PUBLIC SCHOOL CHOICE 3.0 APPLICATION FOR SOUTH REGION MIDDLE SCHOOL # 3 (GRADES 6-8)

Submitted by Local District 6

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Preparing for Success in STEM Academy
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Preparing for Success in STEM (Science, Technology, Engineering and Math) Academy

1. **Mission and Vision.** Describe the mission, vision, and core beliefs as well as the school's values about teaching and learning.

Our Superintendent, John Deasy, recently summarized our purpose as educators succinctly and well when he said, " We improve teaching and learning." In that spirit, we offer the following:

MISSION — We design and live in innovative landscapes of teaching and learning.
All STEM Academy graduates are 21st century learners who leave school with the skills and knowledge necessary for entry into higher education and the workforce especially in the fields of math and science. All students are prepared to make informed high-school pathway choices based on their goals and their interests.

All STEM Academy students are accountable for a rigorous standard based curriculum. Teachers integrate the skills and knowledge from the core content in contextualized learning experiences. Students demonstrate their mastery of the standards in public exhibitions of their learning. Struggling students receive additional academic support within the school day.

The STEM Academy is a learning laboratory incorporating inquiry-based and project-based learning experiences with a strong emphasis in Math, Science, Technology, use of the Engineering Design Process and 21st Century Learning Skills. Preparing for Success in STEM Academy will employ innovative ideas for the development, delivery and management of curriculum in order to successfully educate and prepare our students for the challenges of the 21st century.

VISION STATEMENT — Our students shall become agile learners who advance civilization locally and globally. As a neighborhood school, we are an open and welcoming environment where, parents are actively engaged in their student's learning, and there is strong community and business support. All teachers' work within a professional learning community that embodies the belief that improved teacher practice results in improved student learning.
At the Academy our students will learn to become:

- **Problem-solvers** – able to define questions and problems, design investigations to gather data, collect and organize data, draw conclusions, and then apply understandings to new and novel situations.
- **Innovators** – creatively use science, mathematics, and technology concepts and principles by applying them to the engineering design process.
- **Inventors** – recognize the needs of the world and creatively design, test, redesign, and then implement solutions (engineering process).

- **Self-reliant** – able to use initiative and self-motivation to set agendas, develop and gain self-confidence, and work within time specified time frames.
- **Logical thinkers** – able to apply rational and logical thought processes of science, mathematics, and engineering design to innovation and invention.
- **Technologically literate** – understand and explain the nature of technology, develop the skills needed, and apply technology appropriately.

Core Beliefs:
Preparing for STEM (Science Technology Engineering Math) Academy understands that students should be at the center of our work and school culture. To that end we promise to develop the whole child and continuously work to develop well-rounded people.

We Believe:

1. Every student must have access to a 21st Century education that focuses on strengthening literacy, critical thinking and problem solving, collaboration, creativity and innovation, and communication skills across the curriculum in the disciplines of mathematics, English, science, the arts, world languages, Social Studies, Career Pathways and Health and Physical Education.
2. Our school must offer engaging, inclusive, safe, and positive learning environments for all students through the use of research based strategies that affirm and build upon community values, linguistic and cultural strength.
3. All children must experience often, on a daily basis, so that they believe in a system (and people) that actually works for them.
4. We must hire and train administrators, teachers and staff who believe in the capacity of all students to succeed in life and show commitment through excellent "customer service" to students and their families.
5. We must collaborate with and include community members, especially those who have been historically underserved and marginalized, in educational decision-making by outreach in the community and direct parent-engagement.
6. We must acknowledge and accept responsibility for learning outcomes including retention and graduation rates. We must provide parents and community members' transparent access, change to data so they are better able to support students and the schools in meeting students' needs.
7. We must create a college going environment with high expectations, role models, and instruction that develops critical thinking and writing which integrates technology and establishes college partnerships.

(A)(2)SCHOOL DATA ANALYSIS.

The data outlined below is based upon projected numbers of students from the two middle schools and five elementary schools that maps of Walnut Park Middle School depict as likely feeders from Local District 6 to Walnut Park Middle School.

School Site	*% of Total WPMS Enrollment*	*Predicted # of Students Enrolled in WPMS*
Gage MS	44%	454
Southeast MS	22%	230
Walnut Park	**15%**	**157**
Liberty	8%	80
Middleton	4%	40
Hope	3%	35
Independence	3%	30
100%=	**1026**	**1026**

Contributing Schools	*Grade 6*	*Grade 7*	*Grade 8*	*All Grades*
Gage MS		227	227	454
Southeast MS		115	115	230
Walnut Park	**157**			**157**
Liberty	80			80
Middleton	40			40
Hope	35			35
Independence	30			30
Total	**342**	**342**	**342**	**1026**

Academics

Goal 2: Proficiency for All (ELA, Mathematics, Reclassification Rates)
Walnut Park Middle School will achieve Performance Meter academic outcomes by attending to the needs of every student, across the curriculum, and especially those of long-term English learners and students with disabilities. "First Effective learning" is the goal of the Walnut Park Middle School instructional program and we propose purposeful, differentiated instruction in the core as the first, best intervention.

a. English Language Arts

2009-2010 English Language Arts					2010-2011 English Language Arts				
Feeders	**ELA**		**ELA**	**ELA**	**Feeders**	**ELA**		**ELA**	**ELA**
School site	***%P/A All***	***Students Reclassified***	***%P/ A EL***	***%P/ A SWD***	***School site***	***%P/ A All***	***Students Reclassified***	***%P/ A EL***	***%P/ A SWD***
Gage MS	27.4	48	2.5	0.9	Gage MS	30	50	2.7	1.7
South East MS	32.5	45	16.9	9.9	South East MS	32.3	43	1.7	5.7
Walnut Park	**45.9**	**36**	**15.1**	**10**	**Walnut Park**	**45.2**	**16**	**20.4**	**15.9**
Liberty	38.7	20	15.3	6.3	Liberty	42.5	23	19.9	13.9
Independence	40.7	14	15.6	13	Independence	48.4	16	18.9	20
Middleton	41.2	37	12.5	8.7	Middleton	41.8	37	12.4	15.1
Hope	43.4	10	20	9.5	Hope	46.3	13	14.9	23.8
100%=	**34**	**41**	**10**	**6**	100%=	**35**	**38**	**8**	**8**

Data depicted in the table above is drawn from school site LAUSD Data Summary Sheets. Sites are listed by grade level span, and within that span, in decreasing order by the percent each site is anticipated to contribute to the student population of STEM ACADEMY. STEM ACADEMY will receive few students from around other elementary schools; however, we have selected the five schools with the greatest number of students to send to Walnut Park Middle School for analysis in this set. To increase the reliability of our findings the method of 'weighted average' was applied when calculating the 100% range. All students from Walnut Park Elementary will feed into STEM ACADEMY.
Findings: Significant gaps between English learners and all students in ELA CST performance are evident in data from school years 2009-2010 and 2010-2011, across all of the likely feeder schools to STEM ACADEMY. A weighted average, based upon projections of the percent of students drawn from each of these feeders, is generally speaking slightly lower than the outcomes of Walnut Park Elementary.

To understand the acceleration required at the middle school, we examine a school site that will send 100% of its learners to our middle school, Walnut Park Elementary. The

scores of Walnut Park Elementary tend to be closer to the weighted average then the other feeder schools. So a detailed analysis on the Walnut Park data will be representative of the students that will enroll at the new middle school.

Walnut Park Elementary overall gain in ELA of the advanced and proficient students over a period of four years is 4 percentage points. The school's scores in ELA as measured by CST are 45.2% Proficient/Advanced (P/A). There is a gap of 14.8% in P/A students in order to improve from their present 45.2% P/A to the LAUSD Performance Meter goal of 60 % P/A. As this improvement is representative of the students who will enroll in STEM Academy, we anticipate the need to maintain the student growth in ELA, and augment this by moving FBB, BB, and B students up two performance bands, to realize at least the gain of 15 percentage points in percent proficient or advanced on the ELA CST. An urgent focus on raising ELA student achievement for the student population overall at STEM ACADEMY is clearly indicated by the above data.

While analyzing the trend on English Learner data the gap is even wider. Walnut Park Elementary's 2010-11 ELA outcomes reveal the gap of 20.4 % P/A for English Learners vs. 45.2 % P/A for All vs. 60 % P/A target for 2011-12. Gap-closing instructional outcomes are required to realize the Performance Meter Goals for the percent proficient or advanced among our English Learners. Among the students with disabilities populations Walnut Park Elementary's 2010-11 ELA outcomes reveal the gaps of 15.9 % P/A for SWD vs. 45.2 % P/A for all vs. 60 % P/A LAUSD target for 2011-12.

Gage Middle School will contribute the greater number of middle school students to attend Walnut Park Middle School. The gap for ELA learners are more dramatic at Gage Middle School (2.7 % P/A for English Learners and 1.7% P/A for SWD vs. 30 % P/A for All vs. 60 % P/A target for 2011-12) than Walnut Park Elementary, and these differences have equally dramatic implications for Walnut Park Middle School grade 7 and 8 instructional programs. Additionally, given that one-quarter of STEM ACADEMY's student population is likely to consist of reclassified English learners, on-going academic scaffolding will be required to realize the gains in proficiency that are necessary in English/language arts.

b. Mathematics

2009-2010 Mathematics					2010-2011 Mathematics				
Feeders	**Math**		**Math**	**Math**	**Feeders**	**Math**		**Math**	**Math**
School site	***%P/A All***	***Students Reclassified***	***%P/A EL***	***%P/A SWD***	***School site***	***%P/A All***	***Students Reclassified***	***%P/A EL***	***%P/A SWD***
Gage MS	30	48	5.5	4.7	Gage MS	28.6	50	3.9	5.9
Southeast MS	23.8	41	14.8	9.9	Southeast MS	23.8	43	3.0	3
Walnut Park	**50.7**	**36**	**24.9**	**22.5**	**Walnut Park**	**54.3**	**16**	**31.6**	**34.9**
Liberty	55.8	20	39.8	15.6	Liberty	60	23	46.5	22.2
Middleton	62	37	38.7	25.5	Middleton	66	37	38.2	31.6
Independence	54.4	14	31.1	19.2	Independence	66.9	16	48.8	30.6
Hope	57.2	10	38.2	18.2	Hope	59.8	13	44.4	22.7
100%=	**37**	**28**	**16**	**11**	100%=	**38**	**38**	**15**	**13**

Data depicted in the table above is drawn from school site LAUSD Data Summary Sheets. Sites are listed by grade level span, and within that span, in decreasing order by the percent the site is anticipated to contribute to the student population of STEM Academy. STEM Academy will receive students from two middles school and majority of their 6th grade will be the students from the elementary listed in the table above. To increase the reliability of our findings the method of 'weighted average' was applied when calculating the 100% range. All students from Walnut Park Elementary will feed into STEM ACADEMY.

