

Welcome to the Neuroscience for Kids Newsletter.

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WHAT'S NEW AT NEUROSCIENCE FOR KIDS

Neuroscience for Kids had several new additions November including:

- A. November Neuroscience for Kids Newsletter was archived
<http://faculty.washington.edu/chudler/news1311.html>
- B. January 2010 Neurocalendar
<http://faculty.washington.edu/chudler/pdf/jan10.pdf>
- C. Brain Awareness Week Jigsaw Puzzles
<http://faculty.washington.edu/chudler/jigbaw.html>
<http://faculty.washington.edu/chudler/jigkey.html>

In November, 7 new figures were added and 38 pages were modified.

2. NEUROSCIENCE FOR KIDS "SITE OF THE MONTH"

The Neuroscience for Kids "Site of the Month" for December is "Edheads: Deep Brain Stimulation" at:

http://www.edheads.org/activities/brain_stimulation/index.htm

Edheads is an organization that creates interactive, educational Internet activities about science and engineering. They have teamed up with The Ohio State University Medical Center and Medtronic, Inc. to create a virtual deep brain stimulation where you become the neurosurgeon. That's right -- you do the surgery to help a patient with Parkinson's disease!

As a surgeon, you will have to place screws in the head of the patient and look at a brain image to plan the path for the electrodes. Don't forget to prepare the patient for surgery. Just listen to the directions and your patient should be fine. To identify the correct location for the electrodes, you must listen to the activity of neurons as you lower the recording probe into the brain. When you are in the correct location, remove the recording probe and replace it with a stimulating probe. Testing the patient's movement and sensation will ensure that the electrode is in the correct location. When batteries are put in place and connected to the stimulation probe, the level of stimulation can be set to control the patient's tremor (shaking). The entire surgical procedure takes 15-20 minutes.

In addition to the virtual surgery, the Web site has real photographs of the surgery and a video of a patient before and after the procedure. Some of the photographs are a bit graphic, so beware. Finally, a teacher's guide will help instructors guide students through the material.

3. 2010 UW BRAIN AWARENESS WEEK

Brain Awareness Week (BAW) will be here soon! The official week for BAW is March 15-21, 2010, but anytime is a great time to celebrate the brain. BAW was established in the 1990s by the Dana Alliance for Brain Initiatives and the Society for Neuroscience. BAW is now an international event with people all over the globe planning activities to spotlight the brain. For more information about BAW, please visit the Dana Alliance and Society for Neuroscience web sites at:

<http://www.dana.org/brainweek/>

and

<http://www.sfn.org/BAW/>

I strongly encourage you to participate in BAW. Your BAW activities do not have to be complicated. Perhaps a class can develop a "Brain Fair" for other students, parents and teachers. There may be neuroscientists who can visit your class with a presentation about the brain. BAW is a time when many neuroscientists are looking for classes to visit. The Society for Neuroscience maintains a list of neuroscientists interested in K-12 education outreach. Check this Web site to find a neuroscientist near you:

<http://www.sfn.org/index.cfm?pagename=neuroscientistTeacherPartners>

Special note to teachers in the SEATTLE AREA!

Do you want to attend the 2010 Brain Awareness Week Open House at the University of Washington in Seattle on Thursday, March 11, 2010? Applications are now being accepted. Please visit the UW Brain Awareness Week Web site for registration materials:

<http://faculty.washington.edu/chudler/baw.html>

4. NEUROSCIENCE FOR KIDS WRITING CONTEST - NOW OPEN

The 2010 INTERNATIONAL NEUROSCIENCE FOR KIDS POETRY WRITING CONTEST is now open to students in kindergarten through high school. Use your imagination to create a poem, limerick or haiku about the brain and you might win a prize. The complete set of rules and the official entry form for the contest are available at:

<http://faculty.washington.edu/chudler/contest10.html>

Here is a summary of the contest rules:

All poems, limericks and haiku must have at least THREE lines and CANNOT be longer than TEN lines. Material that is shorter than three lines or longer than ten lines will not be read. All material must have a neuroscience theme such as brain anatomy (a part of the brain), brain function (memory, language, emotions, movement, the senses, etc.), drug abuse or brain health (helmets, brain disorders, etc.). Be creative! Use your brain! Visit the Neuroscience for Kids pages for ideas and information!

