

## Designing Lesson Sequences to Increase Student Engagement in Science Practices

This sustained professional development is designed to support teachers in learning how to sequence lessons and revise their current curriculum to provide opportunities for students to build disciplinary knowledge that is the target of instruction. Through an introductory three-day, in-person workshop; virtual support; and ongoing coaching, science teachers working in small collaborative groups will learn to investigate phenomena using scientific practices to construct, evaluate, and revise ideas; reason together and persist through challenging tasks; and go public with their ideas in ways that mirror the important aspects of how science is actually practiced. Drawing from these inquiry experiences, teachers will analyze classroom data to develop indicators of student engagement in the science practices as described in the Next Generation Science Standards. This course will help science teachers to redefine what it means to do science in their classroom.

**DATE:** July 28–30, 2020

**TIME:** 8:30 a.m.–4:00 p.m.

**LOCATION:** Moorestown, NJ

**PRICE:** \$400

Financial support may be available; visit [www.knowlesteachers.org/knowles-academy](http://www.knowlesteachers.org/knowles-academy) to learn more. Optional graduate course credit is available; additional fees apply. Course is subject to cancellation if minimum enrollment is not met.

### Course Highlights

- Develop and articulate an understanding of the practices scientists use and how engagement in scientific practices supports the development of scientific knowledge
- Analyze classroom data to reflect on opportunities for students to engage in the NGSS science practices
- Identify indicators of student engagement in the practices of science and consider how they influence students' opportunities to build the core ideas of science that are the target of instruction
- Build dynamic frameworks to evaluate current curricular materials and redesign lesson sequences that provide increased opportunities for students to engage in the practices of science



This course really filled in some of the gaps in my own knowledge in regards to story-line driven unit design [that is] grounded in phenomena. The work time with other teachers allowed me to really think about phenomena worth studying and how to sequence tasks that focus on NGSS science practices.”

– *Brianne Fagan, Chemistry Teacher  
Mount Pleasant High School, Providence, RI*



The Knowles Academy offers state-of-the-art professional development experiences for teachers. All Academy courses are designed and facilitated by experienced teachers who understand the complexities of teaching in today's world. All courses include one semester or year of mentoring to assist teachers as they work to successfully implement what they've learned in their own classrooms. Participation in the Knowles Academy also gives teachers access to a national network of educators who share resources and ideas, and support each other to continually improve their teaching practice.

## Key Knowles Academy Features



### Teachers Supporting Teachers

Teachers learn best from other teachers. All professional development that we provide includes experienced teachers as facilitators and coaches.



### Professional Community Development

Teaching can be isolating. All of our professional development services are designed to build teacher community so that participants can continue to support each other's learning and professional growth long after the professional development experience ends.



### Long-term Support for Sustainable Change

Effective teacher professional development must be sustained and tied to classroom practice. All Knowles Academy courses include long-term support from coaches, opportunities for teachers to ground their learning in their current practice, and engage with other Knowles Academy participants over an extended period.



### Professional Expertise & Leadership

Designing and implementing effective professional development requires a diverse range of expertise and experience. All of our professional development services draw and build on the expertise developed within the Knowles community over the last 20 years.

## ABOUT KNOWLES

The Knowles Teacher Initiative supports the efforts of high school mathematics and science teachers to improve education in their classrooms and beyond. Visit [www.knowlesteachers.org](http://www.knowlesteachers.org) to learn more.

All Knowles Academy courses can be customized to meet the specific needs of schools and districts.  
[www.knowlesteachers.org/knowles-academy](http://www.knowlesteachers.org/knowles-academy)