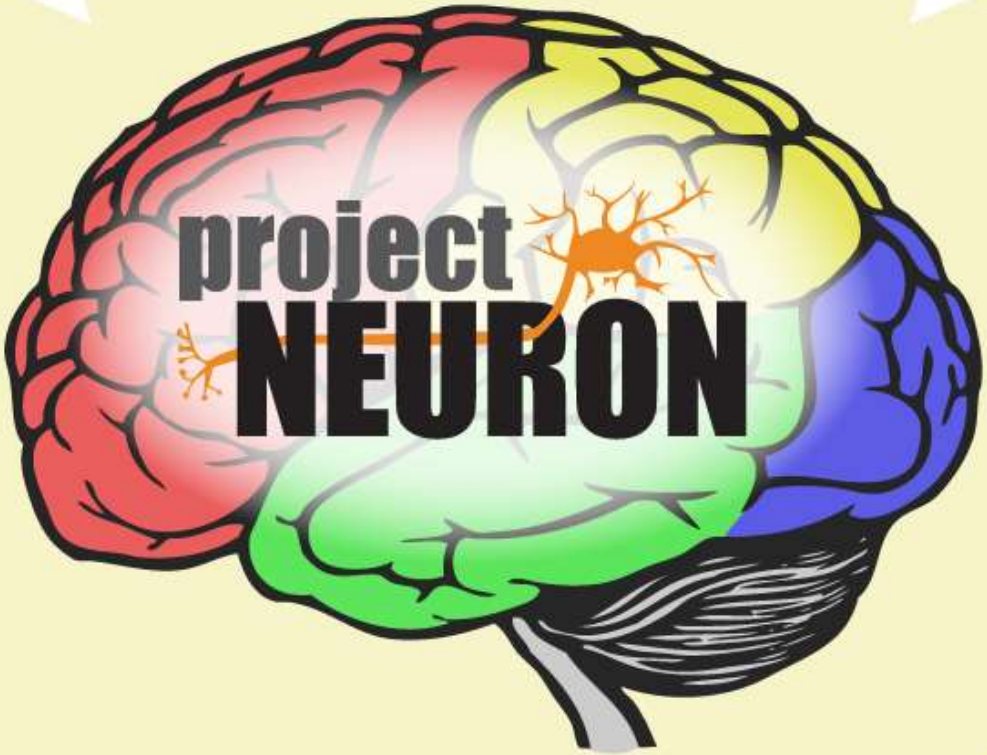
Go Full-Screen with NGSS: A Model for Teaching with Video



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University of Illinois

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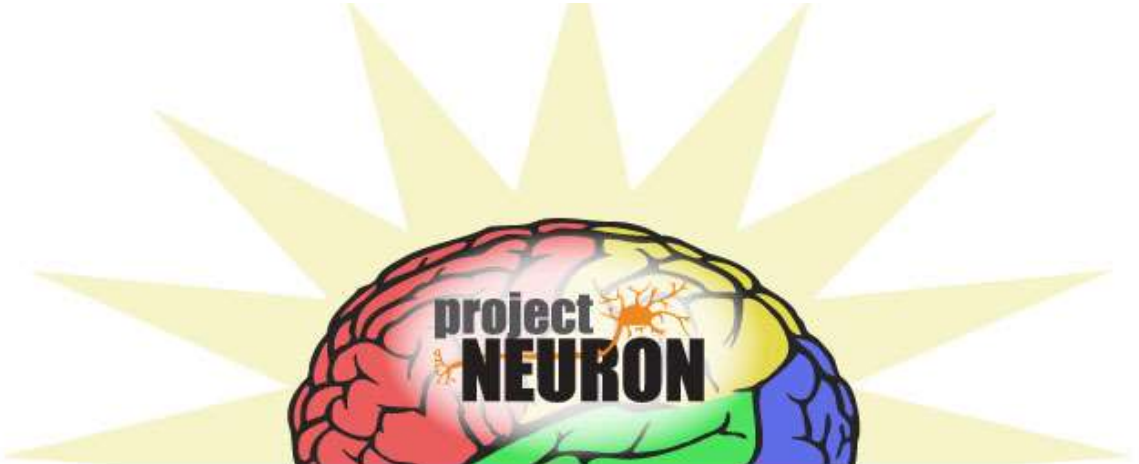
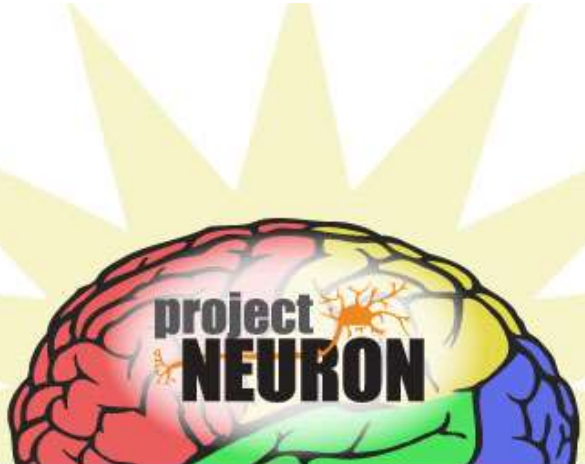
On your notecard…

