



Making Sense of
SCIENCE



Connecting science, teaching, and literacy

WestEd, a not-for-profit organization with a track record of innovative solutions to education challenges, received a \$13 million grant from the competitive Investing in Innovation (i3) Fund. The grant supports elementary teachers in Milwaukee, WI and the greater San Joaquin County area of CA by implementing Making Sense of SCIENCE (MSS) professional development — an approach shown to strengthen teachers' content knowledge, transform classroom practices, and significantly boost student achievement. We hope you can participate in this unique opportunity!

Participation

Teachers of 4th and 5th grade students will:

- Participate in engaging, hands-on science and literacy summer institutes on earth and physical science, to support the Next Generation Science Standards (NGSS). A choice of 5-day (Monday through Friday) summer institutes will be offered in June, July, and August.
- Form a professional learning community (PLC) and meet six times per school year for two years to collaboratively examine student work, provide peer-to-peer support, and refine instruction.
- Make a two-year commitment and contribute to an important research study by attending data collection meetings (Fall 2015, Spring 2017, and Spring 2018), filling out quarterly surveys, and assisting in collecting classroom and student data.

Schools who participate will:

- Join as a team, have administrator support, involve all or most of the 4th and 5th grade teachers, and nominate a Lead Teacher.
- Agree to be randomly assigned to professional development Group 1 (starts summer 2016) or Group 2 (starts summer 2018), and commit to six 2-hour follow-up PLC meetings each year.

"This has been the most powerful learning experience in my 28 years of teaching. Every science teacher should have the opportunity to participate in this science learning."

Benefits

The MSS program is intentionally designed to provide maximum benefit to schools, teachers, and students.

Benefits for *schools* include:

- Focus on science and literacy.
- Leadership development for teachers and administrators.
- Money for hands-on science materials.

Benefits for *teachers* include:

- Stronger knowledge of physical and earth science concepts and how to teach those concepts to students.
- More confidence in teaching science, engaging students in sense making, and addressing misconceptions.
- Support in implementing scientific practices and cross-cutting concepts to address the NGSS.
- Increased literacy strategies and routines to help students read, write, and communicate in science.
- A stipend for teachers' expertise and time.

Benefits for *students* include:

- Improved science achievement.
- Increased skill in scientific reasoning and providing clear and accurate scientific explanations.
- Greater aptitude for reading, writing, and discussing science ideas.
- More positive dispositions toward science and future science learning.
- Reduced achievement gaps based on demographics, entering abilities, and English proficiencies.

Study Details

The study will involve 60 schools and 300 teachers from the greater San Joaquin County area (CA) and Milwaukee Public Schools (WI). Data collection spans Fall 2015 to Spring 2018 and will document the effects of the MSS professional development on teachers, classrooms, and students.

Teacher data (surveys, content quizzes) will be gathered at annual meetings during Fall 2015, Spring 2017, and Spring 2018, and via brief online check-ins quarterly. Principals will fill out a survey annually.

Student data (surveys, content quizzes) will be collected as part of classroom instruction in spring 2017 and 2018, along with classroom data (teacher interviews, videotaping). Teachers will be asked to help collect parent consent forms. Student demographics, rosters, and standardized test scores will be obtained from the district.

Compensation

Stipends for teachers (up to \$3200) includes two years of participation in summer institutes and school PLC meetings (\$1000 per year) plus data collection (up to \$600 per year).

Compensation for schools includes money for science materials based on the overall level of teacher participation (\$600 for 3 teachers, \$1000 for 4–6, and \$1500 for more than 6 teachers per school).

School Eligibility

To be eligible, schools must:

- Serve low-income students.
- Decide to join as a school with a minimum of *three* teachers across 4th and 5th grade committed to participation. Schools with more than three teachers across these grades need 75% or greater participation.
- Agree to be randomly assigned to either Group 1 or Group 2 and participate in professional learning events over two years, either as Group 1 (Spring 2016–2018) or Group 2 (Spring 2018–2020).
- Commit to participate in all data collection activities (Winter through Spring 2018).

We are far too familiar with the poor results of many professional development programs — so I took note when I received a request from teachers for more Making Sense of SCIENCE.

How To Apply

- 1 Confirm that all school eligibility requirements are met.
- 2 Obtain teacher commitments and principal approval. If your school is selected, teachers and principals will later be asked to complete a separate consent form.
- 3 Visit our website, WestEd.org/MSSi3, and submit a School Application Form by **Friday, January 29th**.

Leadership Development Opportunity

We are excited to invite all teachers and school support staff to apply to become Lead Science Catalysts in the MSS Leadership Cadre and join a select group of forward-thinking educators. Lead Science Catalysts will receive an additional stipend to:

- Serve as the point of contact for a school, and assist with communication and study details as needed.
- Coordinate six PLC meetings with teacher peers, each year, for two school years.
- Participate in four days of leadership workshops with a regional cadre of science leaders in 2017 and 2018.
- Collaborate with the Teaching Channel and WestEd to gather digital resources for teachers (such as student work, sample lessons) to be made available online for teachers.

Lead Science Catalysts can also choose to:

- Attend a 5-day MSS Facilitation Academy on Dynamic Earth and/or Physical Science, and co-lead summer institute(s) for teachers in summer 2016 and/or 2017.
- Schools are asked to nominate a Lead Science Catalyst when they apply. Teachers and educators can also apply individually. Visit WestEd.org/MSSi3 for more information on how to join the Leadership Cadre.

For More Information

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