If you are a student in kindergarten to Grade 2: write a poem in any style; it doesn't even have to rhyme.

If you are a student in Grade 3 to Grade 5: write a poem that rhymes. The rhymes can occur in any pattern. For example, lines one and two can rhyme, lines three and four can rhyme, and lines five and six can rhyme. Or use your imagination and create your own rhyming pattern.

If you are a student in Grade 6 to Grade 8: write a brainy haiku (3 lines only). A haiku MUST use the following pattern: 5 syllables in the first line; 7 syllables in the second line; 5 syllables in the third line. Here is an example:

Three pounds of jelly
wobbling around in my skull
and it can do math

If you are a student in Grade 9 to Grade 12: write a brainy limerick. A limerick has 5 lines: lines one, two and five rhyme with each other and have the same number of syllables; lines three and four rhyme with each other and have the same number of syllables. Here is an example of a limerick:

The brain is important, that's true,
For all things a person will do,
From reading to writing,
To skiing to biting,
It makes up the person who's you.

Books or other prizes will be awarded to multiple winners in each category.

Other rules:

A. You must use an entry form for your writing and send it in using "regular mail." Entries that are sent by e-mail will NOT be accepted. The entry deadline is February 1, 2010.

B. Only ONE entry per student. If you cannot download the entry form, let me know (e-mail: chudler@u.washington.edu) and I will send a form to you attached to an e-mail.

C. Students may enter by themselves or teachers may make copies of the entry form for their students and return completed entries in a single package. The contest is open to students in all countries.

5. UNIVERSITY OF PENNSYLVANIA NEUROSCIENCE BOOT CAMP

Why do only kids get to have fun at science camp? They don't! Now adults can have fun at camp too. The University of Pennsylvania is hosting a two-week (August 1-11, 2010) summer neuroscience camp for graduate and professional students, working professionals and college and university faculty. All you need is a basic knowledge of statistics and a little bit of high school biology and physics. According to the camp web site:

"Through a combination of lectures, break-out groups, panel discussions and laboratory visits, participants will gain an understanding of the methods of neuroscience and key findings on the cognitive and social-emotional functions of the brain, lifespan development and disorders of brain function."

The cost of the camp is a bit expensive (\$4,500), but scholarships are available. Applications are due on February 1, 2010. For more information about the camp, see:

<http://neuroethics.upenn.edu/index.php/events/neuroscience-bootcamp>

6. BRAINY GIFTS

Are you looking for a special gift to give to a friend, teacher, or relative? Can't decide what to get? Why not give something brainy? Brainy gifts are great to say "Happy Holidays," "Happy New Year" and "Congratulations!" Here are some suggestions:

A. Brainy T-shirts, mugs and other items from [NEURO4KIDS.COM](http://www.neuro4kids.com):

<http://www.neuro4kids.com>

B. Books about the brain: for suggestions, see the Neuroscience for Kids Book Review page at:

<http://faculty.washington.edu/chudler/bookreview.html>

C. Crafts: spend little or no money on a gift and create your own "brainy gift." The Neuroscience for Kids web site has many craft projects that you can turn into gifts. See:

<http://faculty.washington.edu/chudler/experi.html>

7. RESEARCH SUBJECTS (ADULTS) WANTED

The Management of Myelomeningocele Study (MOMS) is looking for approximately 30 more participants to compare the safety and efficacy of prenatal and postnatal closure of myelomeningocele. Women who are carrying a fetus with spina bifida may be eligible for the study and can begin the evaluation process as soon as the diagnosis is made. Selected participants will be randomly assigned to either prenatal or postnatal surgery for repair of the myelomeningocele lesion. Follow-up visits are performed when the child is 12 and 30 months of age. All travel, food and lodging costs are covered by the research study. "MOMS" is a Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) funded program. For more information about this study, contact the Study Coordinator at: 1-866-ASK MOMS (1-866-275-6667); e-mail: MOMS@biostat.bsc.gwu.edu; online: <http://www.spinabifidamoms.com>

