

DODGE CITY MIDDLE SCHOOL

Science

Technology

Engineering

Math

SCIENCE, TECHNOLOGY
ENGINEERING, MATH

DCM

TEM



& summer learning academy

Proposal 2014

DODGE CITY MIDDLE SCHOOL

Summer Learning Academy

Subject Index

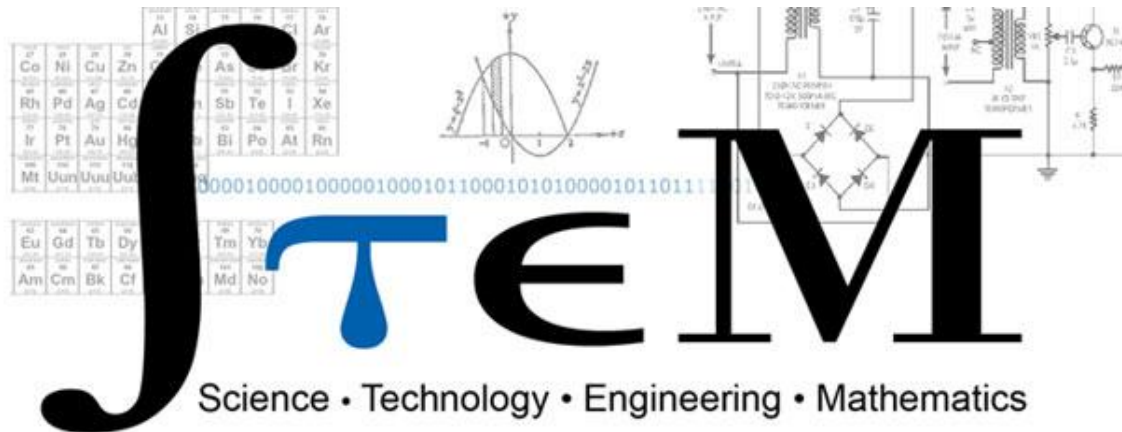
2014

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DODGE CITY MIDDLE SCHOOL

STEM Summer Learning Academy



OVERVIEW

The Dodge City Middle School STEM Summer Learning Academy will place a large emphasis on not just STEM learning, but technology in particular. Students will be immersed in a technology rich environment including the utilization of computers, creating many opportunities for students to utilize technology for learning. The STEM Summer Learning Academy will apply a mix of integrated studies that include mathematics and engineering, along with science and technology. The goal is not only to address literacy in English Language Arts but to prepare students for higher education by exploring design, integrated problem solving, teamwork and thought leadership. The STEM Summer Learning Academy is designed to offer project-based learning experiences to underachieving students in the areas of science, technology, engineering and mathematics along with a language development lab. The academy will target rising 5th through 8th grade students.

CURRICULUM UNITS

Some curriculum units will be constructed around the [Design and Discovery Curriculum](#) which is an academic enrichment curriculum that engages students in hands-on engineering and design activities that enhance knowledge, and problem solving skill in the areas of science and engineering. Students in grades five and six will be exposed to curriculum units that have been constructed around the [Engineering is Elementary](#) Based at the Museum of Science in Boston, this site supports engineering and technological literacy among elementary students and teachers. The lessons are intended to be integrated with elementary science topics.

GOALS

The Summer STEM Learning Academy will address the needs of students who have fallen behind academically and/or are not, meeting required proficiencies, usually because they need more individual assistance and instructional support. Students presently in grades five through eight will be enrolled in courses designed to meet their academic needs for applied skill development in content areas necessary for advancement to their next grade level.

The Summer STEM Learning Academy will provide students who did not successfully meet the promotion requirements an opportunity to earn recovery credit for failed classes and prevent same year placement or retention. Receiving additional instruction during the summer will enable students to make further gains in the applied academic. Students who make these gains during the summer are more likely to be successful during the school year on Common Core district assessments and on class material.

DAYS IN SESSION

- Dates: (Monday, June 2nd - Thursday, June 26th)
- Days: (Monday - Thursday)
- Number of School Days: (16)
- School Day: (8:00 A.M. - 12:00 P.M.)
- Place: (Dodge City Middle School)

IMPLEMENTATION TIMELINE

- 07-March Budget information to Buildings
- 24-March Summer School plans to Judy/Mischel
- 28-March Enrollment Forms to Buildings
- 28-March Transportation Forms to Buildings
- 04 April DCMS SIT Team Reviews and Recommendations
- 04-April Approval of building Summer School plan
- 08 – April DCMS Send Home Notification Letters
- 14 - April Summer openings announced by HR and on-line application process begins
- 25-April Summer School Application Deadline Enrollment Forms due back to buildings from parents
- 2-May Notification of Summer School assignments by Building Principal
- 2-May Transportation Forms to Diana

COURSE: NEWCOMERS: Grade 5 - 8

In the appropriate group, at the level of difficulty consistent with his/her ability, the Newcomer student will practice, develop and reinforce the traditional language acquisition skills of listening, speaking, reading and writing in English. These students will be exposed to the core curriculum in science, social studies and math. This class is designed as a summer transition class to accelerate the process of movement into the regular classroom setting.