Similar to the data drawn from ELA results, the students from the feeder schools reveal, mathematics outcomes for both English learners and students with disabilities, significant achievement inequities between these populations and the student population overall. As with ELA, a significant acceleration of student proficiency will be required for all students but most especially for EL and SWD if STEM Academy is to realize LAUSD Performance Meter goals for the CST percent proficient or advanced and realize our mission and vision. As in the ELA table, a weighted average, based upon projections of the percent of students drawn from each of these feeders, is generally speaking slightly lower than the outcomes of Walnut Park Elementary.

To understand the acceleration required at the middle school, we examined a school site that will send 100% of its learners to our middle school, Walnut Park Elementary. This elementary school will need to build upon a four-year overall gain of a mere two (2)

percentage points of the percent of all students proficient or advanced in mathematics, as measured by the CST, in order to improve from 54% P/A to the LAUSD Performance Meter goal of 69 % P/A. There is a gap of 15% points between the school's achievement and the LAUSD Performance Meter Goal. As this improvement is representative of the students who will enroll in STEM Academy, we anticipate the need to maintain the student growth in Math, and augment this by moving FBB, BB, and B students up two performance bands, to realize at least the gain of 15 percentage points in percent proficient or advanced on the mathematics CST. A focus on raising mathematics student achievement for the student population overall at South Region Middle School is clearly indicated.

English Learners at the Walnut Park Elementary's 2010-11 mathematics outcomes reveal the gap of 31.6 % P/A for EL vs. 54.3 % P/A for all vs. 69 % P/A LAUSD target for 2011-12. There is a gap of 22.7% points vs all and 37.4% vs LAUSD P/A target for 2011-12. Gap-closing instructional outcomes are required to realize the Performance Meter goals.

Students with disabilities populations at Walnut Park Elementary's 2010-11 mathematics outcomes reveal the gaps of 34.9 % P/A for SWD vs. 54.3 % P/A for all vs. 69 % P/A target for 2011-12.

Gage Middle School will contribute the greater number of middle school students to attend Walnut Park Middle School. The gaps for mathematics learners are more dramatic at Gage Middle School (3.9 % P/A for English Learners and 5.9% P/A for SWD vs. 28.9 % P/A for All vs. 60 % P/A target for 2011-12) than Walnut Park Elementary, and these differences have equally dramatic implications for Walnut Park Middle School grade 7 and 8 instructional programs.

Additionally, given the number of STEM Academy student population that is likely to consist of reclassified English learners, on-going academic scaffolding is required to realize the gains in proficiency that are necessary in mathematics and will require that content learning also develop the language of the discipline with daily opportunities for students' listening, speaking, reading and writing mathematics.

While the CST data for mathematics outcomes is somewhat stronger than ELA performance, the data revealed by these gaps does not allow for complacency. Gage Middle School is the largest middle school feeding STEM Academy's student population. Shown below in an expanded CST report on Algebra I performance bands for 2010-11, of the 573 Gage Middle School students who were administered the algebra I CST, 38% were proficient or advanced. While this figure matches the 2011-2012 Performance Meter goal of 38% P/A in Algebra I in 2011-12, the Performance Meter calls for 47% the following year and 55% by 2013-14. Noting the more or less equal distribution of students in the Basic and Below Basic expanded bands, the gains required of STEM Academy will come as a result of moving the entire middle school out of FBB and BB status in mathematics. Student proficiency rates in Algebra I in grade 8 are the responsibility of K-8 educators. For middle schools, this requires both gap-

closing effective first instruction in all grades, but also timely and responsive, targeted intervention and prevention alongside enrichment in mathematics.

Test	% Far Below Basic Low	% Far Below Basic High	% Below Basic Low	% Below Basic High	% Basic Low	% Basic High	% Proficient Low	% Proficient High	% Advanced
ALGEBRA I	0%	5%	10%	18%	17%	13%	17%	10%	11%

Data in the table above represents My Data report on Algebra I CST expanded performance levels for Gage Middle School, 2010-2011 school year.

C. Reclassification Rates

School	Four Year Gain	Reclassification Rate, 2010-11	Performance Meter Goal, 2011-12	Number of Students Pending Course Mark	Number of Students Pending CELDT	Number of Students Pending CST	Number of Students with Multiple Criteria
Gage Middle School	-7.12	9.6%	21%	25	26	13	428
Walnut Park Elementary	-8	14%	21%	4	34	10	145

Data drawn from School Summary Data and My Data Reclassification reports.

While the table above depicts a falling rate of reclassification at STEM ACADEMY's largest middle and elementary school feeders, an even more disturbing trend in the data is that the EL students not yet reclassified fail to meet multiple criteria for reclassification.

At Gage Middle School, My Data reports for 2011-12 of "CELDT Performance Based on English Learner Years" shows the vast majority of EL students are at the overall CELDT level of Intermediate (288 out of 556 CELDT test takers), and that the vast majority of these students (240 out of 288 Intermediate students) have been identified as EL for six (6) years or more. Of this group of students, those at overall CELDT level "3" are relatively weakest in Reading and Writing, as compared to Listening and Speaking, and the vast majority of these students are FBB or BB on the most recent ELA CST. However, for such low performing CST test takers, their ELA grades seem to bear little correspondence to CST outcomes (grade range A to Fail).

For Walnut Park Elementary School, upon viewing the entire EL population sorted by CELDT Level and years of identification as an English learner, My Data's "CELDT Performance Based upon English Learner Years" reveals the greatest value is found for Intermediate EL students with 3 years or less. Twenty-three (23) of the EL students in the Walnut Park Elementary data set of "needing more than one criterion to reclassify" are currently fifth grade students. Of these 23 students, six were BB on the previous ELA CST, and all but two of the rest were Basic. CELDT sub-scores reveal relative weakness in Listening and Reading as compared to Speaking and Writing.

The data above signals a need for in-depth scrutiny of specific-student level data upon enrollment in Walnut Park Middle School to ensure the core and intervention programs are designed for proficiency in ELA and CELDT.

B. Attendance
Goal 3: 100% Attendance

The goal of 100% student and staff attendance is scaffolded by performance meter intermediate goals of 66% of all students with 96% or higher attendance in 2011-12 and, likewise, 69% for all staff. As the staff for STEM ACADEMY is drawn from various sites, the most representative data to analyze is student attendance data. Shown below is data from feeder schools, depicting overall strong student attendance rates:

Feeders	Student Attendance	Student Attendance % below 96%	Student Attendance % at or above 96%
School site			
Gage MS	95.8	32.7	67.3
Southeast MS	96.6	31.8	68.2
Walnut Park	95.9	37.7	62.3
Liberty	96.3	33.3	66.7
Independence	95.9	36.7	63.3
Middleton	97.7	18.7	81.3
Hope	96.3	35.7	64.3
100%=	**96**	*32*	*68*

However, we note that an unacceptably high (32%) percentage of STEM ACADEMY's anticipated "composite" student population will enter with the past attendance of less than 96%. This equates to missing nine (9) or more days of school on a traditional calendar. While no studies have come to our attention regarding the correlation of this number of absences to failure in grades 6-8, the high school studies from Chicago revealed a strong correlation between students missing five or more days of school in a year and failure and drop out rates.

C. Attitude

Goal 4: Parent and Community Engagement

While the vast majority of parents in the schools that provide students for STEM ACADEMY feel welcome at their child's current school (92% in 2010-11), this data is based upon about one-third of all parents responding to the School Experience Survey at these sites. Additionally, in 2009-2010, only 43% of respondents indicated a high level of parent involvement in school activities, and in 2010-2011, just under two-thirds of all respondents had talked with their child's teachers about school work.

Combining these percentages, the above survey data set tells us that a mere one out of every five parents is kept abreast of their child's school progress through talking with the students' teachers in the school that will feed into STEM ACADEMY, and about 15 out of every 100 parents is highly involved in their child's school.

STEM Academy's plan for parent and community engagement ensures that parents have multiple venues for working as partners with teachers and the school to improve student outcomes, including the new, online LAUSD parent portal for tracking student progress towards proficiency and college and career readiness/preparedness, and the community- and school-based STEM activities in which parents play the role of mentors and coaches as well as sponsors.

Goal 5: School Safety

The vast majority of students who will enter STEM ACADEMY in 2012-13 have experienced school as a place of safety (86%). However, the current survey does not measure the extent to which students and parents feel their school contributes to their well-being.

(A)(3) APPLICANT TEAM ANALYSIS

1. *What does it take to be successful in either a turnaround or a new school environment?*

To be a successful school the shared vision developed by all stakeholders must guide every decision. Teachers and staff should believe that all students can learn and meet high standards. While recognizing that some students must overcome significant barriers, these obstacles must not be seen as insurmountable. Students must be offered an ambitious and rigorous course of study.

The governance and leadership should promote student performance. Effective instructional and administrative leadership must be present to implement change processes. The leader must nurture an instructional program and school culture conducive to learning and professional growth. There should be high levels of collaboration and communication and evidence of strong teamwork among teachers across all grades and with other staff. The planned and actual curriculum must be aligned with the essential grade level standards.

