Lesson #6 Understanding Traumatic Brain

(Project Neuron of University of Illinois 3 day Curriculum)

Subject area / course / grade level: **Science Grade 7-10**

Summary: **Students will learn how to conduct research effectively and how to apply their research to visual aids such as graphs. Student research will be focused on Traumatic Brain Injury. Students will be using curriculum created by Project Neuron. The curriculum supports PBL, Inquiry, and student led strategies of pedagogy. The cross curricular design of the 3 day unit supports NGSS and CCSS.**

Time Needed: **1 Period**

Materials:

- Teachers need to register with *Project Neuron* to use the *Golden Hour Curriculum (There are two curriculums. One extensive & one 3 day).* http://neuron.illinois.edu/games/golden-hour/curriculum
  *We recommend incorporating the 3 day curriculum to maintain the energy and momentum of the unit.
- Prepare all copies supplied by *Project Neuron*
- Follow explicit directions provided by *Project Neuron.*

WASS: (Middle School):
6-8 LS1-C Multicellular organisms have specialized cells that perform different functions. These cells join together to form tissues that give organs their structure and enable organs to perform specialized functions within organ systems.
6-8 SYSA Any system may be thought of as containing subsystems and as being a subsystem of a larger system.
WASS: (High School):
9-12 INQA Scientists generate and evaluate questions to investigate the natural world.
9-12 SYSB Systems thinking can be especially useful in analyzing complex situations. To be useful, a system needs to be specified as clearly as possible.
NGSS(Middle School):
MS-LS1-d Design and conduct an investigation to gather evidence to support explanations that the body is a system of interacting subsystems composed of groups of cells working to form tissues and organs specialized for particular body functions, and that scientific advances in understanding of those systems have led to improvements in nutrition, health, and medicine.
NGSS (High School):
HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.
CCSS:
WHSt.9-12.9 Draw evidence from informational texts to support analysis, reflection and research.

What? Learning how to conduct research on the internet for Traumatic brain Injury
How? With our lab team
Why? To prepare for our own group investigations.

Differentiation:

- Various levels of reading are available for the project.
- Worksheets and guided notes are given to all students.
- Online simulations and activities support students who need visual aids and opportunities to practice.

ENGAGEMENT/ EXPLORATION/ EXPLANATION (3 Days) Project NEURON

- Follow the teacher's guide from *Project Neuron*.
- During each day's lesson, summative activities are completed to allow for teacher support and further explanation.

ELABORATION (5 min)

- Time permitting, conduct a wrap-up conversation to discuss what student's learned.

EVALUATION (Ongoing)

- Teachers should use the worksheets provided for assessment.