Ohio's Race to the Top Innovative Programs Grant Application

Application Period- March 11-May 20, 2011

Please ensure that ALL questions are answered completely in each of the four sections as incomplete applications will not be returned for modifications or completion.

<u>**Section A**</u>

1. General School Information

a) **Name of Applicant (LEA)**: Zenith Academy	b) **Name of School(s)**: Zenith Academy
c) **Superintendent of Schools**: **(or equivalent)** Name: Ashfaq Tashfeen Address: 4606 Heaton Rd. Columbus, OH 43229 Telephone: 614-888-9997 Fax: 614-888-3290 Email: aatashfeen@yahoo.com	d) **LEA RttT Contact**: Name: David Bauer Address: 4606 Heaton Rd. Columbus, OH 43229 Telephone: 419-419-8921 Fax: 614-888-3290 Email: bauer.davidj@gmail.com
e) **School Vision**: Zenith Academy believes that a "thorough and efficient" education is best accomplished through a rigorous curriculum that requires mastery of core knowledge and skills.	f) **School Mission**: Zenith Academy's mission is to provide its students with the best possible education by focusing on the fundamental academic disciplines in an atmosphere that affirms academic achievement, and in so doing, to offer the community true choice in public education.
g) **Primary Goals of School:** • Academic excellence and high expectations for each student's achievement • Creative and individualized	h) **Teacher/Student Ratio:** 1:15

approaches to teaching and learning • Respect for self and others as a guiding behavior principle • Continual and intensive participation of students, teachers, and parents in all educational and governance policies	

Names and titles of individuals who participated in the <u>March 10th</u> Innovation Symposium : DAVID BAUER, ZENITH ACADEMY middle school social studies/LA teacher, HOLLY KLASS, ZENITH ACADEMY elementary science teacher, RICK PENROD, principal

2. SCHOOL PROFILE

STUDENT INFORMATION		
Grades served: K-8		
Enrollment (total number of students served in school applying for Innovative Program):		
Grade Level	**Enrollment**	
Pre K-5	290	
6	22	
7	25	
8	28	
9	0	
10	0	
11	0	
12	0	
Ethnicity and gender data (% of enrollment):		
Black: 93.5%	White: 3.0%	Male: 45%
Asian/Pacific Islander: 3.2%	American Indian/Alaska Native:0%	
Hispanic: 0%	Multi-Racial: 0%	Female: 55%
Percent of students eligible for free/reduced lunch: 96.5%		
Percent of students identified as special education: 5.6%		
Names of current competitive grants LEA has been awarded (2010-2011): RttT Competitive Grant 2010		
Please attach 2009-2010 school Report Card: ATTACHED.		

Section B

1. Please check circle(s) next to the specific Innovative Program(s) for which you are applying. Prioritize your preference order to the right of the program, with "1" being your first priority. **_A separate application must be submitted for each Innovative Program._**

   ☐ *Asia Society (International Studies Schools Network)*   _____

   ☐ *AVID **   _____

   ☐ *Early College High School*   _____

   ☐ *New Tech Network*   _____

   ☑ *STEM**   __1__

   ☐ *Other Proven Model (please list)_____*   _____

   *Priority may be given to the lowest-achieving schools

Section C

Questions Addressing Innovation Selected- Please answer these questions in the text boxes provided. Provide as many details as possible so that the reviewers can gain a good picture of your school.

1.Identify your selected Innovative Program and the reasons for selection. (Note: If "Other", please include research evidence that justifies how the "other" innovation will accelerate student achievement and progress.

SELECTED INNOVATIVE PROGRAM: STEM MODEL

Zenith Academy (ZA), K-8, is in its 6th year of operation as a school of choice for approximately 365 students (93.5% Black/non Hispanic) from Columbus north side. Founded in response to the growing refugee & immigrant populations in Columbus, ZA serves newcomers whose diversity and geographic origins are best revealed by the Somali refugees that number over 45,000 in metro Columbus. 2010 statistics indicate that more than 60% of Somali refugee children are a minimum of 2 grade levels behind, with 10% lacking any formal ed. experiences. Located in 43229 zip code of metro Columbus, Northland area, ZA is 1 of 5 geographical areas containing the most youth who had contact with the juvenile justice system (ODMC Report, 2008). 92% of the student population for both schools is identified as ELL, with a high % rate of illiteracy among parents (60%). 96.5% of students receive free/reduced lunch. Median family income is $28,560, representing 1 of the top 10 highest rates of children living in poverty in the city (35.9%). 70.6% of adult pop. has not received a high school diploma equivalent.