Research- based teaching strategies and materials should be used. Staff must understand the role of comprehensive assessments, state assessments, what the assessments measure, and how student work is evaluated. The frequent monitoring of learning and teaching should be used to identify students that need help. More support and instructional time should be provided, either during the school day or outside normal school hours, to students who need more help. Teaching should be adjusted based on frequent monitoring of student progress and needs.

Assessment results should be used to focus and improve instructional programs. The Professional Development should be focused, and a strong emphasis should be placed on training staff in areas of greatest need. Feedback from learning and teaching should be used for extensive and ongoing professional development. The school must have a safe, civil, healthy and intellectually stimulating learning environment. Students must feel respected and connected with the staff. Instruction must be personalized through small learning environments to increase student contact with teachers.

There must be a sense that everyone has a responsibility to educate students, not just the teachers and staff in schools. Parents, businesses, social service agencies, and community colleges/universities all play a vital role in this effort. There must be a high level of family and community involvement in the learning process.

2 Why is your team well positioned to do this work?

The design team envisions a school in which every student, regardless of class or race, has the social and economic opportunities afforded by an excellent public education. Achieving this vision and building a school with the characteristics stated above necessitates a highly competent group of teachers and leadership with exemplary credentials. Our design team of teachers and leaders will advance a true agenda of reform.

The design team is made up of teachers throughout Local District 6. The recruitment process for the design team was very deliberate and highly selective. The lead applicant, Sudha Venkatesan, has had a working relationship with the design team members for years. Educators who were identified and approached to become part of the team share high expectations for students and themselves and strive to meet those expectations every day. They have diverse strengths; what they have in common is a proven track record in advancing student achievement. Also shared among the group is a firm belief in Sudha Venkatesan and her ability to lead based on the shared values and beliefs of the team.

Sudha Venkatesan - Project Director, California Math Science Partnership(CaMSP)-
Proposed Principal, Preparing for Success in STEM Academy, SRMS # 3.

Sudha Venkatesan is currently serving the Project Director for CaMSP grant for Local District 6. The grant provides professional development to all teachers of math in grades five through eight (Algebra 1). As a project director, Sudha Venkatesan's role is to conduct and lead professional development, guide the teachers through the action research projects, train in data-driven instruction, observe teachers for implementation of EL access strategies and serve as a coach/mentor to the teachers. She is also responsible for the overall administration of the grant. She works very closely with the university faculty to plan and deliver the professional development based on data and student needs.

As the grant received a very successful evaluation by an external evaluator in terms of teacher support, growth and student achievement, CDE has cited this program as a model to "watch for." The CDE also encouraged the Local District 6 to apply for a demonstration grant where the role of the district will be to serve as a model/coach/mentor to other programs funded under CaMSP throughout the state. The local district 6 has been awarded the grant from CaMSP to be one of the four Demonstration Centers for the Math Science Projects in the state of California. (See appendix for data).

Sudha Venkatesan is also involved with the STEM office of CDE and attends all state level meetings and conferences involving STEM and Common Core. She is also a reader for grants on STEM and Common Core with CDE. Sudha conducts online courses with UCSD for SB 472 and has provided professional development on Project Based Learning. As part of the instructional team of Local District 6, Sudha is involved with providing instructional support to the principals and schools of LD 6.

Prior to being a director, Sudha was an instructional coach at South Gate Middle School. Under her leadership the math scores of the department increased by 35 percentage points at every grade level over a period of three years and the API of the school grew by close to 100 points. As noted elsewhere in this document, Algebra scores alone jumped nearly forty points. Sudha has been working in the community for

nearly nine years and understands the specific needs and strengths of this community. She has worked closely with parent groups and conducted many parent workshops.

Sudha has a combined experience of more than twenty years in teaching, coaching, project management and as an assistant-principal. Her experience and leadership as an elementary and middle school teacher in three diverse cultures, years as Mathematics Instructional Coach in one of the largest middle schools in the LAUSD, and her administrative experience as a director have helped her transcend ethnic and linguistic lines and has positioned her to gain a deep understanding of how humans learn. This has put Sudha in a unique position of looking at education and the student success from divergent perspectives in terms of the educational philosophies and beliefs. Her depth of knowledge related to STEM, her strong instructional leadership, her ability to be a mentor and coach the teachers, her track record of accelerating student achievement, her relationship with the parent and the businesses/members in the community, and her ability to collaborate makes her the best person to lead the school and the team.

Anne Gonzales, Teacher - South Gate Middle School- Proposed 8th Grade Math teacher at the Academy and Lead Teacher for Mathematics:

Anne Gonzales has been teaching in LAUSD since 1987. She earned her bachelor's degree in Mathematics from San Diego State University and has taught grade levels 6th through 9th including a math/science block at the 6th grade level. She has participated in a demonstration grant at El Sereno Middle School as well as being a presenter for the UCLA summer math project. She became a teacher consultant for the UCLA math project grant where she taught math content to teachers that were working on their supplemental mathematics authorization. She was also trained at Los Angeles County of Education (LACOE). She also presented at the Los Angeles City Teachers' Mathematics Association (LACTMA) conference. Is a member of the National Council of Teachers of Mathematics (NCTM).

She has been a part-time mathematics coach and a mentor teacher to teachers inside and outside of Los Angeles Unified School District. She currently teaches all sub groups at South Gate Middle School such as Sheltered thru GATE children, where she incorporates project-based learning. In 2001 and 2009, Anne was selected by the U.S. Department of Education as a member of the planning committee for the National Assessment of Educational Progress (NAEP) She was the department chair of mathematics at South Gate Middle School for the school years 2005-2009 where she conducted professional development to her department. During her time as the department chair the CST scores increased from 23% to 45% advanced and proficient in Algebra. In Geometry, the scores increased from 19% to 63% advanced and proficient. Currently, she is a candidate for National Board Certification.

Mike Albert-Teacher, South Gate Middle School- Proposed Social Studies Teacher at the Academy and Lead Teacher for Social Studies

Mike Albert joined LAUSD in 1998 after a two-decade career in business management. Mike is a National Board Certified teacher in History/Social Science, and was named as an LAUSD Teacher of the Year in 2005. In 2010, he was named as a recipient of a

Teaching Excellence Award/International Leaders in Education Program by the U.S. Department of State, where he taught American History to high school students in Morocco. Mike's classrooms challenge students at all levels to work as historians, solving historical questions using primary source documents, and articulating their ideas in well organized essays. He is also a believer in using technology to support learning in a history classroom, including a class blog, videoconferences with historical venues, and student created podcasts.

Martha Atilano, Teacher, Jaime Escalante Elementary- Proposed Grade 6 Math/Science teacher at the STEM Academy:

Martha is a passionate educator with 18 years experience working with students in the Los Angeles Unified School District. Martha mentored several university student teachers during their credentialing process. Martha is a National Board certified teacher. Martha's professional growth and implementation of effective practices resulted in her students exceeding district and state expectations on standards based examinations. Martha's classroom was one selected as a model for the Magnet School of Choice Program for LAUSD showcasing the math, science and technology magnet and is being continuously selected as a demonstration classroom for implementing effective teaching for teacher observations.

Having experience outside the classroom as a Reading Advisor, Title I Coordinator and Categorical Program Advisor, provided Martha with the opportunities to lead and create positive change at school sites by offering staff professional development on research based best practices that guided structure. Parent communication is vital to Martha's success with students and she is continuously offering parent trainings and tools so they may become better partners in their child's success.

Kathryn Stevens, Coach/Teacher, Ochoa Learning Center- Proposed Grade 8 Science Teacher at the STEM Academy and Lead Teacher for Science and STEM electives:

Kathryn Stevens has taught middle school math and science for the last twenty years. Ms. Stevens was National Board Certified in Early Adolescence Science from 2000 to 2010. Ms. Stevens acted as the math and science instructional coach at Ellen Ochoa Learning Center from 2008 to 2011 during which time the middle school math scores grew by percent and the algebra scores for proficient and advanced grew to 49%. As a Tapestry Grant recipient, Ms. Stevens worked with students over a two-year period on an in-depth study of the Los Angeles River, leading to student presentations to the Cudahy City Council. In addition, Ms. Stevens worked with teams of students in the last two years who have been invited to present at NASA 's National Student Symposium at Kennedy Space Center. She has also worked with student and teachers to get an experiment accepted to fly in NASA's Reduced Gravity Flight Opportunity at Johnson Space Center.

Ms. Stevens continues to be an active member of the NASA Explorer School program. She recently was trained in the engineering design process by the INSPIRE Academy sponsored by Purdue University. Ms. Stevens played a key role in developing PLCs at

Ellen Ochoa Learning Center as well as introducing lesson study protocols to the teaching staff at the school. She is an avid learner who is consistently searching out ways to improve her instruction and provide support to all teachers.

Lisa Usher-Staats- Expert- RTI 2- Local District 6

Lisa Usher-Staats has served LAUSD as a mathematics educator since 1983, working seven of these years in Local District 6 of LAUSD. She brings to STEM Academy: content expertise in mathematics and physics; experience as an administrator over county-wide professional development and the mathematics improvement side of district and school improvement; and a track record of positive impact on student outcomes through secondary mathematics teaching and district office work. In her role as President of the California Mathematics Council, Lisa heads a state-wide committee to transition K-12 mathematics education to the 21st century, marrying Common Core implementation with creativity, communication, collaboration and critical thinking through Project Based Learning and STEM classroom best practices and materials.

In her role as coordinator of the Region XI Algebra Forum, she established the first partnerships of ELD and mathematics specialists, as well as Special Education and mathematics specialists, to achieve equity and excellence for EL, SEL and students with disabilities. At school sites, she has served as a Mentor teacher, Department Chair, School Improvement Coordinator, Gifted/Talented educator, testing coordinator, and was awarded "Teacher of the Year."