8. MEDIA ALERT

A. "Ignoring the Evidence. Why Do Psychologists Reject Science" by Sharon Begley (Newsweek magazine, October 12, 2009).

B. "The Brain" by Carl Zimmer (Discover magazine, December, 2009) discusses the speed of thought. This issue also has an interview with Henry Markham (by David Kushner) about a project to build a simulated brain.

C. "Conditional Consciousness: Predicting Recovery from the Vegetative State" by Katherine Harmon (Scientific American, December, 2009).

D. "What are Dreams" is a TV show that premiered on PBS in November; for more information about the program, see:

<http://www.pbs.org/wgbh/nova/dreams/>

E. The Amgen Award for Science Teaching Excellence (AASTE) will recognize K-12 science teachers in California, Colorado, Kentucky, Massachusetts, Puerto Rico, Rhode Island, Washington and Canada (Alberta, British Columbia, Ontario and Quebec) who have raised the level of science literacy in their classrooms and improved the motivation of their students. Award winners will receive \$5,000; a winning teacher's school will also receive \$5,000. The application deadline is early February 2010. For more details about the award and an application, see:

<http://www.amgen.com/citizenship/aaste.html>

and

http://www.amgen.com/citizenship/aaste_aaste_faq.html

9. THE TREASURE TROVE OF BRAIN TRIVIA

A. The brain of the tropical paper wasp (*Polybia aequatorialis*) is about the size of two grains of sand.

(Source: http://www.eurekalert.org/pub_releases/2009-10/uow-tba101409.php)

B. Tarantula spider toxin (GsMTx4) may someday be turned into a drug to relieve pain. (Source: Park S.P. et al., A tarantula spider toxin, GsMTx4, reduces mechanical and neuropathic pain, *Pain*, 137:208-217, 2008.)

C. Cerberus, the three-headed dog in Greek Mythology, supposedly spit out the neurotoxin aconite (aconitine).

D. The heat intensity of peppers is measured with the Scoville Rating Scale. The Scoville Scale is calculated by the ratio of water to pepper extract needed to eliminate the hot flavor. A bell pepper has a rating of 0; the hottest pepper is the Bhut Jolokia with a Scoville rating of 1,001,304. The active ingredient that gives peppers their hot taste is called capsaicin. (Source: New Mexico State University Press Release, http://www.nmsu.edu/~ucomm/Releases/2007/february/hottest_chile.htm)

E. The larvae of the sunburst diving beetle (*Thermonectus marmoratus*) have 12 eyes and 28 retinas (some of the eyes have multiple retinas). (Reference: Mandapaka, K., Morgan, R.C. and Buschbeck, E.K., Twenty-eight retinas but only twelve eyes: an anatomical analysis of the larval visual system of the diving beetle *Thermonectus marmoratus* (Coleoptera: Dytiscidae), *J. Comp. Neurol.* 497:166-181, 2006.)

10. SUPPORT NEUROSCIENCE FOR KIDS

To ensure that Neuroscience for Kids stays available, we need your help. All contributions to Neuroscience for Kids are tax deductible (subject to IRS regulations). If you would like to donate to Neuroscience for Kids, please visit:

<http://faculty.washington.edu/chudler/help.html>

11. HOW TO STOP RECEIVING THIS NEWSLETTER

To remove yourself from this mailing list and stop your subscription to the Neuroscience for Kids Newsletter, send e-mail to Dr. Eric H. Chudler at: chudler@u.washington.edu

Your comments and suggestions about this newsletter and the "Neuroscience for Kids" web site are always welcome. If there are any special topics that you would like to see on the web site, just let me know.

Eric

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