

Brainwaves - Ideas and Resources for Teachers

"What makes my Thinker think is that he thinks not only with the brain, with his knitted brow, his distended nostrils, and compressed lips, but with every muscle of his arms, back, and legs, with his clenched fist and gripping toes." – Rodin

Endless possibilities emerge when one connects arts ideas with the workings of the brain. Imagining that this single organ governs everything we think, say or do, your discussions in Science, Health, Social Studies, and English classes will ignite loads of art projects. Following are some ideas for use in lesson development or in considering the "matter" in your classroom. Hopefully, these resources will inspire some fascinating creations.

3-D sculptures – Following a study of each of the brain's regions and functions, provide various materials for students to represent the workings of the cerebrum, cerebellum, brain stem, pituitary gland, and hypothalamus. They might use clay, fabric, beads, recyclables, or wire, for example. A site with unique textile brain art that will inspire this activity can be found at <http://harbaugh.uoregon.edu/Brain/> Another amazing site for kids involving art and neuroscience can be found at <http://faculty.washington.edu/chudler/chmodel.html> with, for example, great examples of plasticine and bead neurons, and "thinking caps",

Floor mapping – Set aside a large space to have students represent the brain regions and responsibilities through drama activities. Once they have an idea of each area and function, they can create a large map outlining those areas and actually stand on the area, using, for example, mime, movement, music or speech to describe their brain space.

Art using common brain idioms – Imagine the hilarious results when students are invited to create cartoon drawings or paintings based on various brain idioms – discuss idioms and the often strange way in which we use language e.g., "to rack one's brain, brain teaser, bird brain, pick your brain, brain food, brain drain, brainstorm, brain trust, mind over matter, a bear of little brain, brain vs. brawn, an idle brain is the devil's workshop, get your brain in gear, the brains behind, etc....." And allow them to choose one phrase and create small or large drawings or a whole mural showing interlocking humorous depictions.

Fun with Rorschach Symmetry - The Rorschach test is a tool developed by a Swiss psychologist, and consists of a series of inkblot images used to learn about peoples' personalities. Psychologists present the images to people who then describe what they see. Different people see different things. It has become quite a controversial assessment tool. However, students love the idea of guessing what blobs look like and will enjoy experiments with dripping paint or ink blobs on paper, then folding it in half, pressing the entire surface, then re-opening to see results that often precipitate interesting conversations. The images can lead to the development of stories, poetry and drama activities.

Art techniques illustrating BIG thoughts! – Even very young children like to consider words and phrases that most adults feel requires a lifetime of experience and education. Ask a five year old about “truth”, “peace”, “equality” and BIG thoughts and ideas will emerge from innocence. Use these discussions to encourage students to experiment with bold colours – using pastels, coloured pencils and, paint, meanwhile showing them examples of some colourful but abstract art works.

Surrealist artists – For middle through high school, an exploration of the art of Dali and Magritte, for example, encourages students to consider art and the world through very unique images. An interesting discussion article at - <http://www.wetcanvas.com/Articles2/118095/834/> looks at the approach of the surrealists to life and art and the ways in which they think about the world.

Art and Dreams - Dreams are described as successions of images, ideas and emotions that transpire in our minds when we are asleep. Though we do not truly understand them, they can be magical, happy, bizarre or frightening and stem from the subconscious over which we have no control. Young children love to talk about their dreams, or what they remember from them. Children can also create various dream scenes on the bottom of large sheets of paper, inserting themselves flying above.

The Brain, Movement, and Dance – All movement is controlled by our brains and is vital to our life learning. There is a rich array of activities that will entice students to depict movement/dance through art. For elementary students, try the action figures lessons (using plasticine over wire or, in the style of Giacommetti, tinfoil over wire...see attached. <http://thevirtualinstructor.com/composition2.html> presents virtual lessons on, for example, eye movement, as the eye operates while looking at art.

Illusions and Escher – In his later work, MC Escher moved from “tangible reality” to “wildly indigenous new designs through strangely logical manipulations of space, dimension, and perspective, binding the surreal to the scientific” - *The MC Escher Company*. Also, the lessons link on the National Gallery of Canada site offers great ideas for students in Grades primary to twelve.

Cartoon quotes for “the thinker” – Comical results abound when students of all ages are invited to provide cartoon bubbles for Rodin’s *The Thinker*. They might also be invited to create poetry or stories with the Thinker as their primary character.

Some useful and inspiring links:

“Mindmine” is a fascinating cross-disciplinary art project involving one hundred school children in London in 2006 that explored the science of neurological conditioning and brain process. A must see! <http://www.mindmine.net/home.php>

More art games to improve brain capacity <http://www.getty.edu/gettygames/>
<http://www.cosmeo.com/bysubject.cfm?art>

Using the brain to solve art mysteries <http://kids.tate.org.uk/games/art-detective/>

Anatomically correct brain art! Amazing! <http://harbaugh.uoregon.edu/Brain/>

A magazine featuring brain issues <http://thebeautifulbrain.com/>

Art ideas on the subject of dreams and surrealism <http://childrens-art.blogspot.com/2008/03/salvador-dali-and-dreams.html>

Connecting brain/movement/art http://www.haringkids.com/lesson_plans/learn/jumping-kids-art

Brainy Kids site – games, lab experiments and lessons
<http://www.dana.org/resources/brainykids/default.aspx>

Fascinating site on all aspects of the workings of the brain (middle/high school)
http://thebrain.mcgill.ca/flash/index_d.html

Mind games performance...remarkable!
http://www.ted.com/talks/keith_barry_does_brain_magic.html

[Neuroscience for Kids](#)

This home page has been created for all students and teachers who would like to learn more about the nervous system. Enjoy the activities and experiments on your way to learning more about the brain and spinal cord.

[The Whole Brain Atlas](#)

Designed as a learning tool for medical school students, this fascinating atlas offers images of healthy and diseased human brains.

[Serendip: Brain and Behavior](#)

Serendip examines some of the latest research related to Brain and Behavior. This site contains interactive exhibits, articles, and links to other resources.

[The Joy of Visual Perception: A Web Book](#)

This web book uses graphics supplemented with text to stimulate interest in the sense of vision.

[About Brain Injury: A Guide to Brain Anatomy](#)

Offers a map of the brain with descriptions of functions and results of injury. Part of a site all about dealing with brain injury.

[Exploratorium: The Memory Exhibition](#)

This site has information and fun online experiments to test and improve your memory.

More Brain Links on the Web:

Classroom activities about the [five senses](#)

[Basic Neural Processes](#) tutorials on basic neural functions