- How did you use video the last time you taught with it?



Goals for Session

- Introduce Project NEURON
- Compare examples of using video to engage students in scientific practices
- Plan applying ideas to your classroom practice



What is Project NEURON?

- Curriculum development
  - Inquiry
  - Connect to standards
- Professional development
  - Summer institutes
  - Conferences

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Project NEURON Curriculum Units

- **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*
- **What changes our minds?**
  - *Toxicants, exposure, and the environment*
  - *Foods, drugs, and the brain*
- **Why dread a bump on the head?**
  - *The neuroscience of traumatic brain injury (TBI)*
- **Food for thought: What fuels us?**
  - *Glucose, the endocrine system, and health*
- **What makes honey bees work together?**
  - *How genes and environment affect behavior*
- **How do small microbes make a big difference?**
  - *Microbes, ecology, and the tree of life*

Available at:
neuron.illinois.edu

Let's start with an example…

- Take notes on the video.
- [https://www.youtube.com/watch?v=lE-8QuBDkkw]

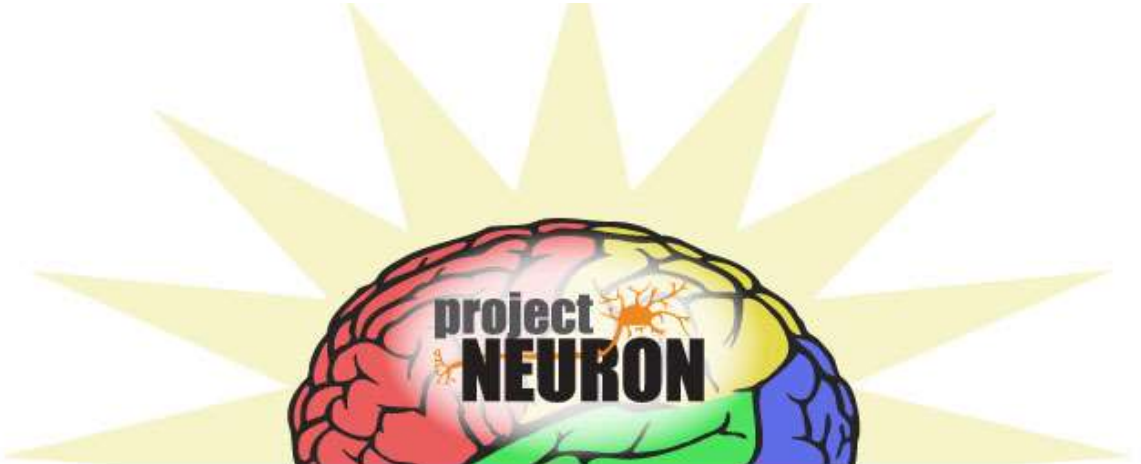
Another example…

- What do honey bees do?
- Record your observations of honey bee behavior.
- Write questions about what you observe.

