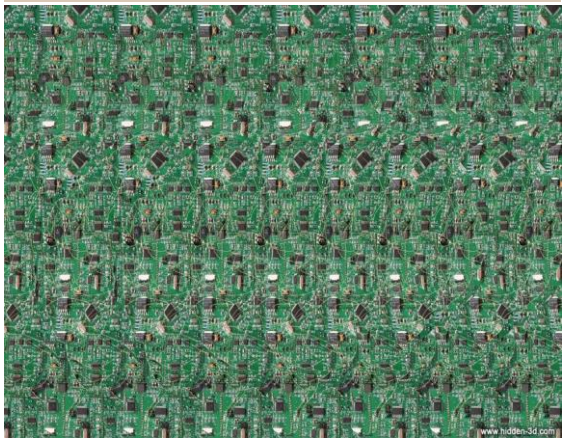
On average, the brain produces enough electricity to power a 25-watt lightbulb! Maybe we should have lightbulbs above our heads!
https://health.clevelandclinic.org/2014/04/brain-teasers-infographic/

Brain Challenge

Can you see the hidden 3D brain? The picture shown below is called an Autostereogram. Autostereograms test your brain and eyes' ability to move focus from the surface of an image to a point "behind" the image such that both eyes are almost parallel. They are usually horizontal repeating patterns, so by moving your eyes parallel you trick the brain into seeing matching images in both the left and right eye to render a 3D image. A helpful technique is to start with the picture close to your nose and slowly move the picture back keeping your eyes relaxed. Give it a try!
http://www.stereoscopy.com/library/wheatstone-paper1838.html

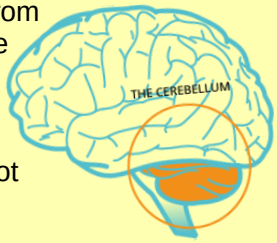
Did you know…?

The National Sleep Foundation recommends that teenagers (14-17 years old) get 8-10 hours sleep per night and that young adults (18-25 years) get 7-9 hours sleep per night. During these important developmental years and beyond, sleep is vital for health and wellbeing, and being ready for wake-time activities, including sports and school. For more information about sleep go to: https://sleepfoundation.org/



Why can't you tickle yourself?

As annoying as getting tickled can be, we can't actually tickle ourselves. This is due to our cerebellum, a part of the brain located at the base of the brain. The cerebellum regulates motor movements and can differentiate between expected sensations and unexpected sensations. Studies have shown that the cerebellum can predict sensations, but only when our own movements are the cause of these sensations. If you try to tickle yourself, the cerebellum predicts this sensation and prevents other areas of the brain, such as the somatosensory cortex and the anterior cingulate cortex, from responding to the tickling. But, if you really want to be able to tickle yourself, researchers found that we can trick our brains by using robots! Using a remote control, a person can activate a robot to tickle them after a short delay. The longer the delay between pressing the button and the robot tickling, the more ticklish the experience.
http://discovery.ucl.ac.uk/4735/



Reminder!

Please inform us if your phone number, email, or address change. Visit ncanda.org!

The human brain has 100 billion neurons, each neuron connected to 10 thousand other neurons. Sitting on your shoulders is the most complicated object in the known universe. -Michio Kaku

Cats vs. Dogs

Counting the number of neurons, a special nerve cell in the brain, is being used as a measure of intelligence in animals. The more neurons, the more cognitively capable the animal is, and, dogs have nearly double the amount of cats. Based on neuron counts, they speculated dogs have roughly the same intelligence as lions and raccoons, while domestic cats have comparable intelligence to bears. One of the most intelligent non-primate animals studied were elephants.
news.nationalgeographic.com/2017/11/dog-cat-brains-neurons-intelligence-study-spd/