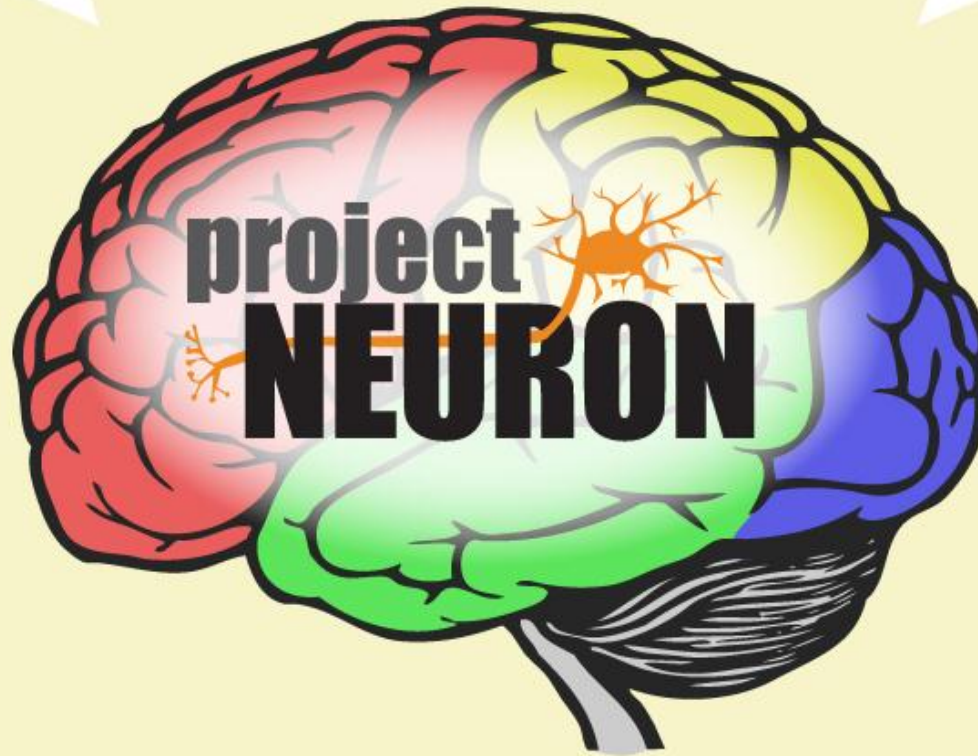


Brainy Games



*Hillary Lauren, Chandana Jasti,
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University of Illinois*



What is Project NEURON?

- A curriculum development group at the University of Illinois Urbana-Champaign
- A professional development group that invites teachers to our Summer Teacher Institutes
- Comprised of science educators, research scientists, neuroscience graduate students, education graduate students, and undergraduates



- Dedicated to bringing engaging inquiry-based units to high school science classrooms, using neuroscience research as a context



Project NEURON Curriculum Units

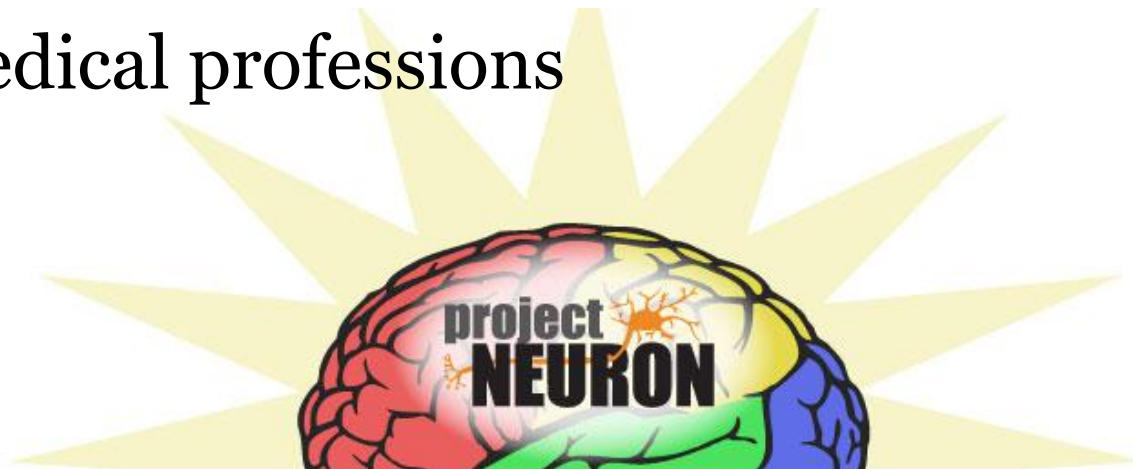
All available at <http://neuron.illinois.edu>

