

Designing Instructional Tasks to Increase Student Engagement and Learning in Science

This sustained professional development course is designed to support teachers who aim to provide their students with a connected and conceptual understanding of science content. Through an introductory three-day, in-person workshop; a half-day, concluding virtual workshop; and ongoing coaching, this program will help science teachers provide increased opportunities for students to learn by supporting their use of high cognitive demand tasks and productive talk in their classrooms. Teachers will become more closely acquainted with the disciplinary practices described by the Next Generation Science Standards, as well as the *5 Practices for Orchestrating Task-Based Discussions in Science*. Using these resources as a framework, teachers will learn to engage students in authentic science in ways that are aligned with the changing landscape of education in the U.S.

DATE: July 28–30, 2020

TIME: 8:30 a.m.–4:00 p.m.

LOCATION: Mountain View, CA

PRICE: \$400

Financial support may be available; visit 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

- Identify the cognitive demands of tasks and consider how the tasks influence students' opportunities to learn
- Explore the *5 Practices For Orchestrating Productive Task-Based Discussions in Science* framework
- Plan lessons using a cognitively demanding task and the 5P framework
- Gain experience considering the alignment of the scientific learning goal and the task, and other enactment factors, by providing feedback on other teachers' lessons
- Analyze data from lessons to reflect on the students' opportunities to learn science



Attending the Knowles Academy science tasks course reaffirmed my belief that all students can do cognitively demanding tasks, regardless of where they are with the curriculum. In addition to scaffolding, which I've done well in the past, I'm adding more cognitively demanding tasks to my lessons. My students are much more engaged because they are able to apply the knowledge they've gained to figure out something on their own."

- Leslee Gordon, Biology Teacher
Wando High School, Mount Pleasant, SC



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 to learn more.

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