LIBRARY MEDIA SERVICE CENTER

With the emphasis on literacy and the need for Common Core non-fiction resources, it is even more imperative that the DCMS library be available to students during the summer school sessions. It is also crucial to have our trained library aide there to help students locate appropriate materials and to process materials during the sessions. As the information center of the school, we need trained people to work the media center in order to help students succeed.

**SUMMER SCHOOL SCHEDULE 2013
(JUNE 2ND - JUNE 26TH)**

Integrated Team One Grade Seven and Eight (45 Students)

Breakfast and (Teacher Planning 7:30 - 8:00 Mondays through Thursday)			
TIME	TEACHER	TEACHER	TEACHER
8:00 - 9:10	Science/Technology	Language Dev. Lab	Engineering/Mathematics
9:10 - 10:20	Engineering/Mathematics	Science/Technology	Language Dev. Lab
10:20 - 11:30	Language Dev. Lab	Engineering/Mathematics	Science/Technology
Lunch (11:30 - 12:00)			

Integrated Team Two Grade Six and Seven (45 Students)

Breakfast and (Teacher Planning 7:30 - 8:00 Mondays through Thursday)			
TIME	TEACHER	TEACHER	TEACHER
8:00 - 9:10	Science/Technology	Language Dev. Lab	Engineering/Mathematics
9:10 - 10:20	Engineering/Mathematics	Science/Technology	Language Dev. Lab
10:20 - 11:30	Language Dev. Lab	Engineering/Mathematics	Science/Technology
Lunch (11:30 - 12:00)			

Team Three Grade Five (45 Students)

Breakfast and (Teacher Planning 7:30 - 8:00 Mondays through Thursday)			
TIME	TEACHER	TEACHER	TEACHER
8:00 - 9:10	Science/Technology	Language Dev. Lab	Engineering/Mathematics
9:10 - 10:20	Engineering/Mathematics	Science/Technology	Language Dev. Lab
10:20 - 11:30	Language Dev. Lab	Engineering/Mathematics	Science/Technology
Lunch (11:30 - 12:00)			

Estimated number of students enrolled has been reduced from 240 to 135

SUMMER SCHOOL PROPOSED STARTUP BUDGET

LINE 1: Estimated Cost per Teacher = (4 Hours per day x \$28.23 = \$112.92) X (4 Days = \$451.68 per one week)

LINE 2: Estimated Cost Per One Teacher (18 Days) = \$2,032.56

LINE 3: Estimated Number Instructors for Grade 5 - 8 (9 x \$2,032.56) = \$18,293.04

LINE 4: Newcomer Program (1 x \$2,032.56) = \$2,032.56

LINE 5: Total Estimated Cost for Instruction = Line 3 + Line 4 (\$20,325.60)

LINE 6: Estimated Cost for Para = (4 Hours per Day x \$10.80 = \$43.20) x (4 Days = \$172.80 per one week)

LINE 7: Estimated Cost for One Para (18 Days x \$43.20) = \$776.60

LINE 8: Estimated Cost for Paraprofessionals (2 x \$776.60) = \$1,553.20

LINE 9: Professional Development (2 hours x \$28.23 = \$56.46) x 10 Teachers = \$564.60

PROPOSED BUDGET FACTORS

A. Estimated Instructional Salary (Lines 3 + 4).....	\$20,325.60
B. Estimated Cost for Supplies (50.00 Per Teacher x10).....	\$ 500.00
C. Classified Salaries (2 Paraprofessionals) (Line 8)	\$ 1,553.20
D. Professional Development (Line 9).....	\$ 564.60
E. Estimated Cost for Program (A + B + C + D)	\$ 22,943.40

SUMMER SCHOOL STAFFING

According to District protocol summer school openings will be posted on the District website and selected applicants will be interviewed for posted positions.

Position

Teacher Assigned

Math 5.....

Math 6/7

Math 7/8

ELA 5.....

ELA 6/7

ELA 7/8

ELA 5.....

ELA 6/7

ELA 7/8

Newcomers 5-8.....

Position Paraprofessional Assigned

Paraprofessional

Paraprofessional

Substitute Teachers

Substitute.....

Substitute.....

Substitute.....

Nurse Listings

CURRICULUM RESOURCE LINKS

STEM (Science, Technology, Engineering, and Mathematics) has been a buzzword in education since approximately 2006 when President George Bush, in his State of the Union address, announced an initiative in this area. The links posted below focus on some aspect of STEM.

