

Workshops for Students:

It has always been important that children learn about their brains and understand *how* they learn. Workshops are always cross-curricular and include assignments for various subject areas. These assignments reinforce what the children have learned and make the material applicable to their every-day experiences.



Neuroscience in the Classroom: “If I only had a Brain, Part I” (This class is designed for Three Year Olds through Kindergarten. This workshop may be adjusted to fit the following formats: 30 Minutes, **1 Hour**): Children are introduced to the basic functions of the brain and how it works. Time is spent discussing the importance of protecting the brain from injury and keeping it healthy.

Essential Questions:

- *“How does information get into our heads?”*
- *“How do we learn?”*
- *“What is memory?”*
- *“Is it important to protect your brain? Why? How do we do that?”*



Neuroscience in the Classroom: “If I only had a Brain, Part II” (This class is designed for 1st, 2nd and 3rd graders. This workshop may be adjusted to fit the following formats: 1 Hour or **90 Minutes**): Students continue their study of how their brain learns best. Understanding the different regions of the brain, students comprehend that reciprocal teaching is one of the best strategies to use when learning new material. Students learn what memory is and where it is stored. They understand how neurons communicate with one another and the importance of a strong myelin sheath. “Neurons that fire together, wire together.”

Essential Questions:

- *“Is it important to learn how the brain learns best? Why?”*
- *“What is Memory? Where is it stored?”*
- *“How do neurons ‘talk’ to one another? What are they doing?”*
- *“How do you keep your brain healthy and safe?”*
- *“What is the best way to study or learn something new?”*



Neuroscience in the Classroom: “Got Brains?” (This class is designed for 4th and 5th graders. This workshop may be adjusted to fit the following formats: 1, 2 or 3 **Hours**): Students spend time studying the different lobes of the brain and their functions. It’s also important for students to understand the structure of the neuron and how information is transmitted from one neuron to another. Students learn how a neuro-pathway is developed and strengthened. Students explore techniques of how to study and improve their learning. Students understand that because of neuroplasticity, the brain is constantly changing. Therefore, the brain becomes what it is exposed to. The students begin to realize that they have much more control over how their brain develops.

Essential Questions:

- *“Why is it important to develop brain healthy habits at an early age?”*
- *“How are neuro-pathways formed? How can they be strengthened?”*
- *“What is the difference between learning and memory?”*
- *“Explain ‘Neurons that Fire Together, Wire together’.”*
- *“You can’t change the color of your eyes. You can’t change how tall you’re going to be. Can you change your brain? If you could, how would you actually do that?”*



Neuroscience in the Classroom: “What are the Effects of Technology on the Brain?” (This class is designed for students in grades 4th to 8th. This workshop may be adjusted to fit the following formats: 1 Hour, 2 Hours, **Half Day**, or Full Day.) This workshop is designed to explain to the students how media and technology are affecting the brain. Based on the latest neurological research, students will be actively engaged in learning how the media and technology may be affecting their brain...good or bad...it’s happening. “The brain becomes what the brain does.” Students complete-a survey and compare their answers to the national average. Students are given follow-up assignments in the following subject areas: Math, Language Arts, Science, Social Studies, Physical Education, Technology, Art, Music, Library Science (Media), and Ethics (Religion).

Essential Questions:

- *“Does the media influence how we think?” (TV, Movies, Commercials, Music, Video Games, etc.)*
- *“Can the use of technology have an effect on your brain? Is it good or bad?” (Computers, Video Games, Internet, Cell Phones, Email, etc.)*
- *“Can what you read on Facebook or read in an email you received change how you think or feel about someone?”*

- *“What are the psychological effects, as well as the state and national laws, pertaining to cyber bullying?”*
- *“Can what you put on your Facebook page today have any effect on your future career? If so, what can you do to use this to your advantage?”*



Neuroscience in the Classroom: “The Adolescent Brain.” (This class is designed for Middle School aged students. This workshop may be adjusted to fit the following formats: 1 Hour, 2 hour, Half Day, or **Full Day**.) The body is rapidly changing as students enter their adolescent years. This workshop explains why teenagers behave the way they do. Students learn about the different lobes of the brain and their functions. Since the Frontal Lobes are not fully developed, students need to understand the importance of a developing a healthy amygdala. Emotion plays a critical role in learning. Students will have a better understanding also of their changing relationship with the opposite sex and why they feel the way they do about themselves and those around them

