



Request for Proposal
STEM Education
Curriculum Support Program

Our Goal

The Arkansas Department of Education supports the Center on Instruction definition of Science, Technology, Engineering and Math (STEM) education as, "an interdisciplinary approach to learning where rigorous academic concepts are coupled with real-world lessons as students apply science, technology, engineering, and mathematics in contexts that make connections between school, community, work, and the global enterprise enabling the development of STEM literacy and with the ability to compete in the new economy."

This Arkansas Department of Education Request for Proposal (RFP) is targeting the development and implementation of an evidence based classroom STEM education resource package to support educators in K-12 classrooms. These resources should specifically focus on classroom level instructional strategies, materials, and assessments. This program should directly assist teachers in learning practical standards-based strategies that support the following seven STEM Foundations:

- Academic Language Proficiency,
- Critical and close reading of nonfiction text,
- Writing across the content areas and genres,
- Mastery of Algebra I and the mathematical practices,
- Historical thinking and document analytical skills,
- Use of technology for project/problem-based learning, and
- Science content knowledge and inquiry skills.

Within the context of these strategies, each professional resource package provided to teachers must include the following:

- **ACADEMIC LANGUAGE PROFICIENCY:** A vocabulary development program that includes, but is not limited to strategy-based resources, instructional strategies, activities and assessments for the teacher, as well as materials for students to use, that 'attack' words (base words/roots, prefixes and suffixes) and build student's vocabulary that can be used daily in classroom instruction.
- **CRITICAL AND CLOSE READING OF NONFICTION TEXT:** A reading comprehension program that attacks nonfiction texts drawn from all content areas with close reading strategies, including but not limited to the use of rich texts as described in the Common Core State Standards, graphic organizers, and digital resources, and which include grade-level appropriate suggestions and resources for differentiated instruction for all student learners.
- **WRITING ACROSS THE CONTENT AREAS AND GENRES:** A supplementary writing program which targets writing across the curriculum, including the social sciences, science, mathematics and literature, and which addresses genre-specific writing, including narrative non-fiction, expository/informative, persuasive/argumentative, and fiction and poetry. These materials must provide teachers with the understandings needed to lead student learning at all learning levels (achieving, struggling, excelling), including examples, suggestions and additional supporting resources.

- **MASTERY OF ALGEBRA I AND THE MATHEMATICAL PRACTICES:** An extensive resource kit for teachers that targets readiness for algebraic thinking and embraces technology and that includes professional development resources that allow for professional growth with questioning, differentiated assignments and assessments, learning styles and real-life problem solving. This kit must be prepared with mastery of skills in mind and must allow multiple teaching opportunities (intervention) to master these mathematic objectives. In order to provide students aligned practice, this resource kit must also embrace the use of technology (such as games and interactive presentations) and Graphing Calculators and should be designed around project-based/problem-based learning ideals. This kit must also contain resources that teachers can use for assessment of learning, including the use of rubrics and be adaptable to different time schedules for instruction.
- **HISTORICAL THINKING AND DOCUMENT ANALYTICAL SKILLS:** A comprehensive integrated literacy program (targeting writing, speaking, listening, and reading) that provides teachers the materials and resources needed to lead students through deep thinking units/activities about a broad range of historical events and analyses of those events, as well as the background information and resources for this type of learning experience. This kit must include resources for the teacher and students that are available digitally, written at varying reading levels, visually appealing and of high-interest to the students. This kit must embrace the areas of research, inquiry, vocabulary, reasoning, and comprehension, which are embedded in the intent of deep learning from the Common Core State Standards.
- **USE OF TECHNOLOGY FOR PROJECT-BASED/PROBLEM-BASED LEARNING:** A curriculum resource package that will aid teachers in preparing students for 21st century learning, thus embracing technology. These resources must support the teaching of how to use popular software and programs, including those that lend themselves to digital photography and movie-making. Resources must be included to support teachers of varying ability levels in using digital resources for instructional engagement through project-based/problem-based learning activities that span across content areas. Recommendations should include suggestions for flexible groupings and extension activities in the lessons to aid in differentiation instruction.
- **SCIENCE CONTENT KNOWLEDGE AND INQUIRY SKILLS:** A set of curriculum modules that center on the science inquiry model must be provided to teachers. These modules should contain background information for key science concepts, as well as lessons that embrace technology, engage students in hands-on activities/labs and include varying texts for students. These modules must integrate literacy (specifically speaking and writing) into the lessons, embrace available technology, offer tools and strategies to teachers for creating an active learning environment that provides effective science instruction.

Additionally, professional development must be provided to teachers to guarantee the effective use of these resources in the classroom.

Who Can Apply?

Local, regional, state and national entities that can provide resources and services to Arkansas STEM teachers are invited to apply.

How much are the potential grant awards and for how long?

One grant award will be made totaling no more than \$300,000 with an anticipated grant period

of 1 year.

Key Dates

September 2012

- Release RFP
- Applications submitted by September 21
- Successful applicant notified by phone by September 28

Grant Terms and Conditions

- This grant is provided exclusively for funding the expenses specifically listed in the budget of the proposal.
- The grant recipient will provide the Office of Curriculum and Instruction a copy of all records detailing expenditures of funds. A summary of expenditures will be provided to the Arkansas Department of Education upon request.
- The grant recipient must seek prior approval from the Office of Curriculum and Instruction to transfer, change, or alter items in the original proposal.
- Funds must be expended by May 30, 2013.

How to Apply

The grant proposal must include the name and contact information of the provider submitting the proposal. An exhaustive list of resources to be used must be included. The proposal must include a detailed, item-by-item budget. The proposal must be submitted in Microsoft Word format, must be set in Arial 12-point font, double-spaced with one-half to one-inch margins on all sides. Pages should be numbered at the bottom right of the document. The maximum number of pages for this proposal is 30 pages, including any attachments.

Submit the original proposal to:

Dr. Tracy Tucker, Director
Curriculum and Instruction
Arkansas Department of Education
Four Capitol Mall, Mail Slot #15
Little Rock, AR 72201

To be considered, proposals must be received in the Office of Curriculum and Instruction by 4:00 p.m. CST on Friday, September 21, 2012.

Questions?

For questions about the RFP, please contact: Dr. Tracy Tucker, Arkansas Department of Education, Director of Curriculum and Instruction at 501-682-7442 or tracy.tucker@arkansas.gov.