



Using Title I ARRA for Improvement of Math and Science

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Professional Development

- Research indicates the most important factor in improving student achievement is having an effective teacher
- *NM Project 2012* calls for systematic, ongoing, and high-quality professional development (PD) for every K-12 math and science teacher



Professional Development

- *Systematic*: the activity is coordinated across the State, is aligned with State standards and achievement goals, and is an integral part of a coherent plan within each district for improving the teaching and learning of math and science



Professional Development

- Ongoing: PD is a regular and expected part of a teacher's job, that teachers are paid for the time that they spend involved in it, and that it does not consist of one-time or sporadic, disconnected events.



Professional Development

- *High quality*: the activity is rich in the relevant content area, connects to the curriculum that teachers are using, is informed by the latest research in student learning and best teaching practices, and is evaluated in terms of its impact on student achievement.



Professional Development

- Within each school district, a specific plan should be developed to implement quality PD as part of an overall district strategy for improving student learning.



Math and Science Professional Development

- Learning experiences that extend teachers understanding of math and/or science content focusing on math process skills and/or science inquiry
- PD is connected to and supports specific curricular materials



Math and Science Professional Development

- Week-long (or more) experience during the summer with follow-up throughout the year
 - Summer—heavy focus on pedagogical content knowledge
 - Follow-up—Implementation of learning; focus on student products; well-structured professional learning communities



Math and Science Professional Development

- Instructional teams of content and pedagogy experts
- Aligned with NM Content Standards
- Teams of teachers or entire staff
- INVOLVES ADMINISTRATORS in the activities
- Structures to support implementation throughout year



Math and Science Professional Development

- Districts. They will create and maintain a comprehensive math and science learning plan which includes PD, high-quality curriculum aligned with standards, and collaboration between teachers to improve classroom learning. They will evaluate progress on the plan regularly, and ensure that each teacher gets regular PD as part of their paid job time.

NM Project 2012



Math and Science Professional Development

- Who can help districts do this work?
 - Professional development providers who have received Summer Reading, Math and Science Institute funding are listed on the Math and Science Bureau website:

www.ped.state.nm.us/MathScience/index.html



Other Ways to Support Math and Science Achievement

- Content coaches
- Content experts (elementary)

- Support for curriculum mapping or other alignment documentation



Other Ways to Support Math and Science Achievement

- Materials:
 - Graphing calculators
 - Math manipulatives
 - Science laboratory equipment and supplies
 - Science kits and consumables (elementary)
 - Pilot new instructional materials (with appropriate PD supports)



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