

Subject: Science

Grade Level: Fifth Grade

Topic of the Lesson: Visual Results in the brain of Drug Abuse, Smoking, Alcoholism, Alzheimer's Disease; importance of modern technology

Objectives: to teach students the dangers of drug abuse and smoking with visual evidence; to increase student interest in the fields of science and technology; to help students understand the great strides that have been made in science and medicine

Materials needed: "old-time" x-rays and modern x-rays; photos of early and late x-ray equipment as well as modern technology and medical equipment; photos of slides showing dendrites in the brain

Prior to this lesson, students will have learned the importance of the brain with regard to all body systems and will have discussed at length the dangers of drug abuse, smoking and unhealthy lifestyles.

Procedures:

1. Students will be asked how today's physicians diagnose illness and injuries
2. Using a document camera, students will view photos of the first x-ray equipment as well as first x-rays and modern x-rays
3. Using a graphic organizer, students will discuss various needs for x-rays.
4. Students will discuss other modern technological and medical equipment used for diagnosing illness and other medical problems.
5. Students will review discussions of dangers of drug abuse, alcoholism and smoking
6. Using a document camera, students will view photos of modern medical equipment.
7. Using a document camera, students will view photos of slides showing sections of human and animal brain tissue.
8. Slides showing dendrites in the brain will be shown and students will observe the differences between normal dendrites and the dendrites in the brains of animals injected with illegal drugs, as well as the dendrites in the brains of alcoholics and Alzheimer's Disease subjects.

Wrap-up:

Students will discuss the visual evidence in the brain of drug abuse, alcoholism, smoking and Alzheimer's Disease. They will also discuss the great strides that have occurred in medicine and technology.

Note: This lesson plan is multi-faceted. As a fifth grade teacher, I have found that some fifth graders are not motivated by discussion. By showing them photos of actual slides, I hope to impress on them the need to avoid drug abuse and smoking as well as the need to care for their own bodies. My mother had Alzheimer's disease and several of my students' grandparents suffer from it as well. The photos of the brain will come from a lab in Tennessee where my daughter is working on her Ph.D. She received her Master's Degree in Neuroscience. I am also hoping to increase my students' interest in the fields of science and technology.

Submitted by Paula Perna

