

Gifted and Talented Education

The background of the slide is a green chalkboard. In the lower-left quadrant, two pink chalk sticks are positioned diagonally. The chalkboard has several faint, white chalk markings, including a large 'A' at the bottom, a 'V' in the middle, and some curved lines on the left side.

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Gifted and Talented Education

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Identification

- Category 1
 - *Top 3% on any nationally standardized test of intellectual ability*
- Category 2
 - *Multiple criteria*
- Funding

Gifted Educational Plan

- Process for identification
- Programming options
- Responsibilities of staff
- Training
- Checklist
 - *<www.sde.state.ok.us>*

Programming Options

- Ways to serve GT students
 - *Proficiency Based Promotion assessments*
 - *Creative and academic competitions*
 - *Enrichment in the regular classroom*
 - *Guidance and counseling*
 - *Concurrent enrollment*
 - *Acceleration*
 - *Independent study*
 - *Differentiated curriculum*
 - *Advanced Placement[®] courses*
 - *Differentiation*

Local Advisory Committee

- Required dates
- Members
- Duties
- Oklahoma Open Meeting Act

Required Reports

- Detailed Expenditure Report
 - *OCAS Program Code 251*
- Gifted and Talented Child Count

Program Auditing

- Random selection
- Extraordinary number of identified students
- Not representative of district student population
- Unusual budget report

Professional Development

- GT training
- Advanced Placement[®] Summer Institute (APSI)



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SCIENCE • TECHNOLOGY • ENGINEERING • MATHEMATICS

**Solidifying Partnerships
with Education and Industry**



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RECENT STEM NEWS

- The following findings are from the Brookings Report released June 2013
 - As of 2011, 26 million U.S. jobs—20 percent of all jobs—require a high level of knowledge in any one STEM field.
 - Half of all STEM jobs are available to workers without a four-year college degree, and these jobs pay \$53,000 on average—a wage 10 percent higher than jobs with similar educational requirements.



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RECENT STEM NEWS

- STEM jobs that require at least a bachelor's degree are highly clustered in certain metropolitan areas, while sub-bachelor's STEM jobs are prevalent in every large metropolitan area.
- More STEM-oriented metropolitan economies perform strongly on a wide variety of economic indicators, from innovation to employment.



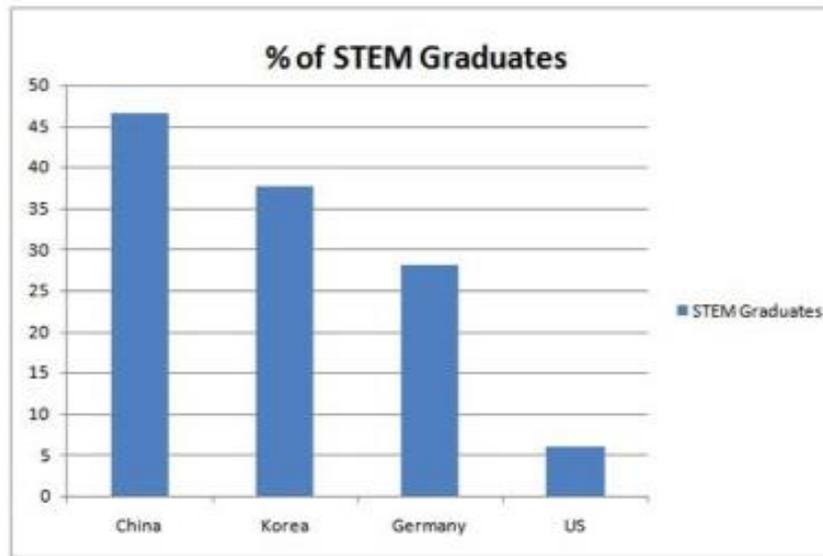
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WE ARE IN A CRISIS

- According to the U.S. Bureau of Statistics STEM jobs are expected to increase by 21.4%. and 80% of jobs in the next decade will require technical skills.



Graph provided by
STEMventures.org



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WE ARE IN A CRISIS

- The U.S. will have over 1 million job openings in STEM-related fields by 2018; yet, according to the U.S. Bureau of Statistics, only 16% of U.S. bachelor's degrees will specialize in STEM.



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SO WHAT MUST CHANGE?

- No longer can we just look for the schools alone to solve this National Crisis!
- Full commitments by education and industry to work together for the long term and align educational standards with that of industry expectations/needs.



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STEM VISION

- To ensure Oklahoma students become inspired learners and prepared leaders who can solve the challenges of a world of vastly emerging STEM careers.*



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WHO'S INVOLVED?

