

NIH Office of Science Education



The Science of Mental Illness

An NIH Curriculum Supplement for Grades 6-8

Developed by BSCS and the National Institutes of Health



National Institutes of Health



A federal agency uncovering new knowledge that will lead to better health for everyone



NIH Office of Science Education



<http://science.education.nih.gov>



NIH Curriculum Supplements



Bringing NIH research to science classrooms across the nation...



Lesson 1. The Brain: Control Center



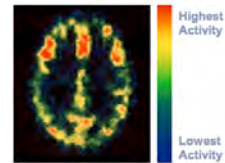
A **mental illness** is a health condition that changes a person's **thinking, feelings, or behavior** (or all three) and that causes the person distress and difficulty in functioning.



Lesson 1. The Brain: Control Center



What are your observations of this PET image?



Lesson 1. The Brain: Control Center



What differences do you notice between Image 1 and Image 2?

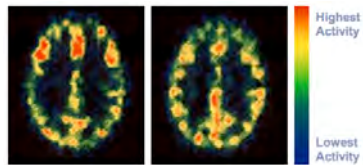


Image 1

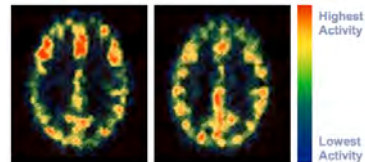
Image 2



Lesson 1. The Brain: Control Center



Can you determine what is happening in Image 2?



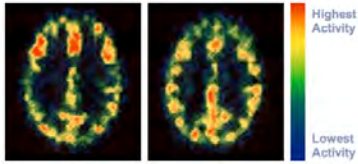
Is this person experiencing a short- or long-term change in brain function?



Lesson 1. The Brain: Control Center



The image on the right is from a person with schizophrenia.



Healthy Brain at rest

Schizophrenia, a mental illness



Lesson 2. What's Wrong?



Groups analyze and compare case studies

Cold vs. *Strep* Throat

Bronchitis vs. Asthma

Sadness vs. Depression



Lesson 2. What's Wrong?



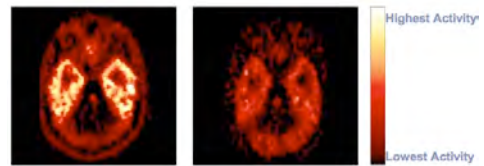
An **illness** is a problem in which some part(s) of the body do not function normally in a way that interferes with a person's life.



Lesson 2. What's Wrong?



Observing the depressed brain



Without Depression

With Depression

PET images of serotonin receptor activity



Lesson 3. Mental Illness...



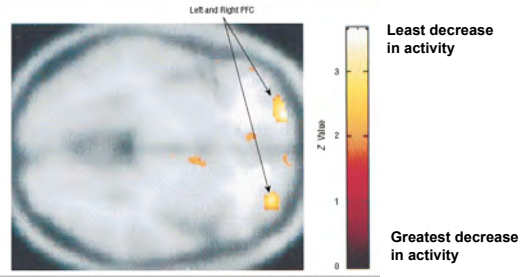
Could It Happen to Me?



Lesson 4. Treatment Works



The brain's response to treatment



Lesson 5. In Their Own Words



Like Any Other Kid



- Part 1—About My Problems
- Part 2—Some Understand, Others Just Don't Get It
- Part 3—What It Means To Be Supportive



Stigma research conducted during field test



Time-limited educational programs such as *The Science of Mental Illness* can be effective for improving knowledge, attitudes, and willingness to seek treatment.

Watson, A.C., et al. 2004. *Schizophrenia Bulletin* 30:563



What are the NIH Curriculum Supplements?



- 1-2 weeks of lessons for K-12 science classrooms
- Developed by NIH scientists, BSCS educators and teachers
- Field tested nationwide
- Designed with 5-E instructional model and *National Science Education Standards*
- Aligned to **Virginia Standards of Learning** for Science, Mathematics, English, and Health.



NIH Curriculum Supplements



- 6 modules for high school
- 9 modules for middle school
- 1 awesome module for grades 1 - 2



Why Curriculum Supplements?



- Up-to-date science
- Inquiry-based instruction teaches higher order thinking
- Health and medical examples engage students in science concepts
- To improve science performance of all students



Skills needed today



- Read at 9th grade level
- Do math at 9th grade level (algebra & geometry)
- Solve semi-structured problems using hypothesis
- Work in teams
- Communicate well
- Basic computer skills

Murnane, RJ & Levy, F. 1996. [Teaching the New Basic Skills](#)



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Review and request **FREE**
NIH educational resources at
<http://science.education.nih.gov>

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