Eric Grow, RTI 2 Expert, ELA, Local District 6

Eric Grow has taught in the Los Angeles Unified School District since 1985. In addition to his duties as an English/Language Arts teacher at Henry T. Gage Middle School and Elizabeth Learning Center, Eric has served as a Mentor Teacher, UTLA chapter chair, English department chair, Gifted Coordinator, WASC coordinator and Impact coordinator. Through his work in the Professional Development Collaborative, he has led District-wide initiatives in the language arts, new teacher orientation, and teacher professional development via the Joint Salary Point Credit Committee. He has worked as a member of School Site Council, School-Based Management and as an instructional coach. Eric has written dozens of salary point/professional development classes that have been offered to district personnel at both local at district-wide venues. Eric is presently an RtII Expert at Local District 6.

Elizabeth Virgen, Teacher, Bryson Elementary- Proposed Grade 6 Math/Science Teacher at the STEM Academy.

Elizabeth Virgen is an enthusiastic 5th grade teacher who has worked for LAUSD for the past twenty years. She is a National Board Certified teacher. She incorporates 21st century skills on a daily basis. As a result, many of her students have demonstrated exceptional skills in problem-solving, collaboration, creativity and boast high-levels of thinking skills. The 2010/2011 CST results demonstrated an exemplary score of 97% Proficient and Advanced in the area of math and 80% Proficient and Advanced in Science. Elizabeth's classroom has also served as a model for the Magnet School of

Choice Program for LAUSD. Over the years, has classroom has been continuously selected as a demonstration to aspiring teachers.

Elizabeth's passion for her profession has lead her to seek new and alternative research-based instruction to meet the needs of her diverse learners. She is trained and has taught Gifted. While serving as Literacy and Math Coach she had many opportunities to work and learn from her peers. Elizabeth says, 'I walk into my classroom everyday with one goal in mind, to influence my students to become life-long learners and create an environment in which they will develop the ability to adapt to the needs of a constantly changing world.'

SECTION 2

The Instructional Plan is what will guide your implementation from year to year. This section is divided into three subsections: (1) *Unwavering Focus on Academic Achievement; (2) School Culture*, *Climate and Infrastructure*; and, (3) *Leadership that Supports High Achievement for Students and Staff*.

Category One: Unwavering Focus on Academic Achievement

B-1. Curriculum and Instruction
(A) Instructional Program: Provide a thorough description of the proposed instructional framework and the underlying theory that drives it. Describe the specific instructional strategies that will be implemented and explain why they are well suited to address the needs of the student population and will help attain the goals outlined in Section A

(B)(1)(a) Instructional Philosophy

STEM Academy will provide a holistic approach to education that will introduce students to ideas and experiences that support their becoming responsible and active participants in the society. Upper elementary through middle school is a formative period when the groundwork is established for students' future success. It is important that students' academic skills are buttressed by a strong social and emotional foundation prior to learning the increasingly specialized skills and knowledge necessary for success in high school, college, and ultimately the workforce.

The instructional philosophy of the Preparing for Success in STEM Academy is that learns by doing. At the STEM Academy that philosophy will manifest itself through learning laboratories incorporating inquiry-based and project-based learning experiences with a strong emphasis in math, science, technology, use of the Engineering Design Process and 21st Century Learning Skills. Preparing for Success in STEM Academy will employ innovative ideas for the development, delivery and management of curriculum in order to successfully educate and prepare our students for the challenges of the 21st century. The Academy's philosophy is that student academic achievement is its driving purpose for being, and that high levels of scholarship combined with emotional and physical well-being will assure their ability to be competitive in a global society. By increasing student achievement and interest in mathematics, science, technology and 21st century skills at the middle school level the Academy intends to be a springboard for students to take on rigorous math and science classes at high school, which in turn will ultimately expand STEM education and career opportunities to the underrepresented groups, including women, in society. Transformation will happen not through standardization but by personalization. The achievement at the Academy will be built on discovering the individual talents of each student, to put students in an environment where they want to learn and where they can naturally discover their true passions.

Rationale for the Instructional Philosophy:

Nation:

- There is a strong and growing consensus in the business, scientific, and education communities that we must revitalize our commitment to strengthen the pillars of American innovation and competitiveness. A proven means to achieve competitive advantage is through basic research in physical sciences, math and science education.
- Investment in basic research in the physical sciences (chemistry, physics, materials, etc) is essential to assure our future economic prosperity, homeland security, and leadership in a rapidly evolving world.
- America's global competitiveness depends on our ability to educate our young people in fields of mathematics and science. The Bureau of Labor Statistics predicts a talent gap of seven million skilled workers in the United States by 2016. That means someone other than American workers will fill seven million American jobs. Even more disheartening, that means we are failing our children. In California alone, the graduation rate dropped 4.7 percentage points to 62.7 percent – the second worst in the nation. And out of those students who do graduate from high school, only about half enroll in college.

Why STEM FOCUS in our community at the middle school level?

The service area for Walnut Park Middle School encompasses much of the unincorporated area of Los Angeles County known as Walnut Park, and approximately one-half of the land area of the city of Huntington Park.

Both cities are densely populated majority-Hispanic communities. Huntington Park houses approximately 26,000 people per square mile in mostly detached single-family dwellings (5:3 describes the ratio of houses to apartments in the 3.7 square mile acreage that comprises Huntington Park). Over 90% of the population speaks a language other than English at home, usually Spanish. A mere 4.7% of all residents over the age of 25 hold a bachelor's degree or higher. The cost of living index for zip code 90255 in Huntington Park is 140, significantly higher than the U.S. average of 100. Just over a decade ago, the average "per capita" income was $9340 and over one-fourth of all resident lived below the poverty line.

Community assets include a largely stable population (year 2010 census data indicated almost one-half of all residents had lived in the city and at their current address for 5 or more years). While the number of college graduates living in Huntington Park is small, almost one-third of all residents age 25 or older are high school graduates. In 2002 economic census data, wholesale trade and retail sales of businesses in Huntington Park, combined, represented over $800 million dollars. The 2009 census data on business in the primary zip code for Huntington Park, 90255, identifies 908 business establishments. These establishments employ just over 13,000 workers in retail trade, health care and social assistance, and accommodation and food services. Most business and industries are small or mid-sized; fewer than 50 establishments of the 908

employ 100 or more workers. Construction and manufacturing entail 120 small businesses, mainly employing just a handful of workers.

Walnut Park and Huntington Park are largely urban areas, bound by major transportation corridors for auto and rail. These cities are strong in community agencies and organizations, and in need of considerable "greening" to increase park space and reduce water run-off, according to the USC Center for Sustainable Cities. Despite the parcity of green space, the U.S. Geological Society shows two endangered species still viable in the "quad" that encompasses South Gate, Walnut Park and part of Huntington Park – the Southwestern Willow Flycatcher and the California Orcutt Grass. STEM-related community organizing is part of the history of the communities Walnut Park Middle School will serve. By 2002, the cities of Huntington Park and South Gate counted as two of the 54 cities signed on to "Common Ground," the vision of sustainable cities, green spaces and healthy watersheds, also known as the San Gabriel and Lower Los Angeles Parkway and Open Space Plan. This enabled the expansion of Westside Park and restoration of South Gate Park.

In July 2011, the neighboring city of Los Angeles was listed as the seventh "greenest" city in North America. A recent, related study of the U.S. and Canada Green City Index found that the wealthier cities were more likely to have earned the points to be considered "green" than less well-to-do metropolitan areas. Economic forecasts for the "Southeast Los Angeles" area, which includes cities served by Walnut Park Middle School, suggest that any economic rebound in California in the next few years may not impact this region without innovative approaches to business and community development. Specifically, small and mid-size business development, long range planning and partnerships, and improved educational outcomes are considered key ingredients in the sustainability of these small cities, according to the Los Angeles Economic Development Council.

The goal of educational institutions serving these cities should be to create knowledge clusters in the areas where there is discrepancy between the job requirements and the workforce talents. We have to build on the fact that students irrespective of where they pursue their higher education want to come back home, so by creating centers of excellence in these high need areas city will benefit in the medium term through more civic oriented students and companies coming to the area.

Data Sources: Census Bureau, City-Zip Code Data[*http://quickfacts.census.gov/qfd/states/06/0636056.htmlv*](http://quickfacts.census.gov/qfd/states/06/0636056.htmlv)*;* [*http://censtats.census.gov/cgi-bin/zbpnaic/zbpsect.pl*](http://censtats.census.gov/cgi-bin/zbpnaic/zbpsect.pl)*;* [*http://www.city-data.com/zips/90255.html*](http://www.city-data.com/zips/90255.html)*;* [*http://ceres.ca.gov/*](http://ceres.ca.gov/) *"The Green Visions Plan" 2007 for LA:* [*http://greenvisions.usc.edu/documents/14_parksreport_updated_reduced_8-14-08.pdfhttp://www.laedc.org/reports/SoLA-2004.***pdf**

Facts and Figures on Underrepresented and Minority in STEM jobs:

According to the U.S. Bureau of Labor Statistics, employment in science, technology, engineering and mathematics— known as STEM—fields are expected to add 2.7 million new jobs by 2018, and, as stated previously, at present Americans are ill-equipped to fill those jobs. It should be noted that women and minorities are underrepresented in STEM employment. Something must be done to address this inequity and to fill that void. In a survey of female and minority chemists and chemical engineers, 77 percent said significant numbers of women and minorities are missing from the U.S. STEM work force because ***"they were not identified, encouraged or nurtured to pursue STEM studies EARLY ON".***

While female and minority chemists and chemical engineers said they developed an interest in science at a young age, poor science and math classes in elementary, middle or high school may discourage many others from entering STEM fields. Seventy-five percent of chemists surveyed said inadequate science and math classes in lower-income school districts are among the top reasons that minorities and women are underrepresented in STEM fields.

Why STEM approach to Instruction and what the Research says about STEM Instruction.

