



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
2009 Volume IV: How We Learn about the Brain

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## **Brain Buzz: Effects of Caffeine, Nicotine, Alcohol and Drugs on Learning**

Guide for Curriculum Unit 09.04.05  
by Larissa Giordano

This unit will give students the ability to take responsibility for their own learning and well being at a critical time in their lives. It will teach students why they should "Just Say No!" when faced with peer pressure. Students will understand why their parents tell them to stay away from stimulants like caffeine, drugs, alcohol and nicotine. Understanding the "why" often is what will sway students to make positive choices. Students will understand the why based on what they learn about the brain and how these substances affect brain function. Students will therefore formulate a better understanding of how the brain works as well as what stimulants may affect their learning negatively. Students will also learn about addiction and how it attacks a brain like a disease. Students will get to know the functions of the brain and how they can take responsibility for keeping it healthy in order to be better learners, promote healthy lifestyles and make informed decisions. Students will conduct a series of activities including mapping the geography of the brain and taking an inside peek at the inner workings of the human brain. Students will keep a daily log of their activities from which they will then have to find out what part of their brain controls those actions. This unit will allow students a better understanding of the chronic effects of stimulant use on learning and memory. The students will watch an animation of neurotransmission. The students will study the effects of stimulants on the brain and how they disrupt natural brain chemistry.

Students will focus on keeping the brain healthy through a balanced diet, exercise, maintaining a positive attitude and getting adequate sleep. They will plan "brain healthy" menus based on what is learned about a balanced diet complete with fruits, vegetables, antioxidants, vitamins and minerals. As a result, students will make smarter decisions because they learned that the brain is the control center of their body, directly affected by their actions.

(Recommended for Science and Health, grade 3)

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