- Stakeholders are...
 - STEM business and industry leaders in Oklahoma
 - Formal and informal STEM educators
 - Local, state, and federal elected officials
 - Local and state chambers of commerce
 - Professional societies active within the state



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WHAT'S THE GOAL?

- Create a robust consistent K-12 STEM educational experience for ALL students in Oklahoma so that they may make informed decisions on STEM career pathways and see the *relevance* of instruction as it relates to the workforce.



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EDUCATIONAL CHALLENGES

- Garnering the holistic support of business and create a sense of urgency to move from the “discussion phase” to actually making the commitment.
- Creating a common language that representatives from education and those from business can use to forge strong long lasting partnerships.



EDUCATIONAL CHALLENGES

- Convincing companies to avoid the “curriculum du jour” trap and instead support *standards- and research-based* education programs that have a track record.
- Articulating at the outset the outcomes both partners expect and how they will benchmark those outcomes and measure success.



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EDUCATIONAL CHALLENGES

- Identifying the win-win for both parties when the cultures are so different.
- Finding common ground and developing mutual respect when the partnership involves scientists/engineers working with teachers



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INDUSTRY CHALLENGES

- Changing personnel at partner schools and school districts. (losing the focus)
- Facing the threat of a new curriculum potentially being adopted by a school district



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INDUSTRY CHALLENGES

- Increasing state and federal mandates for schools that focus primarily on math and language arts leaving STEM curriculum behind
- Gathering and keeping all the partners together at the table (staying the course)



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INDUSTRY CHALLENGES

- Uncovering the people within the company who have the energy—and passion—to make things happen.



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EDUCATIONAL REWARDS

- Partnering with business brings a whole new level of resources to the table
 - STEM expertise (rigor and relevance)
 - Professional Mentorship
 - Financial resources
 - Human resources
 - Political clout



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INDUSTRY REWARDS

- Improving education for the next generation and helping to foster a diverse STEM talent pool and a science literate workforce.
- Creating an environment where the partners have an open dialogue and lasting relationships endure.



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INDUSTRY REWARDS

- Building employee morale and enthusiasm.
- Recruiting and retaining high quality employees.
- Fostering goodwill for companies in their communities.



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OSDE STEM TEAM

- Jeff Downs –Executive Director of STEM
- Tiffany Neill- Director of K-12 Science
- Levi Patrick- Director of Secondary Math
- Open Position- Director of Elementary Math
- Lori Boyd- Director of Advanced Placement
- Joel Smith- STEM Coordinator



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DID YOU KNOW?

In this report, we have responded to the recommendations made by Governor Mary Fallin’s Science and Technology Council (See Appendix A). Three Goals create a framework for the report, seen below in (1) red, (2) orange, and (3) green. Each Goal is supported by multiple strategies which are shown below the goals and listed as A, B, etc.

As the report progresses through each Goal, there is an introduction to the goal that helps clarify its necessity and introduces the related strategies. Subsequently, each strategy is introduced with a title, related projects and expected results. Related projects are categorized as Bold, New, and Existing. **Only Bold projects are detailed in this report.**

Much research has gone into the development of this strategic plan and, although each report, book, or journal article is not always referenced in the descriptions provided, a Works Consulted section has been provided at the conclusion of the report.

1 Access to STEM Education	2 Highly Effective STEM Education	3 Leverage Stakeholder Support
<p>A Innovative Instruction</p> <p>B Learning Environment</p>	<p>A Teacher Recruitment</p> <p>B Teacher Expertise</p> <p>C Professional Development</p> <p>D Recognition</p>	<p>A Community Partnerships</p> <p>B STEM Awareness</p>

*Details not provided in the report.



DID YOU KNOW?

- The current PASS Science Standards are being rewritten and will be out for public comment in the Fall.
- The transition from PASS Math standards to Oklahoma Academic Math Standards is currently underway



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DID YOU KNOW?

- The OSDE just awarded over \$1 million to 20 different LEAs
 - First ever Math and Science Partnership Mini Grant.
 - The competitive grant promotes math and science professional development to 1259 teachers in the state for the 2013 Fall semester



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DID YOU KNOW?

- OSDE partnered with *FIRST* Robotics and the KISS Institute in SY 2012-13 and offered \$100K in grant awards to 60 individual schools/teams that competed in four categories of robotics competitions.



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DID YOU KNOW?

- OSDE and The National Math and Science Initiative (NMSI) are working together to seek partnerships with more OK businesses to increase the amount of students taking STEM Advanced Placement courses in high schools in Lawton, Mid-Del, OKC, and Tulsa public schools.



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DID YOU KNOW?

- Oklahoma students that are becoming more algebra ready will have completed over 18 million online math problems through the OSDE partnership with Think Through Math



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QUESTIONS?

- Contact information

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