It has been noted that science, technology, engineering and mathematics (STEM) education is a meta-discipline, the "creation of a discipline based on the integration of other disciplinary knowledge into a new 'whole'. This interdisciplinary bridging discrete disciplines is now treated as an entity known as STEM (Morrison, 2006). " STEM education offers students one of the best opportunities to make sense of the world holistically, rather than in bits and pieces. STEM education removes the traditional barriers erected between the four disciplines, by integrating them into one cohesive teaching and learning paradigm. Morrison and others have referred to STEM as being an interdisciplinary approach. "STEM education is 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 it the ability to compete in the new economy (Tsupros, 2009)."

This concept is further reinforced by Kaufmann (2003). Today new innovations and inventions tend to be made at the boundaries of these four disciplines, where they naturally overlap. Biochemistry, biomechanics, biophysics, biotechnology, and bioengineering are representative of overlapping areas within biology.

With the publication of *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Future* (National Academies Press, 2005) our nation became more aware and began to address mounting concerns regarding sufficient numbers of scientists, engineers, and mathematicians to keep the United Sates at the forefront of research, innovation, and technology.

Why this proposed approach will serve the school and its students

According to EdSource, September 2011 issue brief- for the students to become career and college ready when they complete high school, they must build a strong base of mathematics knowledge. The end of 7th grade provides an important moment to assess how prepared our California's students are to succeed in the more advanced math curriculum that starts with Algebra.

Students who struggle most in math in 7th grade often continue to struggle with similar content throughout high school. In the long run, strengthening math achievement before and through 7th grade- and narrowing gaps between different student groups-is essential to ensure that all students are prepared to advance toward college and career readiness.

Instructional Framework- Trans-disciplinary STEM curriculum

Preparing for Success in STEM Academy curriculum design is strongly grounded in Research in STEM education. Every component of the curriculum and instructional strategy adopted as part of the Academy's curriculum plan has a research base that has been quoted.
In addition to CA State standards and District approved curricular program STEM Academy will use the recommendations from The National Science Education Standards (NRC, 1996); the National Council of Teachers of Mathematics Standards (NCTM 1989 and 2000); the National Education Technology Standards for Students (ISTE) to drive the curriculum.

The curriculum design elements :

Standards driven – CA Common Core Standards and all four sets of national standards cited above (NRC, 1996; NCTM, 2000; ISTE, 2007; and ITEA, 2007) will be used to backward map the curriculum. The standards represent the Desired Results Stage One of the curriculum design process known as *Understanding by Design* (Wiggins and McTighe, 1998)

Inquiry-based teaching and learning – All three sets of national standards cited above (NRC, 1996; NCTM, 2000; ISTE, 2007) advocate the use of inquiry to reform education. Activities within the Academy's STEM education curriculum will scaffold from confirmatory, to structured, to guided, and to open inquiry. It has been hypothesized that students who learn by inquiry-based teaching strategies will show a greater understanding of content and concept acquisition than students learning through expository learning.

Problem-Based Learning - (PBL) is a student-centered instructional strategy in which students collaboratively answer questions and solve problems and then reflect on their experiences (inquiry). Students learn about a subject in the context of complex, multifaceted, and realistic problems.

- Learning is driven by challenging, open-ended problems.
- Students work in small collaborative groups.
- Teachers take on the role as "facilitators" of learning who provides appropriate scaffolding of that process by (for example), asking probing questions, providing appropriate resources, and leading class discussions, as well as designing student assessments.

Project-based learning has shown results similar to that of inquiry-based teaching and learning. Students at STEM Academy will engage in project-based lessons that create relevant and learning experiences for students.
"PBL is extremely effective as a method for engaging students in their learning. With engagement come focus, discipline, and mastery of academic content. Further, students have the opportunity to work on problems and issues relevant to their lives, as well as learn vital work and life skills necessary to their success in school or in the work world".(http://pbl-online.org/#)

5E Teaching. Learning, and Assessing Cycle – The 5E cycle (Engagement, Exploration, Explanation, Elaboration, and Evaluation) has been advocated by many curriculum designers and educational researchers as an effective planning and teaching paradigm that leads to improved student performance (Colburn, A., and M.P. Clough. 1997). Since its introduction in the 1980's, the 5E cycle has been extensively researched, with the results showing enhanced mastery of subject matter**,** increased ability in developing scientific reasoning, and positive increases in cultivating interest and attitudes about science (Lawson, 1995). STEM Academy will use the 5E Teaching, Learning and Assessing cycle to plan their lessons and evaluate outcomes.

Cross Grade Teacher Collaboration: reflects the reality of the 21st century workplace. A critical part of the STEM curriculum is the coherence of an interdisciplinary program, with cross-discipline as well as cross-grade teacher collaboration. The project-based and problem-based learning (PBL) model focuses on the importance of student inquiry. Teachers will plan collaboratively, with the goal of designing a seamless curriculum using an integrated approach to learning. PBL is a pedagogical shift from didactic to student centered interactive and self-directed learning.

Digital curriculum integrated with digital teaching technologies – STEM education affords an opportunity to deliver curricula to students in non-traditional ways. Digital curriculum has many advantages over traditional, analog (paper-based) curriculum. It can be web-based, meaning it can be readily accessible from any Internet-connected computer, can be accessible to people with disabilities, can be readily updated by teachers and/or school districts, and is often more current. Various lessons in writing, math and science that are available in the digital format will be researched and adopted as part of the curriculum at the Academy.

In addition, digital teaching technologies such as computers, interactive whiteboards, tablets, student response systems, LCD projectors, digital cameras, and digital microscopes will be used to complement the digital curriculum delivery. A STEM

education curriculum at the Academy will be designed to take full advantage of the digital format.

Comprehensive Assessments- Formative and summative assessments with both task and non-task specific rubrics – Today's standards are comprehensive in skills and processes, inquiry, and content; are robust and rich; often have multiple "right" answers; and require performances to assess them. Consequently, traditional modes of using selected response assessments alone are not sufficient to gather evidence of student understanding of these standards. As a result, complementary and alternative forms of assessment will be used to assess student learning at the Academy. This non-traditional assessment format requires students to construct, demonstrate or perform.

The Academy will also follow the state and district accountability measures such as CST, Periodic Assessments and Diagnostic Assessments. Other measurements of accountability include growth in student achievement on the California English Language Development Test (CELDT) and locally designed summative assessments.

Social and Emotional Learning (SEL) The Academy believes that it not enough to simply fill students' brains with facts. A successful education demands that their character be developed as well. SEL processes of helping students' develop the skills to manage their emotions, resolve conflict nonviolently, and make responsible decisions.

Although family, community, and society are significant factors in fostering emotional intelligence and character development, educators must create a safe, supportive learning environment and integrate SEL into the curriculum. Research shows that promoting social and emotional skills leads to reduced violence and aggression among children, higher academic achievement, and an improved ability to function in schools and in the work place. Students who demonstrate respect for others and practice positive interactions, and whose respectful attitudes and productive communication skills are acknowledged and rewarded, are more likely to continue to demonstrate such behavior. Students who feel secure and respected can better apply themselves to learning. Students who are encouraged to practice the Golden Rule find it easier to thrive in educational environments and in the wider world.

The STEM Academy educators (and other students) using the SEL curriculum, will coach children in conflict resolution and model how to negotiate, how to discuss differences in opinion without resorting to personal attacks, and how to accept others when their attitudes, beliefs, and values differ from one's own. SEL strives to educate children about the effects of harassment and bullying based on social standing, ethnic origin, or sexual orientation.

Teachers at STEM Academy will lay the groundwork for successful SEL by establishing an environment of trust and respect in the classroom. Empathy is key. Before children can be expected to unite to achieve academic goals, they must be taught how to work together, and so it provides them with strategies and tools for cooperative learning.

Such learning, successfully incorporated into project learning and other teaching styles, is easily integrated into all subject areas and can be effectively assessed with rigorous, sophisticated rubrics. It will also contribute to a productive classroom environment where students feel they can learn without concern for their emotional welfare.

21st Century Curriculum and Instruction 21st century skills will be taught in the context of core subjects and 21st century interdisciplinary themes; The lessons will also focus on providing opportunities for applying 21st century skills across content areas and for a competency-based approach to learning; The innovative learning methods that integrate the use of supportive technologies, inquiry-and problem-based approaches and higher order thinking skills advocated in our STEM curriculum in by itself lead to the acquiring of the skills needed by the 21st century curriculum; The projects and hand-on learning encourages the integration of community resources beyond school walls and extends into the community and to the business partners

II - Pedagogy/Instructional Strategies that will be used to access the STEM curriculum

a. Sheltered Instruction Observation Protocol (SIOP)

The Sheltered Instruction Observation Protocol (SIOP), a research-based observation instrument, measures sheltered instruction and provides a model for lesson planning of academic English skills in reading, writing, listening, and speaking. The Academy will follow all the elements of sheltered instruction for ELL's from SIOP program and not the protocol. Developed by researchers at the Center for Applied Linguistics and California State University, Long Beach, the combination of the SIOP and sheltered instruction strategies and teaching techniques aligns with state standards and makes academic content more understandable for English language learners.

The SIOP method offers teachers tools for working with ELLs regardless of the language of instruction. It incorporates teaching methods and reading strategies that have demonstrated effectiveness with native English speakers, such as cooperative learning, reading comprehension strategies, and differentiated instruction, and adds strategies that enhance academic outcomes for ELLs, including presenting language objectives in content lessons, using background knowledge, teaching content-related vocabulary, and focusing on academic literacy practice (Short & Echevarria, 2004).

The Academy will follow the traditional sheltered instructional strategies, which encourage teachers to speak more slowly, enunciate clearly, use visuals, scaffold instruction, target vocabulary words and development, connect concepts to students' experiences, promote peer interactions, and adapt materials and supplementary materials for ELLs. The SIOP model incorporates these practices into an explicit methodology for delivering lessons to ELLs.