[STEMSS Guide](#)

This site is from the Curriculum Library at the University of Wisconsin-LaCrosse. Huge variety of resources including children's books that support science academic standards.

[National Science Digital Library](#)

The National Science Digital Library is a national network dedicated to advancing STEM teaching and learning for all learners and both formal and informal settings, and the locus of activity for the National Science Foundations Distributed Learning Program. Lots of interactive tools for teachers at all levels.

[Gender and Science Digital Library](#)

Digital resources to support STEM education for students of all ages, but especially focused on females.

[MSTE \(Mathematics, Science, Technology Education\)](#)

This site, at the University of Illinois, has a variety of resources for teaching mathematics and science.

[Digital Video Library from the Harvard-Smithsonian Center for Astrophysics](#)

With over 1000 short videos, this site has an extensive collection of digital video materials supporting science, technology, engineering, and mathematics(STEM) education reform.

[Advanced Technology Education Centers \(ATE\)](#)

Portal page to the 36 Advanced Technological Education (ATE) centers supported by the National Science Foundation.

[National Center for Earth and Space Science Education](#)

The National Center for Earth and Space Science Education (NCESSE) creates and oversees national programs addressing science, technology, engineering, and mathematics (STEM) education, with a focus on earth and space.

[Brain Cake](#)

Created by the Girls Math and Science Partnership, the mission of this site is to engage, educate, and embrace girls as architects of change their goal is to ensure that girls succeed in math and science.

[Math and Science Partnership Network](#)

MSPnet is created and facilitated by the Center for School Reform at TERC. This site is supported by the National Science Foundation. Visit the Projects area to learn about STEM projects around the country, the Library for research articles, and Resources for websites and other information.

[Project Lead the Way](#)

Project Lead the Way partners with middle and high schools to provide a rigorous STEM education; which enhances the development of problem solving skills, critical thinking, and creative reasoning.

[PhET Interactive Simulations](#)

Based at the University of Colorado--Boulder, this site has simulations for exploring physics, chemistry, biology, earth science, and mathematics topics at all grade levels. Click on any link on the home page to get to the page where simulations are grouped by topic or grade level.

[Design and Discovery Curriculum](#)

Design and Discovery is an academic enrichment curriculum that engages students in hands-on engineering and design activities that enhance knowledge, and problem solving skill in the areas of science and engineering.

[Engineering is Elementary](#)

Based at the Museum of Science in Boston, this site supports engineering and technological literacy among elementary students and teachers (grades 1-5). The lessons are intended to be integrated with elementary science topics.

[Center for Innovation in Engineering and Science Education](#)

This site, based at Stevens Institute of Technology, provides access to information about technology, engineering, and science-related projects and curriculum. It includes online publications and curriculum resources.

[TeachEngineering.org](#)

The Teach Engineering digital library provides teacher-tested, standards-based engineering content for K-12 teachers engineering content for K12 teachers to use in science and math classrooms.

[Real World Design Challenge](#)

The Real World Design Challenge (RWDC) is an annual competition that provides high school students, grades 9 – 12, the opportunity to work on real world engineering challenges in a team environment. Each year, student teams will be asked to address a challenge that confronts our nation's leading industries

[MN-Stem.com](#)

The goal of the website is to help students learn how their participation in certain classes (STEM) can lead directly to an exciting career. Students will learn how STEM applies to directly to almost every career field.

[getSTEM-mn](#)

www.getSTEM-mn.com or "getSTEM," is a web portal designed to connect Minnesota educators with science and technology businesses, in order to better prepare students for post-secondary education programs and careers in science, technology, engineering, and math (STEM). getSTEM is a partnership between the Minnesota High Tech Association and the Minnesota Department of Education and sponsoring businesses including: Thomson Reuters, Microsoft, 3M, Inetium, Honeywell, and Ecolab among others.

[Starbase Minnesota](#)

Starbase is an exciting and rigorous science, math, technology and engineering program that strengthens skills, increases motivation and expands opportunities for inner city youth. Students, grades 4-6, think like scientists and engineers, experimenting and exploring the wonders of flight and space.

[SciMathMN](#)

Statewide coalition of business and education groups who support quality K-12 science, mathematics, and technology education based on research, national standards, and effective practice.

[UST -- STEPS Summer Camp for Girls](#)

Follow this link for more information about the summer camp for middle school girls interested in engineering.

[Khan Academy](#)

This site includes an extensive video library on science and mathematics topics for K-12 teachers and students. Also includes practice exercises and score tracking. Note: Seems to work better on Firefox than on IE browser.

[Brightstorm](#)

This site has an extensive video collection on topics related to high school mathematics and science subjects. It also has a section where the videos are correlated to popular high school textbooks for these subjects.