Brainy Games

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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?
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Online survey

• https://www.surveymonkey.com/s/goldenhourNABT