The SIOP comprises 30 items, grouped into eight essential elements that help make academic content more comprehensible for ELLs:

- Preparation: incorporating language development and content into each lesson
- Building background knowledge: using students' knowledge and prior experience to connect to new content
- Comprehensible input: ensuring that ELLs understand classroom dialogue and texts (for example, adjusting speech, modeling tasks, or using visuals, manipulatives, and other methods to deliver academic content)
- Strategies: teaching strategies explicitly to help students learn how to access and remember information, scaffolding strategy use, and promoting higher order thinking skills
- Interaction: encouraging the use of elaborated speech and appropriate student grouping for language development
- Practice and application: using classroom activities that build on and extend language and content development
- Lesson delivery
- Review and assessment: evaluating whether the teacher reviewed key concepts, assessed student learning, and provided students with feedback (Echevarria, Short, & Powers, 2006).

Teachers can use these elements as necessary to engage students in language development and encourage ELLs in learning English. The SIOP strategies scaffold learning and help teachers focus on the language skills students need for success on academic tasks. This type of sheltered English instruction can be used across grades and content areas.

b. Specially Designed Academic Instruction in English (SDAIE)

Another strategy for English-only classrooms is the Specially Designed Academic Instruction in English (SDAIE), which is akin to sheltered instruction. The SDAIE strategies give ELLs access to the core curriculum while promoting English language development. Growing out of work done by Krashen (1982), SDAIE comprises strategies that provide grade-appropriate academic content in English to ELLs with intermediate-level knowledge of English speaking, writing, reading, and listening. The SDAIE methodology borrows from ESL strategies and emphasizes the use of realia, manipulatives, visuals, and graphic organizers, with plentiful opportunities for peer interaction. Such multiple representations of information help ELLs understand academic content. One of the most important aspects emphasized in the SDAIE methodology is the use of collaborative and cooperative learning groups. Teachers are also asked to scaffold student learning through small-group instruction and the use of students' native language as appropriate; in this model, teachers are facilitators who guide students to learn academic content through the use of strategies.

c. Culturally Relevant and Responsive Education:

Students are apprenticed in a learning community rather than taught in an isolated way. Students' real life experiences are legitimized, as they become part of the "official" curriculum. Teachers and students participate in a broad conception of literacy that incorporates both literature and oratory." Teachers and students engage in a collective

struggle against the status quo." Teachers are cognizant of themselves as political beings.

d. Writing Across Curriculum (WAC) and Writing to Learn (WTL)

STEM Academy will use Writing Across Curriculum to deepen student thinking in all content areas through meaningful and authentic writing. Writing will be used in ELA as a tool to improve the quality of writing while the goal of writing in the other disciplines will be to learn and think. The Academy will focus on bringing together the three instructional approaches to the teaching of writing: emphasis on personal connections; rhetorical traditions which focus on issue of structure, purpose and audience; and the tradition of using writing as a tool for social action. The blending of these approaches works well within the context of writing across the curriculum program. In particular they articulate the following belief:

- Writing is thinking
- Writing is a language process
- We learn to write by writing
- Development of our own writing can be facilitated by being more conscious of our writing processes
- Writing is a socially constructed process
- We not only learn to write, but we write to learn
- The young writer benefits from some direct instruction.

Teachers at the STEM Academy will understand the complex nature of writing and they will construct a classroom environment that engages and supports students yet challenge them to stretch as learners.

e. Response to Instruction and Intervention (RTI 2)

Response to Instruction is the practice of providing high-quality instruction/intervention; based on student learning needs, learning rate and level of performance to make important educational decisions.

While all levels of implementation are critical to the overall RTI process, the Academy believes that the general education teacher has more direct control on the instruction offered in Tier 1, and making certain that the Tier 1 instruction is appropriate should be the first concern. The Academy will offer several content-rich instructional interventions that strengthen the first tier of the RTI pyramid for the middle school content areas.

The Academy will use several instructional innovations, including differentiating instruction using brain-friendly instructional techniques, scheduling an intervention period and precision teaching. The detailed explanation of this approach is being provided under ‘meeting the needs of all students’.

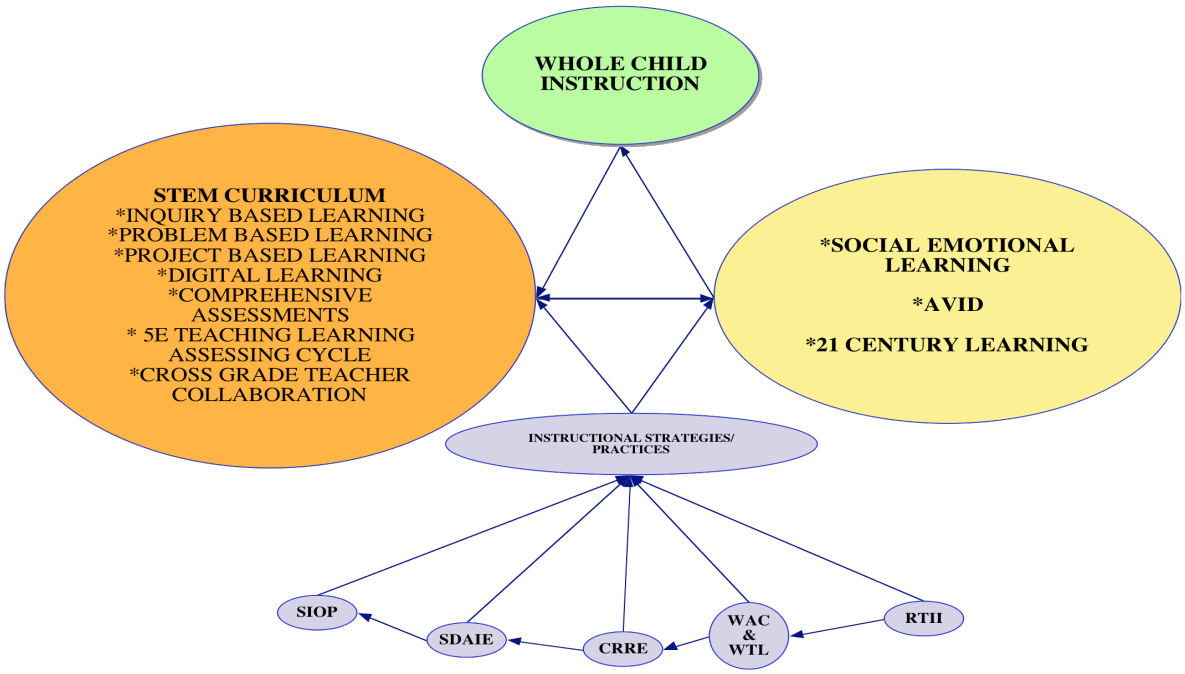
Summary:

STEM education curricula at the Academy will be planned and constructed around these non-negotiable design elements.

- be trans-disciplinary in its overall approach
- be driven by standards that complement the trans-disciplinary philosophy
- use the backward mapping techniques advocated in *Understanding by Design*
- use both problem-based and performance-based teaching and learning
- use the 5E teaching and learning cycle to plan units and activities within the curriculum
- be digital in format and coupled with digital teaching technologies such as whiteboards, tablets, student response systems, etc.
- use both formative and summative assessments with task and non-task specific rubrics and the use Cross Grade teacher collaboration on planning trans-disciplinary lesson units.

These design elements will be blended and molded with the research based instructional strategies in the hands of our skilled classroom teachers into world-class curricula necessary to implement and teach STEM education at the middle school to our student population. It is the belief of our Academy that if the STEM education curriculum is built around these elements it will, by its very nature, be student-centered and teacher-friendly.

CURRICULUM AND INSTRUCTIONAL FRAMEWORK AT THE PREPARING FOR SUCCESS IN STEM ACADEMY



(B)(1)(B) CORE ACADEMIC CURRICULUM:

Core Academic Curriculum: *Describe the core academic curriculum*
Curriculum Development. *(If applicable) Describe the curriculum development process. In the appendix, attach a timeline that outlines plans to develop curricula for the school.*

Trans-disciplinary STEM thematic Units in the Core Curriculum- With the Academy's commitment to supporting and developing STEM talents by guiding students to plan early and strategically and have high level and rigorous coursework, all students in the Academy will be involved in a minimum of two projects per grade level that is trans-disciplinary in approach. All projects will have a strong emphasis on STEM and will use the engineering design process of brainstorming, planning, creating, modifying and team problem solving.

With the cross content collaboration, effective project designs will be developed that will encourage active inquiry and higher order thinking. The project design will revolve around the core curricular concepts that will have clear objectives that align with the standards and focus on what students should know as a result of their learning. Teachers will take the role of a facilitator or a coach. Students will work in collaborative groups. Students will be introduced to the project with questions that pose big and enduring ideas that cross many disciplines. Clear expectations will be defined at the beginning of a project and will be revisited with multiple checks for understanding using varied assessment methods. Opportunities for reflection, feedback and adjustment will be embedded in the project. The projects developed will have relevance to the students' lives and may involve community or outside experts who provide a context for learning. The project work will culminate in student products and performance tasks. The students will present their learning to an authentic audience, connect with community resources, tap into experts in the field of study, and/or communicate through technology.

Projects will be designed to ensure that the work supports the development of both Meta cognitive and cognitive thinking skills such as collaboration, self-monitoring, analysis of data, and evaluation of information. The Essential Question with which the project will begin will challenge students to think and make connections to concepts that matter in real world. A range of instructional strategies will be incorporated into the project design to ensure that the curricular material is accessible to all students and provides opportunities for every student to succeed. Instruction will include the use of different cooperative grouping strategies, graphic organizers, and teacher and peer feedback.

ELA:
The English/Language Arts department (ELA) is especially important to the STEM Academy because of the STEM focus on 21st century skills—specifically communication. The English/Language department promises its 6th, 7th and 8th grade students a rich and rigorous curriculum that assures all students an environment rife

with opportunities to read, write, speak and listen critically and creatively. The core English/Language Arts is divided into four major units of study: narrative, exposition/research, response to literature, and persuasion. The spine of each unit will be based upon the instructional guide developed by the Institute for Learning in conjunction with the Los Angeles Unified School District. Professional learning communities within the department will build the muscles to flesh out that spine through their work developing additional complementary lessons and by developing a guaranteed viable curriculum for each lesson. That guaranteed viable curriculum will be replete with common essential standards, shared best strategies for student mastery of those standards, common formative assessments, and by analysis of student work to differentiate instruction, plan intervention and anticipate revisions to lessons.

