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

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• 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 N EURO N?

- Curriculum development
  - Inquiry
  - Connect to standards

- Professional development
  - Summer institutes
  - Conferences
• **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
“Many schools, technology developers, and researchers now use technology to ‘enhance’ education by making the achievement of traditional objectives more efficient.” (Pea, 1993)
### Dimension 1: Scientific & Engineering Practices
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

### Dimension 2: Crosscutting Concepts
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

### Dimension 3: Disciplinary Core Ideas
1. Physical Sciences
2. Life Sciences
3. Earth and Space Sciences
4. Engineering, Technology and Applications of Science
Your turn to try!

- Videos in folders on laptops
• On back of your index card,
  – What is one specific idea for using video to engage your students in scientific practices?
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