Comparison

Video 1

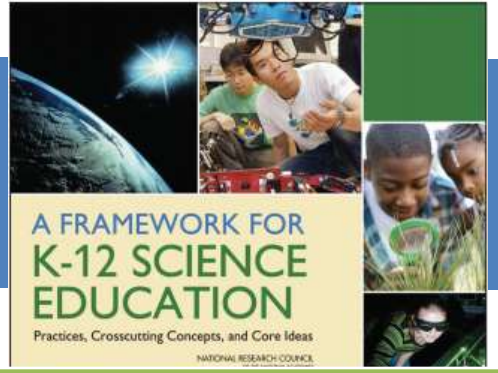
Video 2



Efficiency vs. Different Thinking

- “Many schools, technology developers, and researchers now use technology to ‘enhance’ education by making the achievement of traditional objectives more efficient.” (Pea, 1993)

A Framework for K-12 Science Education



Dimension 1: Scientific & Engineering Practices	Dimension 2: Crosscutting Concepts	Dimension 3: Disciplinary Core Ideas
1. Asking questions 2. Developing/Using models 3. Planning/Carrying out investigations 4. Analyzing & interpreting data 5. Using math, information and computer technology, and computational thinking 6. Constructing explanations 7. Engaging in argument from evidence 8. Obtaining, evaluating, communicating information	1. Patterns 2. Cause and Effect 3. Scale, Proportion, and Quantity 4. Systems and System Models 5. Energy and Matter 6. Structure and Function 7. Stability and Change	1. Physical Sciences 2. Life Sciences 3. Earth and Space Sciences 4. Engineering, Technology and Applications of Science

NGSS

Crosscutting Concepts

Core Ideas

Practices

Your turn to try!

- Videos in folders on laptops

Discussion

- On back of your index card,
  - What is one specific idea for using video to engage your students in scientific practices?

Acknowledgements

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- University of Illinois

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Contact Us

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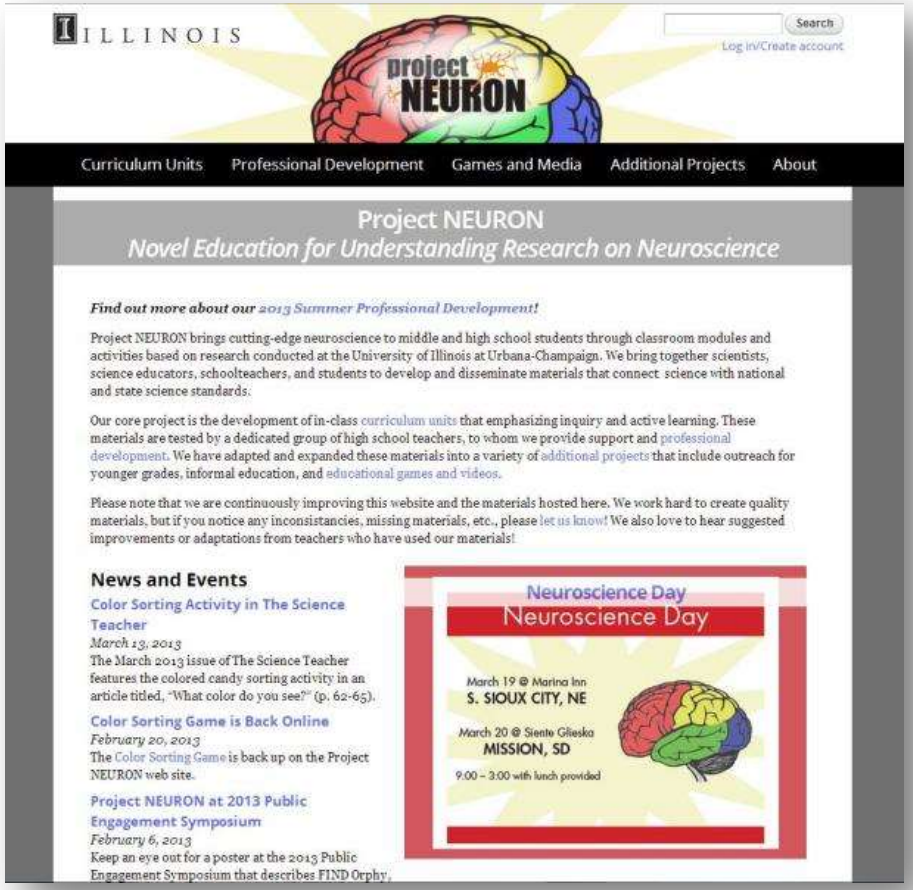
http://neuron.illinois.edu



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