The department will seek multiple ways to assess student mastery including: authentic assessments, project based assessment, debate, research projects—short term and long-term, a variety of presentation models –including those using technology-panel discussions, speeches, Socratic seminars, etc. In addition, the curriculum will be a reading to write curriculum. That is written expression will be a critical means to assessing student understanding and to stimulating intellectual growth. That said, students will be required to write at least eight 1,000 word essays (including timed writing) during the course of the school year in styles to include: narrative, expository (cause and effect, compare and contrast, process, descriptive),literary analysis, and persuasion.

The single most important aspect of writing for students at STEM will be the inculcation of a tireless, thoughtful revision process. That process will include editing through modeling, shared writing, exemplar and benchmark papers, self-assessment, peer assessment and drafting to STEM Academy In addition, students will be encouraged to read at least one million words a year through incentives—student-designed assembly (speaker) and field trips.

STEM Academy will offer a rigorous English/language arts curriculum with an emphasis on reading to write. Fundamental to understanding the complexity and depth of the texts students will read are instructional conversations. With that understanding, students at STEM Academy will be expected to regularly engage in:

Socratic Seminar—Too often the necessity to speak, listen, think and respond appropriately in the course of learning is confused with the mere opportunity for verbal exchange (seats are arranged in a way that doesn't directly interfere with conversation). Given the latter scenario, instruction often proceeds along conventional patterns with the tantalizing possibility for intellectual exchange looming, but never occurring. Socratic Seminar is a learning activity that transcends flirtation with student talk and assures instructional conversations. Socratic Seminar engages students in intellectual discussions by asking them to respond to questions with questions, instead of answers. Socratic Seminar is so question reliant that it may remind the initiate a bit of Jeopardy or psychotherapy. Maybe not. At any rate, Socratic Seminar encourages students to think rather than to be the receptacles for others thinking. Open-ended questions compel

students to think critically, to look at the world analytically, to examine nuances in text and speech, and to express their thoughts with precision and conviction. Socratic Seminar builds and reinforces not only language skills, but critical thinking and reasoning skills as well.

Literature Circles—Literature circles provide a forum for in-depth discussion of literature. They are based on a reader response method to analyzing and discussing texts. That is to say, they are not text-centered discussions. The texts that students read and chosen by a given literature circle group. The idea is to develop a love of reading—not necessarily to exhaust the canon or to meet grade level expectations. They will, however, assist teachers shepherd students toward achieving the goal of reading a million words a year. As literature circles don't require participants to have extensive background knowledge in literature, they appeal to emerging readers by allowing for individual insight and questions. In addition to a student's individual response to a text, literature circles rely heavily on collaboration. Students' own responses are shaped and refined, altered or reinforced by the responses of their fellow students. Literature circles change over time; they evolve as the teacher and students become more experienced with the process and change confidence.

UCI Writing Project—STEM Academy will team with the UCI Writing Project through participation in its Summer Workshop. Teams of teachers will be trained to teach genre writing in the California English/Language Arts Content Standards 6-12 Sponsored teachers would then, in turn, serve as trainers to teach writing to teachers in other content areas in anticipation of the Common Core standards in 2014.

What a class would look like for Language Learners

Research indicates that it takes one between seven and ten years to be completely adept with a second language. Therefore, every class (including classes outside the core curriculum) at the STEM Academy will systemically be taught with the promise of providing access to *all* students. In all STEM classes students will be engaged in learning environments that **promote instructional conversations**, use **advanced graphic organizers,** develop **mastery of academic language** and incorporate **cooperative grouping**. Planning by teacher teams will assure that each of these strategies is used to provide access to rigorous curriculum and not merely used for its own sake. That is, each access strategy will be used when appropriate given the content and the learner's need. So will they be used at all times? No, but they will be used frequently and when each is the best and most appropriate strategy to promote learning and academic rigor.

In addition, STEM Academy teachers will use **Specially Designed Academic Instruction in English (SDAIE)** strategies *beyond* what language acquisition classes. SDAIE is a pedagogical approach to provide students with scaffolded, differentiated lessons to assure students access and to master rigorous core content through modified speech and explicit modeling by instructors. Moreover, SDAIE involves teaching essential academic vocabulary prior to a lesson; it involves students in multi-sensory experiences that address multiple learning modalities, cooperative learning

activities, comprehensive input including the use of graphic organizers and other non-linguistic representations to categorize and organize learning, frequent checking for student understanding, pre-writing activities, and design of formative assessments (Marzano, R.J., Pickering, J.D., and Pollack, J.E., (2001) *Classroom Instruction that Works: Research based Strategies for Increasing Student Achievement.* Alexandria, VA: ASCD).

MATH:
The mathematics curriculum at STEM Academy will be driven by both the CA state standards for Mathematics and the national standards in mathematics as advocated by the National Council of Teachers of Mathematics. In preparation of full implementation of the Common Core State Standards in Mathematics, all standards taught at the STEM Academy would incorporate the eight Standards of Mathematical Practice.

The overarching domain for Grades 6 and 7 is Ratio and Proportional Reasoning. The framework for the CA state standards will be followed in every grade level. However major instructional time at each grade level will be focused on the critical areas based on the recommendations made by the Institute for Research on Mathematics and Science Education, Michigan State University by adjusting the pacing plan.

Grade 6-

1. Connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems
2. Completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers;
3. Writing, interpreting, and using expressions and equations
4. Developing understanding of statistical thinking.

Grade 7-

1. Developing understanding of and applying proportional relationships
2. Developing understanding of operations with rational numbers and working with expressions and linear equations
3. Solving problems involving scale drawings and informal geometric constructions, and working with two-and three-dimensional shapes to solve problems involving area, surface area, and volume
4. Drawing inferences about populations based on samples.

Connections to the domains in other grade levels:
The domain of ratio and proportional relationships that is addressed in the middle grades serves as a bridge between fractions (Grade 5) and functions (Algebra 1 & Geometry). One key goal of work in this domain is to introduce the idea that a relationship between two quantities involving a constant ratio or rate can be represented algebraically. The idea of proportional relationship is a common thread that emerges in algebra, geometry and statistics.

Students at the Academy will apply the ideas of ratio, rate and proportional relationship to modeling problems, in which these ideas have real-world meanings. Flexibility in problem-solving strategies will be encouraged. For example, students can express a relationship by scaling up to a whole number ratio when it is appropriate and efficient rather than always having to scale down to a unit rate. The domain of Ratios and Proportional Relationships is a context in which students will have an opportunity to work on such mathematical practices as Making Sense, Reasoning abstractly and quantitatively, Modeling Mathematics and using appropriate tools strategically.

The Algebra 1 curriculum at Grade 8 will comprise of

1. Seeing structure in Expressions, Arithmetic with polynomials and Rational Functions
2. Creating Equations
3. Reasoning with Equations and Inequalities.

Further, students in Algebra will be involved with the physical interpretation of slope and y intercept, independent/dependent variables, rate, time, direct variation, inverse functions, simultaneous equations and so on.

21st Century Tools that will be used in Math Classrooms will include, but not limited to: graphing calculators, computers, internet, data bases, digital libraries, presentation software, word processing programs, manipulatives, motion sensors, force detector, pressure sensor, Logger Pro Software, Geometer's Sketch Pad, Interactive Smart Boards, digital cameras and video equipment.

Learning Outcomes for the 21st century skills will be weaved seamlessly with the mathematics content outcomes at the Academy. Some examples will be:

1. Students analyzing graphs and other data representations from the media relative to their truthfulness and ability to persuade/mislead a reader.
2. Preparing oral presentations of group math projects that demonstrate conceptual understanding as well as the application in a specific context.
3. Present written explanation of problem solving process and solutions with included diagrams, tables, charts, and graphs as needed.
4. Use linked table, graph, and symbolic representations (as can be displayed in a spreadsheet) to explain how components of a real-world situation are connected and how changes impact the entire system.
5. Solve problems using computation, customary and metric measurements, scale factors, ratios, and proportions
6. Create graphical representations of data using graphing calculators and spreadsheets.
7. Use mathematical understanding and problem-solving processes to identify a community problem (such as using a limited number of buses for an expanding student body).
8. Generate and analyze possible solutions for community problems.
9. Create a test with a variety of concepts, and a written reflection of their problem solving process/thinking.

10. Participate in national math competitions, where students are responsible for the quality of the data they submit.

Science:
The science curriculum at STEM Academy will be driven by both the California state standards for science and the national standards in science as advocated by the National Science Teachers Association. In addition to using the state adopted science texts, STEM Academy will draw from a rich variety of resources to enhance the curriculum, including the district inquiry projects, FOSS kits, GEMS guides and NASA developed curriculum. All science teachers will become members of the NASA Explorer School to better utilize NASA resources and training. The science curriculum is a natural place for the integration of both the scientific method (inquiry) and the engineering design process. Teachers will be trained in the Engineering Design Process developed by the INSPIRE institute at Purdue University. Utilizing Wiggins and McTighe's research on backward planning, the curriculum will be structured to give all students access to rich science inquiry, culminating in grade appropriate projects. The engineering process will be woven into each year's curriculum, demonstrating the connection and yet difference between science inquiry and engineering.

A strong expository writing component will be part of the science curriculum through the use of science notebooks, analysis of experimental results and research reports that demand students state a thesis and support it. Technological tools such as microscopes, telescopes, probes, digital cameras, NASA Explorer School and online resources, such as the USGS NOAA and EPA data, as well as digital presentation tools, will be utilized throughout the three years of study. Students will share and present their work through the use of Google docs, PowerPoint and development of a web site.