After reviewing 2011 Decision Framework, the Leadership Team determined that 49.27% of ELLs in grades 5-8 tested below proficient in reading, 46.0% in grades 5-8 are below proficient in math &

59.2% below proficient in science. Information Text is especially problematic for students in these grade levels with only a slight increase over 4 yrs. (07-48.7%, 08-50.9%, 09-44%, 10-50.73%) and may be related to English as a second language for a high percentage of the student population. Pre Algebra skills are also weak, and failure to comprehend nonfiction text impacts scores in this area of math as well as science. In summary, ZA by 09-10 LRC met 4 of 15 Indicators with P.I. of 83.8. READING: Although overall reading concern on the 2011 DF is ranked moderate for 5-8, OAA trend data suggests a downward slope in informational text (50.73%/2010), i.e. content lit. in math & science. MATH: Performance in 5-8 is of HIGH CONCERN (54% proficient/2010); no indicators met; 3-yr. trend data slopes downward. All measured subgroups of high concern. ATTENDANCE/BEHAVIOR ACTIONS are ranked on the 2011 DF of medium concern, particularly in 5-8. Although a reduction in discipline occurrences from 2008-09, attendance issues continue to be problematic, particularly in 5 (490.6 UNX/100 in 2010) & 6 (476.5 UNX/100 in 2010). PARENT AND FAMILY ENGAGEMENT: Based on focus groups and parent surveys, ZA families have limited literacy, English, & urban work skills. Family conflicts due to cultural adjustments, poverty are high. Maintaining supportive parental and family relationships are critical to children and parents who have suffered the effects of war, forced migration, and acculturation resulting in irrevocably changes in these bonds. Positive/stable family relationships are key and programs instrumental in helping parents and teenagers maintain communications through the acculturation process are critical. ZA families can benefit from programs that will assist the school in providing parenting support, employment training, housing assistance, translation services, English Language education, and assistance in preparing and applying for GED and job skill training.

Zenith Academy students represent an ever increasing, underserved population with academic, language, content literacy, & social issues created by a history of compromised child development, economic, and assimilation issues. Most of the student population represents potential first generation high school graduates who have enrolled in ZA after several failed attempts in public and other charter school platforms. Re-engagement programs, instructional strategies, and materials are, therefore, critical to the success and educational survival of these students, both now and in the future. To achieve academically, graduate, & fulfill roles as productive citizens, our students require additional educational support services. At high risk for school failure, dropping out (particularly middle school females), & juvenile delinquency, our students would benefit from STEM, an innovative model, designed to provide:

- A schoolwide transformational approach that increases the achievement of all students

- A STEM platform in the school that will help young people from broad and diverse backgrounds use their minds well, take charge of their lives and learning, and succeed in a global age (OSLN webpage).

- Student mastery of Ohio core subjects, information and communications technology literacy, and 21st century skills (critical thinking and problem solving; creativity and innovation; communication and information; collaboration; contextual learning; and information and media literacy) (OSLN webpage).
- STEM literacy with emphasis on real world problem solving, project based learning, and the power of science and mathematics as the international language of innovation and engineering and technology as the language of design (OSLN webpage).

- Networks and support frameworks to help teachers and students create, acquire, analyze, synthesize, evaluate, understand and communicate knowledge and information in a global context (OSLN webpage).
- High quality professional development opportunities to enhance STEM teaching and learning capacity.
- Meaningful mentoring, apprenticeship and internship experiences for students.
- STEM partnerships with other STEM schools, universities and post-secondary institutions, business, and community organizations to accelerate capacity and broaden opportunities for students/staff/families.

2**. In what other school transformation strategies has your school been engaged and its/their status?**

Although ZA was not required to implement a specific transformation model, in 2008, the Leadership Team embraced and incorporated into ZA's CCIP transformation strategies identified by McREL and Mass Insight Education as being most effective in reforming urban schools. As part of the CCIP goals and the RttT Scope of Work, ZA has, or is in the process of, fully implementing the following transformation strategies that have resulted in the school district moving from continuous improvement to effective status in 2009/2010. The STEM Model will be implemented as a transformational school improvement model, supporting and enhancing current action steps to improve the participation and performance of ZA's students in science, technology, engineering, and mathematics and to redefine teaching and learning across all content and grade levels. The STEM Model will allow educators/students/parents to change how they think about the work, talk about the work, and, ultimately, do the work of educating all students to meet and exceed high expectations. The STEM Model will support and strengthen the transformational work already in place at ZA as follows:
- Implementation of a standards-based instructional model in all core content areas. All classrooms utilize model curriculum that aligns to ODE Common Core and incorporate ODE Model Curriculum components including standards/benchmarks, formative assessments, instructional strategies, and re-teaching opportunities.
- Use of a formative assessment system designed by teachers (4.5s) and summative models such as NWEA, ProOhio that deeply align to the standards and include timely feedback about student progress on standards. Students monitor progress through portfolios of work.
- Implementation of research-based instructional strategies such as differentiated instruction, higher order thinking skills, writing across the curriculum, project based learning, Understanding by Design, team based learning, and service learning modules.
- Use of technology such as STEM based Pitsco modules and diagnostic-prescriptive software to support student learning and information systems like Data Director to facilitate data management.
- Provide additional time on task and expanded learning time to students through before and after school tutoring, summer school, and expanded school day/year with materials and strategies that reinforce not repeat in-class learning models.
- Use of prevention/intervention strategies that are flexible and maximize academic time for core subjects and learning time for students who need it; double blocks of math and science.
- Immersion vs. pull-out focus for ELLs and inclusion model vs. differentiated system for SWDs; depending on identified student need and plan. Full implementation of the RTI model.

