

Making Sense of
SCIENCE

FORMAT

5-day face-to-face professional learning courses.

AUDIENCE

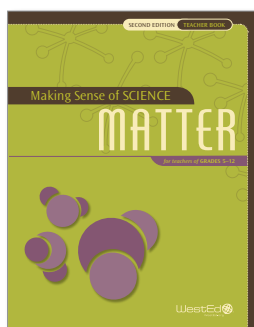
Teachers of science in grades 5–12

SEQUENCING

All the 5-day courses are complementary and they can be taken in any order.

RELATED MATERIALS

The *Making Sense of Student Work* protocol is available for teachers to use with their school-based professional learning communities as follow-up to the 5-day courses.



Everything we touch is made of matter. The air we breathe is made of matter. And even the blood that runs through our veins is made of matter. In this course, participants work to make sense of the different kinds of matter that make up our world and how that matter can change. The science begins with a macro-level investigation into the properties of several metals including conductivity, reactivity, and density. Then participants zoom in and begin to think about

the particulate nature of matter and use models to explore the states of matter and the chemical composition of different substances. Participants then explore how matter changes, atomic structure, and the periodic table. Finally, participants analyze a sinking and floating phenomena to make sense of buoyancy.

As a natural part of many learning experiences, we engage in reading to further our understanding. This course provides participants with dedicated time to pause and be metacognitive about their reading process. These Literacy Investigations allow participants to consider their own reading history, discuss strategies for reading, compare and contrast science reading with other types of reading, and explore a framework for supporting writing in their own classroom.

The Teaching Investigations in this course provide participants with the opportunity further connect to the classroom. Through analysis of teaching cases, participants get a glimpse into other teachers' classrooms, unpack the value of different instructional moves and strategies, discuss the benefits and challenges of phenomena-based instruction, examine students' mental models, and explore common student misconceptions and how to support students moving toward more complete, accurate, and precise understanding.

Implementing NGSS?

An optional next generation science toolkit is available that supports teaching toward the Next Generation Science Standards (NGSS). It provides a framework for exploring core properties of next generation science including the use of phenomena-based instruction and the equitable engagement of all students in multidimensional science learning. It also takes a dive deep into the NGSS Science and Engineering Practices (SEPs) and the Crosscutting Concepts (CCCs).