- Do you see what I see?
 - *Light, sight, and natural selection*
- What can I learn from worms?
 - *Regeneration, stem cells, and models*
- What makes me tick...tock?
 - *Circadian rhythms, genetics, and health*
- Why dread a bump on the head?
 - *The neuroscience of traumatic brain injury (TBI)*
- What changes our minds?
 - Toxicants, exposure, and the environment
 - Foods, drugs, and the brain



What is the “Golden Hour”?

- Medical term
- Educational computer game
 - Brain anatomy and function
 - Types and treatments of TBI
 - CT scan analysis
 - Surgical procedure
 - Medical professions



Goals in creating the game

- Engaging and fun
- Use in or out of classroom
- Link to new Framework for K-12 Science Education
 - Scientific practices
 - Scientific explanations
 - Disciplinary core ideas



What happens?

- “Super” medical student
- Mountain biking accident
- Medical team mentors
- Motivations
 - Treating patient
 - Acceptance onto team
- 3 scenes



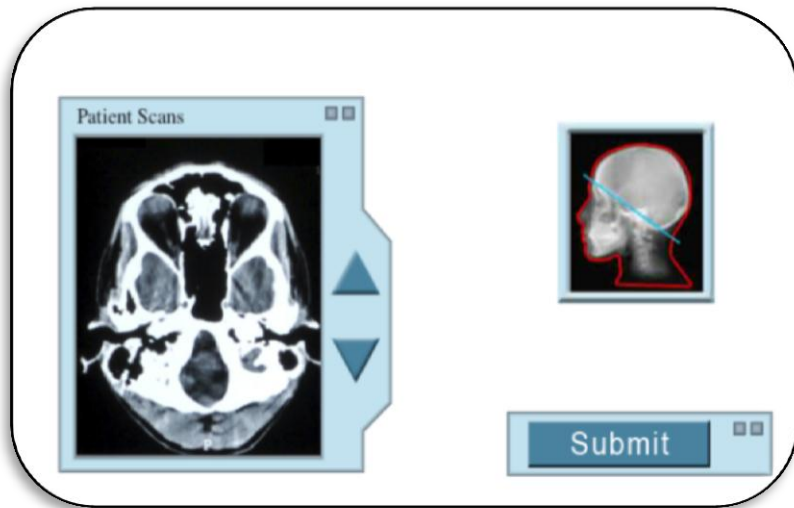
Scene 1: Emergency Medical Services



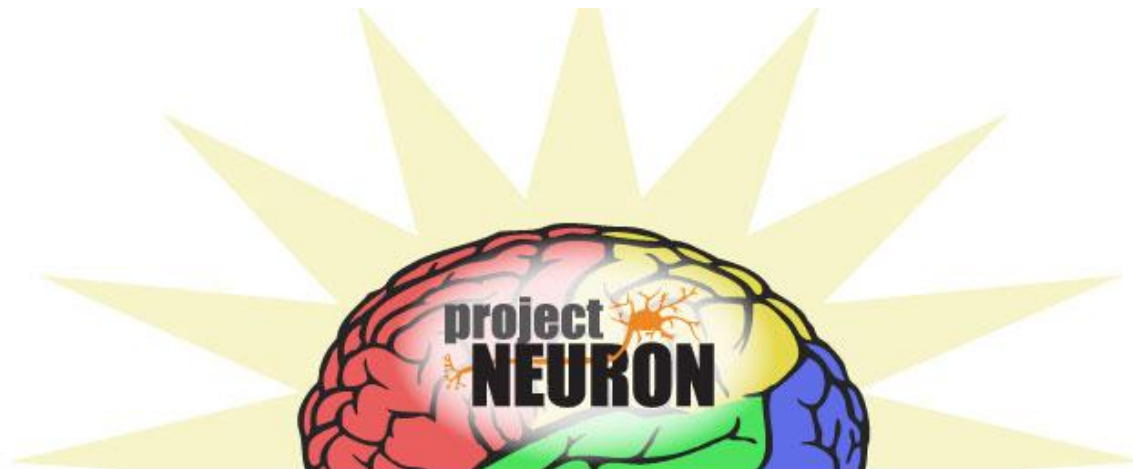
- Team member: EMT
- Pick up patient in helicopter
- Basic vital signs
- Glasgow Coma Scale
 - Eye
 - Motor
 - Verbal