- Capacity building of staff to implement high level instruction through mentors, job-embedded HQPD and coaching, Teacher Residency Program, shared leadership, McREL Walkthrough model, use of Ohio Teacher and Principal Evaluation Standards, and HQPD that fits school needs and system strategy.
- Implementation of educator career path and compensation model that reward the greatest contributors, recognize student growth, and attract/retain talent; particularly in math and science.
- Maximize community resources to augment instruction and provide enrichment and wellness via partnerships with Community Based Organizations such as Ohio State University Dept. of Recreational Sports, Franklin University, Somali Community Association, SomaliCAN, SOYOCODE, CRIS, and Columbus Public Library.
- Engage families in their student's learning and in the daily work of the school through volunteer tutoring opportunities, English support programs such as Rosetta Stone, employment as classroom aides.

More detailed explanation of transformation strategies and specific results are outlined in ZA's 2010, 2011, and 2012 CCIPs and attached IMMs.

3. Describe the capacity your LEA/school has to ensure a successful implementation.

Zenith Academy and its sponsor acknowledge & agree to the STEM program assurances as follows and have demonstrated experience in providing high quality monitoring & accountability to ODE for the past **six** years:

Leadership and Oversight: ZA Leadership Team and Community Based Organizations represented on the ZA Leadership Team are committed to implementing the STEM Model with fidelity. ZA staff has voted to commit to the implementation of STEM philosophy, methodologies, strategies across all content area and grade levels. ZA Superintendent and principal both agree to lead the administrative management of the program and the ZA Curriculum Director will serve as the STEM Program Director and provide program oversight including curriculum implementation, analysis of data, supervision of tutors, and the integration/alignment of STEM Model into the ZA academic program and standards based framework. ZA staff members have voted to support/participate in the programming as assigned; particularly ELL & special education staff. The Leadership/RttT Team and ZA Data Teams are in place to monitor student progress and program implementation.
Facilities: ZA facilities, located at Morse Rd. & I71, are licensed & designed for extended learning opportunities with large multi-purpose rooms, performance space, multiple classrooms, instructional technology, and computer labs. ZA's hours of operation, 8:00 am – 3:00 pm, support the addition of additional courses, out-of-school programming, and opportunities for high quality professional development opportunities.
Expertise: Teachers/ teacher assistants/ tutors from ZA are HQ and have a proven track record of improving academic achievement in math, literacy, reading, & science among target students; specially ELLs. ZA is designated as Effective by ODE for 2010/2011.
Experience: ZA has a 6 yr. track record for the effective & financially accountable administration of federal, state & private grant money funding a variety of programs including Charter School Start-up grant, RttT grant, EdJobs, & SIG.

4.**How will you integrate the specific Innovative Program into your school culture and current transformation plan/Scope of Work?**

"Learning is 'hands-on' and personal. And it's not just math and science – there's a lot of history, writing and literature, as well as music and the arts. If it were my decision, STEM would be part of every school" (Oppong, Columbus Metro Academy, 2006).

Zenith Academy has a school culture of high expectations for students as exemplified by the increase in student performance and improved student behavior as noted on formative and summative measures. However, Zenith Academy does not have a strong science, technology, engineering, and math platform, but rather isolated pockets of innovation in individual classrooms that utilize project based learning, real word problem solving, differentiated instruction, and authentic assessments. Participating in the STEM Model would provide the District with the necessary tools, framework, structure, training, networking and oversight to accomplish whole school transformation by reinforcing and supporting the successful programming currently in place at ZA and building upon the research and development of other STEM Model sites to enhance and advance the instructional model at ZA. The programmatic instructional gaps at ZA as identified by the ZA Leadership Team and staff include the following areas of high need that could be provided by participation in the STEM Model. STEM Model will be integrated into the school culture and current transformation plan as follows:

- Develop and implement a comprehensive communication plan that ensures staff/parent/student/community have knowledge about and buy into the STEM Model at ZA.

- Engage in on-going, long term STEM PD and follow-up support through Ohio Stem Learning Network to develop ZA leadership capacity and cadres of STEM coaches and educators.

