

# HMH<sup>®</sup> Science Fall Webinar Series

## Innovate, Inspire, Invent - Science in Today's Classroom

Science instruction is evolving in order to better prepare the students of today for the STEM careers of tomorrow. Houghton Mifflin Harcourt<sup>®</sup> is proud to partner with our authors, thought leaders in the fields of next generation science instruction, to equip teachers with the information and the tools they need for the exciting changes ahead!

**Take a look at the exciting webinars we're hosting this fall, and register TODAY!**  
[learn.hmhco.com/fall-webinar-series](http://learn.hmhco.com/fall-webinar-series)



### *Strategies to Assist Students with Interpreting Images and Other Earth Science Spatial Thinking Skills*

**Tuesday, September 12<sup>th</sup>, 2017**

3:30 PM PT / 4:30 MT / 5:30 CT / 6:30 ET

**Grades 6–12** | Hosted by **Dr. Michael Passow**

Understanding in the Earth Sciences depends greatly on interpreting images. We represent current conditions through such images as synoptic weather and color-coded sea surface temperature anomalies maps. We represent relationships between parts of our planet through cross-sectional diagrams of Earth layers. Interpreting geoscience images is one form of spatial thinking. Research has shown the importance of spatial thinking in science generally, and in Earth Science in particular. This webinar will explore spatial thinking and provide you with strategies to assist your middle and high school students to master core ideas and NGSS-aligned skills.



### *Cha-cha-cha- Changes: Re-engineering Science Curriculum for the 21<sup>st</sup> Century*

**Tuesday, September 19<sup>th</sup>, 2017**

3:30 PM PT / 4:30 MT / 5:30 CT / 6:30 ET

**Grades K–12** | Hosted by **Michael DiSpezio**

Join Michael for a lively and informative webinar focused on re-engineering science curriculum based upon the common tenets of NGSS\* and its parent document, *A Framework for K–12 Science Education*. You'll not only get the backstory of standards-based curriculum, but you'll also construct a proactive understanding of what these changes really mean to the science teacher and administrator. Join Michael and find out what's real and what challenges and inertia you might expect.



### *When an Argument is Not a Fight: The Claims-Evidence-Reasoning Approach*

**Thursday, September 28<sup>th</sup>, 2017**

3:30 PM PT / 4:30 MT / 5:30 CT / 6:30 ET

**Grades K–8** | Hosted by **Marjorie Frank**

Step away from the panic button! Don't let the words claims, evidence, and reasoning put you off. We'll explore what they mean, how to bring them into your dialogue with kids, and how to lead kids to take ownership of these words and the kind of thinking they represent in scientific arguments.



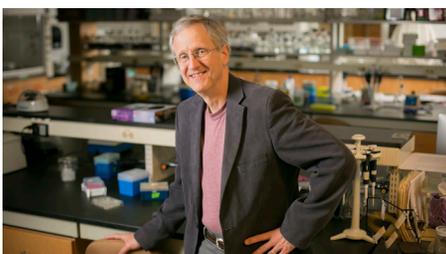
### Three-Dimensional Teaching: What It Looks Like in the Classroom

**Thursday, October 5<sup>th</sup>, 2017**

3:30 PM PT / 4:30 MT / 5:30 CT / 6:30 ET

**Grades 3–12** | Hosted by **Dr. Cary Sneider**

Perhaps the greatest challenge of the Next Generation Science Standards\* (NGSS) is combining all three dimensions—practices, crosscutting concepts, and core ideas—into daily teaching and learning. In order to gain insight into what 3D teaching looks like, participants will be asked to view up to one hour of free online videos of science classes before the webinar, so that we can have an interactive discussion of ways the examples reflect 3D teaching.



### Building Conceptual Understanding in Science from the Top Down

**Thursday, October 26<sup>th</sup>, 2017**

3:30 PM PT / 4:30 MT / 5:30 CT / 6:30 ET

**Grades 8–12** | Hosted by **Dr. Stephen Nowicki**

Too often, our students come to class thinking that science is a bunch of stuff to know instead of a way of understanding how things work. This emphasis on knowing facts is often to the detriment of understanding concepts, and the lack of a strong conceptual framework makes it even harder to just remember facts, let alone put those facts to use in context. In this webinar, we'll use some common examples from biology to illustrate the difference between “bottom-up” and “top-down” concept formation in science and explore how to enhance our students’ ability to take a top-down approach to their own learning.

Connect with us:



### Brain-Powered Science: Teaching & Learning with Discrepant Events\*

**Wednesday, October 18<sup>th</sup>, 2017**

3:30 PM PT / 4:30 MT / 5:30 CT / 6:30 ET

**Grades K–12** | Hosted by **Dr. Thomas O'Brien**

Optical illusions, cartoons, demonstrations, and hands-on explorations will engage participants and model the power of discrepant events to enhance learning by activating attention and catalyzing cognitive processing. The take home, minds-on message is that three-dimensional, next generation Curriculum-Instruction-Assessment shifts the teacher’s focus from didactically covering content to interactively helping learners recover FUNdaMENTAL conceptual precursors, uncover (and deconstruct) misconceptions, and discover (and reconstruct) enriched conceptual networks of understanding.

*\*FOR OPTIMAL EXPERIENCE: Be sure to have a few sample materials on hand in order to participate in an actual live discrepant event! Please have a fork, knife, or spoon; a piece of string ~0.5 meters long; a spool; and two same size round balloons.*

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