Scene 2: CT scans



- Team member: CT technician
- Brain anatomy and function
- CT technology
- TBI identification



Scene 3: Neurosurgery



- Team member:
Neurosurgeon
- Brain structure and function
- Surgical procedures



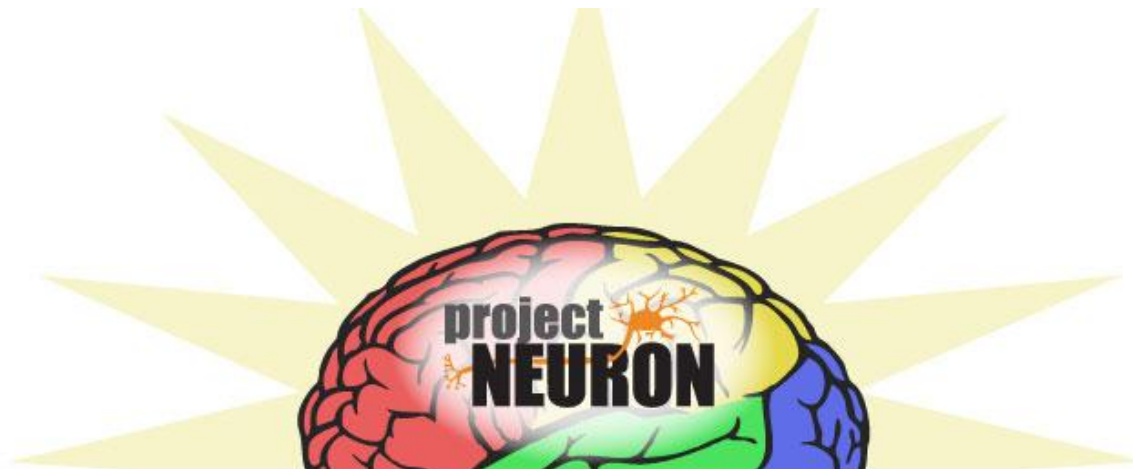
Assessment scenes

- After each main scene
- Team member: Lead physician
- Summative report
 - Data collection
 - Medical tablet
- Multiple choice dialogue
 - Claim, Evidence, Reasoning (CER) argument
- Open response: scientific explanation