- Revise policies, guidelines, procedures to enable the full implementation of a STEM Model.

- Commit to redirect human and fiscal resources to ensure implementation and sustainability.

- Integrate STEM goals into CCIP/RttT Scope of work and monitor for implementation and results.

- Engage in and develop STEM partnerships; particularly with STEM Platform school and other hubs.

- Develop and integrate a school-wide, trans-disciplinary academic curriculum for all students (math, science, social studies, language arts and a foreign language) at all grade levels that supports project based learning and performance based assessment.

- Infuse practical, problem solving processes and tools of engineering and technology into all course content and across all grade levels at ZA.

- Align elementary and middle school instructional program at ZA with other STEM models, including high school and higher education and workforce standards.

- Expect all students to succeed, particularly in math and science, and provide the necessary supports and shaping and pacing of coursework and instruction to meet this goal.

- Require all students attain mastery in math and science standards/indicators/benchmarks before proceeding to the next level.

- Provide students with the opportunities to gain credit through independent research, group projects, service learning, and coops.

- Continue to adequately prepare students to pass both standardized and performance based measures.

- Provide out-of-school co-curricula and enrichment activities that strengthen and enhance STEM mastery.

- Schedule out-of-school time for educators to plan and participate in extensive professional development opportunities, both job-embedded and workshop based.

- Provide leadership opportunities for educators (District, local, nationally) related to STEM initiative.

- Attract and retain highly qualified educators in STEM areas through partnerships with universities, innovative staffing strategies, teacher learning teams, PD residency programs, and financial incentives.

The ZA Leadership Team has carefully integrated the District CCIP goals and Scope of Work commitments into a working plan for the District which it manages, oversees, and adapts according to ongoing student performance, attendance, and behavior data. Utilizing a strategic planning process, the Leadership/RttT Team will develop and monitor implementation process, including budgeting, timelines, outcomes, accountability.

5.**How will implementation of this Innovative Program increase student achievement and progress in your LEA/school for ALL students?**

ZA has three CCIP goals for 2011-2015 as follows:

1) **Provide and sustain high levels of teaching and learning aligned to Ohio Common Core Standards in reading (informational text and content literacy), math, and science that result in increased levels of student achievement, engagement, increased educational equity, and build skills necessary for success in today's economy.**
Description: By 2015, all students in grades 3-8, including identified subgroups, will be proficient or highly proficient in reading, math, and science; specifically the areas of reading process, vocabulary, literacy, and information text as well as the areas of geometry, algebra, and number sense as measured by informal aligned formative assessments provided in the ODE subject specific curriculum guides, teacher designed 4.5s, OAA and Terra Nova (as part of Battelle for Kids Value Added program/RttT) yearly fall and spring progress data.
Performance Measure: Improvements in reading, math, and science will be measured yearly by a minimum decrease of 10% per year of non-proficient students from the ALL STUDENT GROUP per AYP guidelines utilizing OAA in specified grade levels and content areas as well as state approved alternative assessments; a minimum of one year growth/progress per year in reading and math for each student as measured by Battelle for Kids strategic measurement system through RttT; quarterly formative assessments results in reading and math designed by ZA teachers and those available from ODE model curriculum will indicate student mastery of taught benchmarks/indicators.

2) **Positive youth development by providing students with a safe, healthy, drug free (environment) learning program, in a well supervised, learning environment, staffed by caring, competent and supportive adults who will extend, enrich and prevent identified academic/social needs, and fill existing gaps in services to children within our community.**
Description: Attendance and behavioral related occurrences rank high in the level of concerns for students as identified by the Zenith teaching staff in the 2012 DF report and findings. Positive youth development is a set of strategies that help guide youth on a successful transition to adulthood. This approach provides youth with the broadest possible support, enabling them to attain desirable long-term outcomes, including economic self-sufficiency and

engagement in healthy family and community relationships. Positive youth development is designed to provide the maximum impact on the life-trajectories of participants. In the short term, using this approach can improve program quality, thereby creating a meaningful experience that will attract and engage youth. In the long term, youth development approach has been shown to keep youth away from negative, risky behaviors and on track for a healthy and successful adulthood. Mentoring programs, drop-in centers, arts programs, community service projects and academic support programs are among those that often work under a youth development framework. Youth development approach has been shown to keep youth away from negative, risky behaviors and on track for a healthy and successful adulthood. Mentoring programs, drop-in centers, arts programs, community service projects, after school-out-of-school integrated health/nutrition/social skill development, and academic support programs are among those that often work under a youth development framework.