Essential Questions:

- *“What are the five domains of Emotional Intelligence? Why is it important to understand each of these and how they relate to emotional maturity?”*
- *“When a concept and an emotion struggle, emotion will always win. Explain an experience you have had where this is proven to be true.”*
- *“Since the frontal lobes do not develop until the early 20s, teenagers activate their amygdala in emergency situations. What role does this play in the life of a 16 year old driver?”*
- *“Adolescents are more concerned about how they look and dress than young children or even adults. What is happening to your brain at this age to cause this type of behavior? How will knowing this help you cope better with your personal relationships?”*



Neuroscience in the Classroom “Learning Styles for Kids” (This class is designed for students in grades 3rd to 8th grades. This workshop may be adjusted to fit the following formats: 2 Hours, **Half Day**, or Full Day) Students need to understand the various learning styles and which is their dominant style. They also review the fact that the best teaching style is Reciprocal Teaching. Students practice reciprocal teaching at all grade levels. Study tips will be provided for all types of learning styles.

Essential Questions:

- “*Why is it important for you to understand what kind of learner you are?*”
- “*How is your learning style different from others in the class? How is it similar?*”
- “*Once you figure out your learning style, what are some study tips you can use to improve your learning?*”



Neuroscience in the Classroom “Teaching Styles” (This class is designed for 3rd to 8th graders. This workshop may be adjusted to fit the following formats: **Half Day**, or **Full Day**) Based on the latest neurological research and best practices, students learn Whitaker’s *Starfish Strategies*. After reviewing the 27 strategies, students will be asked to pick their favorite lessons from the week and explain which teaching styles were used by their instructors. Students will be asked to rank their favorite lessons on a weekly basis for nine weeks so they will clearly be able to recognize their favorite learning style. The data will also be collected to help the staff to evaluate their usage of the various teaching strategies and adjust their teaching styles to meet the needs of their students.

Essential Questions:

- “*What is your favorite learning style?*”
- “*Why is it important to study how we learn?*”
- “*Can you list three teaching methods that are the most effective and three that are least effective for your personal learning style?*”
- “*Compare and Contrast the following two 5th grade teachers: They both went to the same university and have the same degree. They both have been teaching for five years. Ms. Jones knows the learning style of each student in her class. Ms. Smith never tested or asked her students what learning style they preferred. Both teachers are loved by their students. Both classrooms took the same science test. Did one class do better than the other or did they score approximately the same? List all the variables that could affect the outcome on the test and be able to defend your final answer.*”
(Teacher’s note: It’s nice that Ms. Jones knows everyone’s learning style, but if she doesn’t adjust her teaching style to fit her students, there isn’t any likelihood her students did better than the other class.)



Neuroscience in the Classroom “r u ok?” (This class is designed for the high school aged students. This workshop may be adjusted to fit the following formats: **2 Hour**, **Half Day**, **Full Day**) Students in their high school years need to understand their own personal brain and how to use it for optimal performance. As they prepare for advanced

study in college or begin their careers at an early age, it's important for them to clearly understand *how the brain learns best*. Not only are these students changing physically at a very rapid rate, they are also changing mentally. This workshop deals with what is most important to these learners...the use of technology, getting the greatest reward with the least amount of energy, and the incredible impact of social networking to help them with their studies and career. Taught in a mode that is suitable for the adult learner, this workshop keeps the students engaged and focused on what research and experience has taught us.

Essential Questions:

- *“How will understanding how the brain learns best, help you in your future career?”*
- *“Why does a 16 year old driver have more accidents than a 35 year old?”*
- *“Efficient use of technology is critical in a global society. What skills are essential for you to compete in college and/or your career?”*
- *“What are the Pros and Cons of being a Video Gamer?”*
- *“Name five easy-to-use techniques that will enhance your memory and learning? How will you use these? Explain a practical use of each techniques.”*