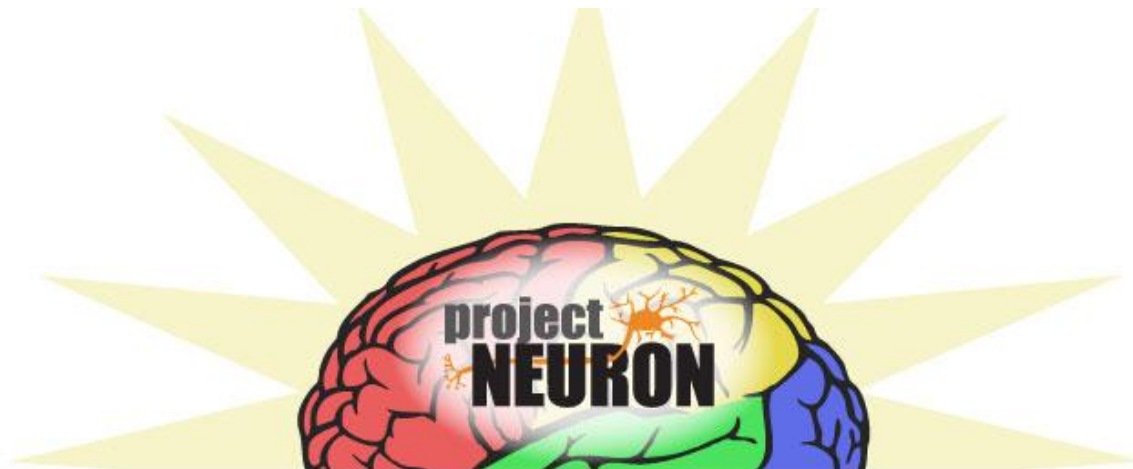
How to play

- Demo
 - Main menu
 - Navigation
 - Toolbar
 - Tablet



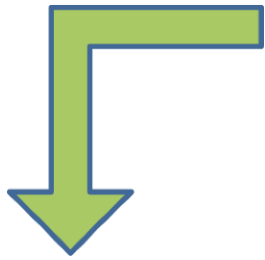
Play time

- Available on computers today
 - Click on desktop icon
 - Play Scene 2 and 2.5
- <http://neuron.illinois.edu/games/>
 - Select The Golden Hour

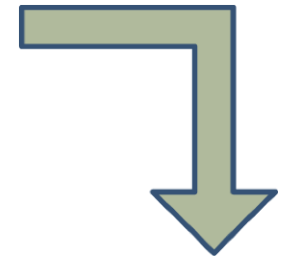


The Golden Hour in the Classroom

The Golden Hour game



Full Curriculum Unit:
*Why dread a bump on
the head?*



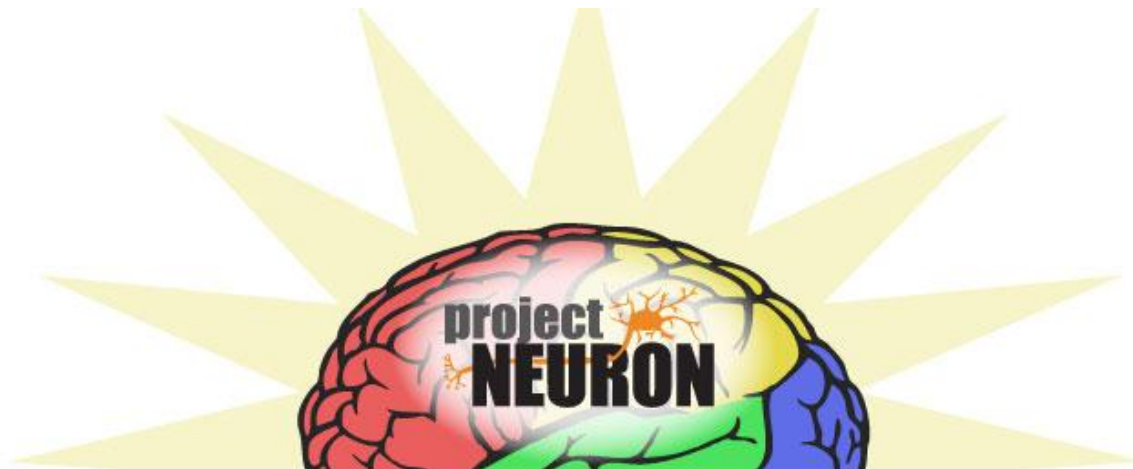
Short Curriculum Unit:
*Golden Hour – Teacher
Materials*

<http://neuron.illinois.edu>



Discussion

- How could you use this game in your classroom?
 - To teach content?
 - To teach scientific practices?
- Do you have comments or suggestions about the game?



Acknowledgements

- SEPA, NIH
- University of Illinois

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Online survey

- <https://www.surveymonkey.com/s/goldenhourNABT>