Performance Measure: During 2011/2012 school year, 25% of elementary and middle school student at Zenith Academy will decrease tardy and/or absent rates as determined by attendance data reported in 2010/2011 to EMIS and reported in the 2012 Decision Framework document. During 2011/2012, 90% of eligible students in grades 5-8 at Zenith Academy participate in enrichment and recreational activities that provide interaction with community organizations and volunteers as measured by student attendance. During 2011/2012, 25% of elementary and middle school student in grades 5-8 at Zenith Academy will decrease the number of reported behavioral incidents as determined by OSS data reported in 2010/2011 to EMIS and reported in the 2012 Decision Framework document as well as informal teacher reports and disciplinary data collected weekly and reported to the Zenith Data Team.

3) **Parent and Family Engagement - offer Zenith Academy families opportunities for literacy and related educational development and specific parent engagement opportunities that support district/building level strategies/action steps for improving student academic performance, attendance, and positive behavioral goals and that provide the needed training to enable the parents to effectively participate**.

Description: Promote the engagement of adult family members of actively participating Zenith students through educational and personal development opportunities, particularly in the area of literacy. Sponsor parent engagement opportunities that are different and more frequent than have been traditionally offered by the regular school day program and address identified parent/student needs/risk factors, and fill existing programs/services gaps.

Performance Measure: 75% of adult family members of actively participating Zenith students report positive increase in their parent role, and greater involvement in their child's education, and involvement in the school community as the result of participation in Zenith in school and out-of-school programs/services as measured by yearly pre-post evaluation surveys, attendance records, and parent focus groups conducted by outside program evaluators. By 2013, 50% of adult family members of actively participating Zenith students participated in, and completed a minimum of 1 program/service in areas of adult literacy, family physical/mental health, computer/technology, vocational training, or ELL classes as measured by yearly official attendance logs maintained by Zenith Academy Administration/after school/out-of school program coordinator.

"Adventuresome educators are already engaged in a variety of pilot projects to explore the potential of significant restructuring in STEM learning environments-to connect formal and informal learning opportunities, to connect students and STEM professionals, to engage families in STEM education, and to provide new tools for assessing and validating student learning. There are also hundreds of STEM-focused schools across the country, as well as virtual schools that enroll hundreds of thousands of students in their courses. However, claims for success of those efforts remain largely undocumented by empirical studies" (National Science Foundation, 2011).

ZA must, therefore, rely heavily on the primary tenants of the model as being sound as well as the ability of education leadership teams such as Ohio STEM Learning Network in partnership with Battelle and the Ohio Business Roundtable to ensure the fidelity, integrity, and accountability for a project of this scope.

Regarding the primary tenants of the STEM Model, ZA educators share the belief that students need an array of skills to compete for the high-skilled jobs of today and tomorrow. Today's students and workers must possess fundamental skills in English, reading, mathematics, and critical thinking that are common to all careers. They also need learning, communication, information literacy, and a range of career and life skills to fully participate in the 21st century economy. ZA's STEM education efforts are consistent with this belief and are based upon a learning theory that suggest that humans learn how to attain, use, transmit, and manage knowledge through the interaction of procedural knowledge and declarative knowledge that is applied within specific

contexts. It is also the belief that knowledge is socially constructed through interactions between one or more individuals, the individual and his/her environment, and the collective interaction of what is learned through both interactions with others and with the environment. Given this conceptual base of how knowledge and skills are developed, the STEM Model promotes inquiry or problem-based approaches to teaching and learning. High speed networks, technology resources, and tools that allow learning to transcend beyond the four walls of the traditional brick and mortar classroom will provide unlimited opportunities for inquiry-based teaching methods that bridge educators, students, and practitioners in the field need learning, communication, information literacy, and a range of career and life skills to fully participate in the 21st century economy. This philosophy is consistent with the STEM Model. STEM initiatives can assist ZA in improving student performance, attendance, and reducing drop-out rates by:

- Accelerating district efforts to adopt and adapt Common Core Standards in math, science, and technology.

- Using technology and inquiry to engage students with issues and questions that are relevant to their lives

- Assisting students in becoming active learners who tackle complex projects and tasks that are engaging and have real-world application

- Helping students develop not only subject-specific knowledge but also attributes like perseverance, time management and critical thinking skills

- Collaborating with approved state or national partners to pilot/implement technology to support formative/diagnostic online real-time assessments in STEM areas.

- Piloting/implementing new science and math concentration modules for teachers/students in elementary school that establish an early foundation, connection, and interest in STEM areas.

- Enhancing educator skills in STEM areas through professional development, coaching, mentoring, networking, and district, local, state, and national leadership opportunities.

- Increasing and retaining a pool of highly qualified STEM teachers and leaders through school/university partnerships, teacher learning teams, alternative licensure activities, and professional development residency programs to ensure all students at ZA have access to HQ STEM educator in all content areas and grade levels.

