



SAMPLE LESSON PLANS

Grade 8 – Body Systems

SOLs:

- Identify and describe the major structures and functions of the brain and nervous system.
- Identify pathogenic, genetic, age, cultural, environmental, and behavioral factors that influence the degree of risk of diabetes, heart disease, and stroke.
- Describe the relationship between healthy behaviors and cognitive performance
- Identify brain and nervous system disorders.
- Describe ways to maintain brain and nervous system health.
- Design strategies to protect and promote brain and nervous system health.

Title: The Brain and Central Nervous System

Lesson Plans and Instructional Resources

Interactive Websites

- *BBC Science: Human Body & Mind* includes the *Nervous System Game* that has students wire up the nervous system and senses. This challenge requires Flash 5 and takes 5-10 minutes. http://www.bbc.co.uk/science/humanbody/body/index_interactivebody.shtml
- Interactive Body Activities: <http://interactivesites.weebly.com/body-systems.html>
- KidsHealth.org *How the Body Works*: <http://kidshealth.org/en/kids/center/htbw-main-page.html> provides quizzes, articles, movies, activities, word finds on the different body parts.
- *Nervous System for Kids* – Science Games and Videos <http://www.neok12.com/Nervous-System.htm>
- *The Brain*-Videos & Lessons <http://study.com/academy/topic/the-brain.html>

Resource Websites

- AAAS Alcohol and Your Brain <http://sciencenetlinks.com/student-teacher-sheets/alcohol-and-your-brain/>
- National Institute on Drug Abuse <https://www.drugabuse.gov>
- Science Kids/Human Body Facts: Brain Facts for Kids: <http://www.sciencekids.co.nz/sciencefacts/humanbody/brain.html>

- Science Kids/Biology Lesson Plans: Brain and Senses (<http://www.sciencekids.co.nz/lessonplans/biology/brain.html>) provides sight, taste, memory, and touch activities including the following:

Taste Activity:

- Show the students a colored jellybean, red for example. They have to guess what flavour it might be. After they have guessed, give them all one of these jellybeans and see if they were right. Talk to them about how our brain sometimes makes assumptions about certain things that we have a memory of.

Memory Activity:

- Test the short term memory of the students. Show them a number of different objects and tell them to remember as many as possible. They have only one minute to look at them. Hide the objects after one minute has passed. Let the kids write down as many things as they can remember on a sheet of paper. Can they remember all of the items? Are there any that were forgotten by everyone? What could they do to improve their memory?

Touch Activity:

What areas of our bodies are most sensitive to touch? Our Hands? Feet? Fingers?

- Bend a paper clip into the shape of a U with the tips about 2 cm apart. Make sure the tips of the U are evenly aligned with each other.
- Lightly touch the two ends of the paper clip on the back of your partners hand. Your partner should not be looking as you do this. Do not press too hard!
- Try and make sure that both tips touch the skin at the same time. Ask your partner if they felt one or two pressure points.
- If your partner felt one point, spread the tips of the clip a bit further apart, then touch the back of your partners hand again. If your partner felt two points, push the tips a bit closer together and test again.
- Measure the distance at which your partner can feel two points.
- Now try the same thing on different parts of the body and record the distances.

What's happening?

The receptors in our skin are not distributed in a uniform way around our body. Some places, such as our finger and lips, have more touch receptors than other parts of our body, such as our backs. That is one reason why we are more sensitive to touch on our fingers and face than on our backs.

- Teacher Vision- students learn about stroke signs <https://www.teachervision.com/stroke/printable/64689.html>
- Education.com- Brain anatomy worksheets:
 - <http://www.education.com/worksheet/article/brain-anatomy/>
 - <http://www.education.com/worksheet/article/brain-anatomy/>
 - <http://www.education.com/worksheet/article/inside-out-anatomy-brain/>
 - <http://www.education.com/worksheet/article/parts-of-the-brain/>

Lesson Plans

- AAAS Science NetLinks *Alcohol and Its Impact on the Brain* - <http://sciencenetlinks.com/lessons/alcohol-and-its-impact-on-the-brain/> – a lesson to help students understand how alcohol affects different parts of the brain, which in turn affects behavior
- American Heart Association Middle School Lessons http://www.heart.org/HEARTORG/Educator/FortheClassroom/MiddleSchoolLessonPlans/Middle-School-Lesson-Plans_UCM_304280_Article.jsp#
- Discovery School *The Ultimate Guide: Human Body* <http://www.discoveryeducation.com/teachers/free-lesson-plans/the-ultimate-guide-human-body.cfm>

- My Body the Inside Story: Unit Content and Tasks
<http://www.henry.k12.ga.us/cur/mybody/content.htm#nervous>
- KidsHealth.org Nervous System lesson plan
https://classroom.kidshealth.org/classroom/6to8/body/systems/nervous_system.pdf
- Scholastic- Study Jams_ Science- The Nervous System:
<http://studyjams.scholastic.com/studyjams/jams/science/human-body/nervous-system.htm>
- *Neuro Concepts Lesson and Activities/* Brain U- Regents of University of Minnesota
<http://brainu.org/neuroscience-concepts-activities-grade-level-middle-school-grades-7-8>
- Neuroscience for Kids – *Brain Awareness Week Lessons*
<https://faculty.washington.edu/chudler/baw1.html>
- NIH- *How Your Brain Understands What Your Ears Hear*
<https://science.education.nih.gov/customers/MSHearing.html>
- NIH -*The Brain: Our Sense of Self:* <https://science.education.nih.gov/customers/MSSelf.html>
- *The Central Nervous System* – Health Physical Education Lesson Plan
<http://lessonplanspage.com/pecentralnervoussystemand5senses5-htm/>

Videos

- KidsHealth.org How the Brain and Nervous System Works
<http://kidshealth.org/en/kids/nsmovie.html>
- The Human Brain
<https://www.youtube.com/watch?v=0-8PvNOdByc>