- Piloting/implementing innovative STEM learning practices and strategies that have demonstrated increased student growth in STEM areas; specifically, project based learning, cooperative teams, differentiated instruction, and applied learning.

- Increasing research-based pathways for STEM coursework.

- Leveraging and deferring costs for district resources in STEM areas through networking and partnerships that enhance district services and opportunities to students and families.

- Participating in a community engagement process as a foundation for STEM education and economic development.

- Increasing likelihood of other public and private resources being available to ZA students and families in STEM areas during and after the 4 year RttT period.

- Assisting to catalyze district policies, partnerships, and practices to avoid the "cliff effect" of one-time grant funding and ensure ZA maintain and sustain efforts after initial funding period.

Therefore, as a result of the STEM Model at Zenith Academy, (1) teachers will learn new skills to better engage learners and help them become successful, (2) students will have access to resources and support structures to help them stay in school, be successful, graduate, and have opportunities for post-secondary education,(3) parents will become engaged in the educational process in ways that will increase their child's success and future learning connections.

6. **How will you sustain this Innovative Program post RttT?**

Since its inception & as a fundamental part of its strategic plan, ZA's Superintendent has engaged board members, parents, & community supporters in successfully identifying revenue strategies and securing opportunities that support the curriculum and instruction of the school & provide for programming essential to achievement, intervention, & enrichment of students. ZA's Development Task Force (DTF) currently includes Supt., principal, 4 teachers as well as members and/or advisors from OSU, Franklin University, SOYOCODE, Somali Community Association, CRIS, Ohio Jobs & Family Services, Columbus Public Libraries (Karl Rd.), YMCA, and Somali Community Access Network (SomaliCAN).   In preparing to meet the challenge of STEM continuation once the grant is completed, the DTF will launch an immediate planning effort, beginning July 2011, to include the STEM Program Director as well private businesses & local foundations that will identify means by which the program can become both cost effective and sustainable in three years. As part of ZA's commitment to the sustainability effort, a Development Director will be appointed to work with the Program Director in the design, implementation, & monitoring a sustainability action plan; providing oversight of the action steps & leadership to the DTF, staff, and partners. The Action Plan, completed by Nov. 2011, will identify target goals, potential revenue support & strategies, tie directly to the CCIP, and include quarterly evaluation reports related to impact & results. Monthly updates will be provided to the DTF and ZA Leadership Team regarding progress/obstacles/opportunities, as well as communications to community partners, parents, staff, current and potential funders regarding ongoing success and future needs. These reports (newsletters, celebrations & special recognitions, community events, brochures, presentations) will ensure high visibility, accountability, and quality assurances regarding the use of funds, partnership efforts, effectiveness, To date, potential revenue streams include: 1) federal, state, local grants & entitlements that support college readiness programs. ZA, for example, through marketing efforts, quality ELL programs, & increased performance rating, are continuing to secure increased foundation payments related to enrollment increases. Initiatives such as STEM improve the quality of services and are expected to result in continuing enrollment growth that could support the continuation of the program in the future; 2) partnerships with for-profit or non-profit entities for goods, services, or financial assistance; 3) endowment & development funds (potential from stakeholders); and 4) private foundation funding secured through partnerships & collaborations with agencies such as SOYOCODE & SomaliCAN.

7. **Describe any potential challenges or barriers with the mandatory professional development and Innovative Program requirements for the framework that you have selected. What strategies will your LEA/school implement to overcome these potential obstacles ?**

Obstacle: Attracting and retaining Highly Qualified math and science educators, particularly at the middle school level.

Solution: (1) Work closely with ODE and universities (both local and nationally) to develop a network of highly qualified candidates; (2) Provide signing bonus and rehire bonus for math and science educators in high needs areas; (3) Provide leadership opportunities within the grant to ZA math and science educations, (4) Provide financial and leadership incentives for HQ STEM leaders and teachers at ZA to reduce loss of key staff leaders and content specialists.

Obstacle: Hiring qualified substitutes to provide excellent educational opportunities to students while regular classroom teachers attend PD.

Solution: (1) Maintain a pool of Highly Qualified substitutes, particularly in math and science area; (2) Increase the pay to long term, highly qualified substitutes in math and science; (3) Utilize the trainer of trainer model to reduce the number of educators out of the building in one day.

Obstacle: Providing state-of-the art technology and learning materials to students in the area of math and science on very limited general fund budget.

Solution: (1) Create business and community partnerships that result in improved access to technology and math and science materials off campus. (2) Focus on acquisition of grants to support math and science classroom STEM initiatives. (3) Pool resources from other grant sources such as Title I, (4) Prioritize and focus existing resources on the STEM initiative.

8.**How will the implementation of this Innovative Program increase college and career readiness of all students?**

Yes, STEM initiatives are designed to enable educationally disadvantaged students to prepare for and graduate from a four- year college or university. The ZA STEM Model will assist students by:

- Introducing STEM disciplines and careers early so that students are aware of choices and opportunities.
- Establishing a culture of high expectations for students and educators.
- Providing access to social, financial, and academic assistance to students in pursuing post-secondary options.
- Supporting recruitment, retention, and PD of STEM faculty to ensure all students have access to a highly qualified educator in all classes; particularly science and math.
- Requiring STEM schools to prioritize budgets and resources to build, upgrade, and maintain quality STEM learning environments.
- Providing a college pathway for students.
- Requiring academic programs are rigorous, relevant, and supportive.
- Promoting strong home-school-community connections.

9. Identify a timeline to achieve a successful implementation.

Our timeline outlines *the general acitivities* for establishing a STEM Model with the knowledge that a STEM Model evolves and changes as the participants gain more experience and clarity about

the model and how it can fit into the school culture. It is not to be considered a lock-step, prescriptive initiative or timeline and should be, ultimately, reflective of the emerging needs of the school through the transformation process.

GOALS	ACTION STEPS/STRATEGIES	Yr. 1	Yr. 2	Yr. 3
Establish an infrastructure for the development and sustainability of a STEM Model at Zenith Academy	-ZA Board of Directors and sponsor approve STEM Model assurances and contract with OSLN.	•		
	- ZA policies, procedures, and guidelines are reviewed and redesigned to support STEM Model goals, objectives, action steps, strategies.	•	•	•
	-Align District budget to STEM Model priorities.	•	•	•
	-Integrate STEM Model goals into CCIP/RttT Scope of Work	•	•	•
	-Utilizing existing ZA Development Task Force, begin to plan and implement goals and strategies to sustain STEM Model once funding is complete.	•	•	•
	-Enhance/revise recruitment policies and procedures to attract/retain HQ STEM educators	•	•	•
	-Develop and maintain a comprehensive communication plan.	•	•	•
	-Develop and implement a quarterly and yearly program evaluation system using student performance data as indicators of progress .	•	•	•

Build the capacity of District administrator and key teachers to play powerful leadershp roles in transforming teaching and learning in STEM areas, K-8.	-Develop commitments and an application process for educators that outlines expectations, roles, and responsibilities for participating on STEM Leadership Team and as STEM Resident Leader.	•			
	-Select STEM Leadership Team members and STEM Resident Leader.	•			
	- Principal implements a three-day strategic planning retreat in July for STEM Leadership Team members and STEM Resident Leader to develop district STEM Model plan	•	•		•
	-STEM Leadership Team, principal, and STEM Resident Leader attend OSLN Leadership Team Development in August, December, March, June and a two day Ohio Innovation School Tour in September, 2011.	•	•		
	-STEM Resident Leader visits a OSLN STEM Platform Schools one day per month.	•			
	-Lead STEM Practioner is contracted and coaches ZA STEM Leadership Team.	•	•		
	-Leadership Team, STEM Resident Leader, and principal participate on on-line, self-directed learning programs offered by OSLN.			•	•

Transform and build the capacity of all ZA teachers and support staff to know and understand mathematics and science content and standards, effectively implement high quality curriculum and instruction programs, and ensure engagement and learning among all students.	Activity			
	-Develop roles and responsibilites for Transdisciplinary Design Team, and an application process.	•		
	-Select Transdisciplinary Design Team	•		
	TDT attends Summer Retreat 2012, Experience STEM 2012, and PD in January.	•	•	•
	-Provide an 18 hour (3-day) Summer PD Institute for key staff: Developing Proficiency in Teaching Math and Science.		•	•
	-Convene groups of K-8 math and science teachers at ZA, working with OSLN and other STEM Model schools, to deepen the alignment of math and science curricula and assessment.	•	•	•
	-Participate in the Teacher Exchange program.			•
	-Educators, specifically math and science, participate in OSLN self-directed, on-line learning modules		•	•
	-Conduct classroom observations and provide on-going feedback utilizing STEM classroom observation tools	•	•	•
	-Provide opportunities for mentoring and coaching by highly qualified STEM teachers and participation in STEM	•	•	•

	networks.			
ZA students have access to high level STEM curriculum and instructional strategies, opportunities to participate in service learning and mentoring connected to STEM areas and real work, pre-AP programs, STEM pathway coursework, and afterschool/ELO programs in STEM such as robotics, science Olympiad, INTEL.	Revise and refine existing math and science curriculum, scope and sequence, and pacing guides to reflect STEM goals and strategies.	•	•	
	Integrate STEM teaching strategies into existing curriculums in core content areas of LA and Social Studies		•	
	Infuse technology standards into all core content curriculum	•	•	
	Working with community and STEM partners, create real-life mentoring and service learning program for middle school students.		•	•
	Develop pre-AP programs for 7 -8 grade students.			•
	Provide summer and after school STEM enrichment programs that foster student interest in science, math, technology.		•	•
Ensure the sustainability of all of the above through commitments of partners to aligning their own goals, policies, and resources to support the work long-term.	Identify and maintain relationships with post-secondary faculty members, Chambers of Commerce, and community organizations who serve as key ZA STEM partners.	•	•	•
	Participate in the dissemination of information regarding best practices in STEM teaching and learning by	•	•	•

	working closely with other STEM schools.			
	Create on-going feedback mechanisms to gain input from parents, students, staff regarding customer satisfaction	•	•	•
	Recruite volunteer STEM professionals	•	•	•
	Engage parents in activities that inform and support efforts to improve student performance and interest in STEM areas (workshops, Family Nights, work force development).	•	•	•

10.Why should your LEA/school be awarded an Innovative Programs grant?

The STEM Model is an excellent match for the current school improvement work being conducted at Zenith Academy, a six year non-profit, K-8, school of choice for students highly representative of the more than 45,000 Somali refugee population in metro Columbus for the following reasons:

- **High Student Needs at ZA in STEM Areas**: The STEM Model proposes an innovative and well-researched solution to the district's significant problem of **less than 50%** of the students in grades 5-8 performing at or above proficiency level on informational text subtests, pre-Algebra skills, math, and science OAAs, **fewer than 5%** of ZA 8th grade students interviewed in focus groups express knowledge or interest in pursuing post

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secondary options, particularly math and science, **fewer than 25%** of parents have a high school diploma or equivalency, are proficient in English language, or can support their child in applying for post secondary options, **more than 95%** of students qualify for free and reduced lunch and require additional supports and opportunities to complete high school and be able to access post secondary opportunities, and **more than 93%** of ZA students are identified as ELL and experience significant language and academic difficulties. Quality STEM programs and classes can be expensive, and districts such as ZA with high concentrations of low-income, high need students have difficulty providing these opportunities without additional state and federal aid.

- **High Educator Needs in STEM Areas**: The STEM Model offers ZA a solution to the district's significant problem of the recruitment and retention of highly qualified STEM educators, particularly at the middle school level, and the need to provide each student with a highly qualified teacher in STEM areas. Because ZA's new and existing educators lack a strong background and experience in STEM areas, a comprehensive PD infrastructure and networking opportunities through OSLN are necessary for the school to design, launch, and sustain the necessary STEM platform required for school improvement.

- **The STEM Model has promise of supporting the District's vision of high expectations for all students AND addressing the school-wide need for a structure to operationalize and accomplish a STEM platform.** Presently, the District does not have the resources or expertise to develop a comprehensive system, K-8, to promote and **intensively** support a STEM platform and ensure that our high needs, ELL students, have access to the most appropriate and rigorous science and math courses, STEM learning practices and strategies, access to STEM resources, materials, and highly qualified educators, and viable pathways to access post secondary options in STEM areas. Efforts within ZA to meet these goals have been sporadic, individualized to a specific classroom or grade level, and/or lack funding, expertise, and long term planning efforts and framework to be successful.

- **ZA has the capacity to successfully implement** the STEM Model due to its longevity as a charter school, sustained and evidenced based academic improvement, highly qualified teaching and tutoring staff, history of community partnerships that will support sustainability, and overall commitment to the model with a 100% vote of approval by the staff to pursue and implement the STEM Model.

SECTION D

Please include LEA Name, IRN#, and proposed Innovation Program information at the top of this table. Include a breakdown of the annual expenditures anticipated in each budget category during each grant-year that equals the total dollar amount of the innovation program selected.

LEA: ZENITH ACADEMY   IRN#000725   INNOVATION PROGRAM: STEM MODEL

Proposed Innovation:					
Budget Categories	FY2011	FY2012	FY2013	FY2014	Total
Salaries (100)	N/A	10,000.00	10,000.00	12,000.00	$ 32,000.00

Retirement/ Fringe Benefits (200)	N/A	2,200.00	2,200.00	2,640.00	7,040.00
Purchase Services (400)	N/A	52,000.00	62,000.00	85,000.00	$ 199,000.00
Supplies (500)	N/A	6,000.00	5,960.00	0	11,960.00
Capital Outlay (600)	N/A	0	0	0	0
Other (800)	0	0	0	0	$ 0
9. Total Costs	$ N/A	$70,200.00	$80,160.00	$ 99,640.00	$250,000.00

RttT Innovative Programs grant applications may be found on the Ohio Department of Education website under Race to the Top at:

http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=694

Interested LEA/Schools are required to submit the requested grant information electronically to jay.keefer@ode.state.oh.us no later than <mark>Friday, May 20, 2011</mark>.

Questions may be directed to

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