Grade 6 science is based on the forces that shape Earth's surface. Looking at the curriculum holistically, 6th grade science explores the geosphere, the biosphere and the atmosphere. The following units are designed to let students explore, model and investigate various important concepts in this area.

1. Plate Tectonics: Using the district designed inquiry unit on plate tectonics, students use a variety of methods to gather information on seismically active areas of Earth's surface. They build models, which are constantly refined based on their investigations. The investigations include computer generated models of earthquake and volcanic activity; using role plays to simulate the action of tectonic plates; using the internet to research their assigned area; and presenting their findings and model to their peers. The engineering design process will be implemented as students assess the earthquake dangers in their area and design a building to survive a significant earthquake. Software programs that utilize design features will be utilized as well as model building and shake tests.

2. Utilizing the NASA developed GLOBE protocols, students will explore weather phenomena locally and globally. Using a digital weather station, students will monitor local weather and post the data on the GLOBE web site. They will utilize GLOBE data from other schools to look for trends and patterns and compare and contrast weather and climate around the world. Students will develop spreadsheets and computer generated graphs to compare data sets and look for patterns and trends. Utilizing NOAA and NASA data students will examine changes in ocean currents and predict the effect on weather patterns. Students will examine how rainfall shapes Earth's topography, building models of rivers and looking at change over time.

3. Finally, students will turn to a study of the biosphere, looking at the abiotic and biotic factors that interact to form ecosystems. Students examine energy flow through food webs and limiting factors that impact population growth. Utilizing connections with Friends of the Los Angeles River, the Santa Monica Mountain Conservancy and Sierra Club's Inner City Outings, students can explore local ecosystems, including the Los Angeles River Watershed and the Santa Monica Mountains. Students can connect these investigations to resource utilization and efforts to preserve open space and slow down extinction rates. Utilizing the engineering design process students can develop plans to utilize water run-off on campus, help halt the flow of trash to the ocean and other ecological problems that demand solutions. Using presentation software, such as PowerPoint, students will share their findings and plans with the greater community.

In seventh grade the focus is on life science. The state standards are designed to focus on the students' own biological and behavioral transition into early adolescence. The relevance of the curriculum to students' lives helps students to maintain an interest in science and expand their knowledge of the natural sciences.

The units of study will include cell biology: structure and function in living organisms; genetics and evolution; and human body systems and the connection to physical principals to living systems.

1. Students are presented the challenge of defining life. NASA developed curriculum will be used to spark interest in the search for life in the universe and how we can identify life when we find it. Project based learning will be designed to take students into the cellular structures as well as different types of cells. Microscopes will be used to enhance the process.
2. Students will conduct an in-depth investigation into the structures and functions of plants. They will design experiments to explore the functions of roots, STEMs and leaves. Culturally relevant investigations into plants that are important in their family history will be conducted. Internet research of relevant data basis on plants and presentation software will be utilized. Finally students will be given an engineering design challenge to create a growing chambers for plants on the Moon, a NASA developed curriculum.

3. FAST plants are the foundation of the seventh grade investigation of genetics. In addition, computer simulations that allow students to track population changes as a result of environmental pressure will be used. Students will implement the district inquiry unit on natural selection that relies on statistical analysis of genetics as well as the impact of environmental factors on genetic expression. After examining the laws of inheritance students will develop a timeline of the history of Life on Earth and explore the evolution of life in major geological periods. They will research the evidence for evolution; fossil evidence, comparative anatomy, evidence for mass extinctions and geology.
4. The structure and function of humans, including the human reproductive system, will provide a deeper examination of human anatomy and physiology that began in fifth grade. Students will connect physical laws with human body systems and design models to demonstrate the interconnection.

In eighth grade, the focus is on the study of the physical world. This course lays the foundation for the study of physics and chemistry in high school and builds on students' introduction to chemistry in fifth grade. The curriculum covers three main areas: Newtonian physics; chemistry, including organic chemistry, and astronomy and uses a quantitative, mathematically based approach similar to the procedures students will use in high school.

1. Students begin with the study of forces and motion. Beginning with a PBL challenge to design a rotary recovery system for NASA, students explore how forces interact with mass and discovery the laws that govern that interaction. A strong component of mathematics is included as students graph speed, velocity, and acceleration. Motion sensors allow the digital exploration of these relations. Students utilize spreadsheets to collect and organize data. Students are introduced to the use of vectors to illustrate force and motion. Finally, through the district inquiry project on density and buoyancy, students discover why things float. The unit culminates in a pinewood car derby, with students designing their own cars to win the race, using what they've learned about mass, force, acceleration.
2. Using an online interactive periodic table as well as building a periodic table in the classroom, students will work at discovering the underlying organization of the periodic table of the elements. Students will work in teams to investigate the properties of certain common elements and connect those physical properties to their atomic composition. Students will work in expert groups to learn and teach the nature of various chemical bonds. Students will conduct labs and design experiments to investigate chemical reactions and make connections with chemical bonding. Using on line resources, students will write a report on the physical and chemical properties of an element and its use in our modern society.
3. The study of astronomy is the application of concepts learned about forces and motion and chemistry. Students apply those concepts to gain understanding of how our solar system and the universe is organized and the nature of gravity in the universe. They investigate how the chemical composition of stars accounts

for the differences between types of stars. Using NASA research such as the Kepler mission and the pictures from the Hubble telescope, students learn about the age of the universe and current theories about its nature. In a culminating project, students select a star and design a potential planetary system and determine if life could exist on one of its planets.

The teaching and learning strategies associated with the curriculum at all three grade levels are designed to high levels of depth and complexity, while providing scaffolds for language learners and others with diverse learning styles and abilities. As much as possible actual scientific fieldwork will be incorporated in the science curriculum, including study of the physical and biological nature of the school's surrounding community and field trips to areas of interest. Virtual field trips through the use of video conferencing with NASA experts, state parks and natural history museums will expand students' experiences. GLAD strategies, such as pictorial input, pictorial narrative, cognitive content dictionaries and student expert groups, provide access to EL students to academic language and content. Students take on the role of scientists when they design experiments or systematic observations over time to investigate phenomena. They become engineers when they brainstorm and design solutions to problems. These strategies and experiences provide access to the content for all learners as well as challenge the students to access higher levels of thinking.

Finally, learning cannot be limited to students. The science teachers will take advantage of on line courses and workshops provided by NASA and NSTA. In the PLC, teachers will be trained in lesson study protocols and use them to develop, refine and reflect on key lessons, improving our pedagogy. All teachers will be encourage to attend conferences provided by the California Science Teachers Association as well as the National Science Teachers Association.

Social Studies:
The History/Social Science curriculum will focus on providing our student-historians an engaging and challenging experience to meet or exceed California state content standards in History/Social Science. Our curriculum is **research based**, and focuses on 5 specific components. First, each unit will have an essential question, helping the student with an enduring understanding of history, as outlined by Grant Wiggins and Jay McTighe. Second, to improve comprehension, especially for ELLs, we will depend on Robert Marzono's research regarding non-linguistic representation, especially the need to incorporate graphic organizers and movement activities into lessons. Third, we will execute lessons based on Howard Gardner's multiple intelligences. Fourth, Elizabeth Cohen's research into effective use of cooperative group-work will guide our curriculum. Finally, we will utilize Jerome Bruner's ideas of a spiral curriculum to move students past simple recall and description to analysis and evaluation.

In addition to the intellectual connection to current research, our curriculum will integrate into our school's key components, specifically featuring strong ties to **21st century skills**, and a rigorous writing component. Educational technology use will focus on moving toward Web 2.0 applications, as students learn to share information in effective

and informative ways. PowerPoint will be introduced in the 6th grade, and students will respond to focus questions on a school history blog, where they will compare their responses to those of a companion school. The students will also participate in their first videoconference. 7th Graders will share their learning via podcasting, and see their work posted to the school's website. They will continue to post to the school history blog, and participate in videoconferences. 8th graders will expand on those technologies by being introduced to Google Sites and Prezi, where they will create their own interactive websites and prezis to share their learning.

21st century skills are not only technological. Students also need to learn how to impact their communities, and how their learning interacts with the world around them. **Service Learning** provides that connection, as students combine academic research with a real world problem and local community agencies and resources. Classes will complete a service-learning project in the spring semester, and present it to an adult audience that includes members of community organizations and other interested parties.

Having great ideas is of little value unless one can communicate those ideas to others. **Expository writing** forces students to state a thesis, provide evidence and analysis to support that thesis, and finally to organize their thoughts in such a way as to make a compelling and articulate case for their audience. In history, that evidence comes from primary and secondary source material. The Document Based Question (DBQ) is used in the US and World History AP exams, and students need have multiple experiences with DBQs in order to be prepared. Our curriculum begins to scaffold the DBQ process in the 6th grade, so that by 8th grade students are responding to at least 5 DBQs.

The 6th grade curriculum is taught as a core with English/Language Arts in order to facilitate the transition from elementary to a secondary structure. Students will study the rise of early civilizations, ancient Egypt and the Middle East, ancient India, ancient China, ancient Greece, and ancient Rome. Students will use the text, *History Alive! The Ancient World* (Teachers' Curriculum Institute).

During the 6th grade, students will learn the criteria for a civilization, then will work in cooperative groups to evaluate whether Sumer meets that criterion. While studying the key historical leaders of the ancient Israelites, students will be introduced to their first DBQ, as they use primary sources to compare those ancient leaders to contemporary leaders in the 20th and 21st centuries. Students studying the "golden age" of ancient India during the Gupta Empire will engage in a virtual field trip via videoconference technology to the Los Angeles County Museum of Art, where they will connect the artistic achievements with political and social achievements in a PowerPoint presentation they create. Throughout the year, students will be working on a Service Learning project.

7th Graders will study Medieval Europe, Islam in medieval times, imperial China, sub-Saharan kingdoms in Africa, medieval Japan, Meso-America, and the Renaissance, Reformation, and Age of Enlightenment in Europe. Their text, *History Alive! The Medieval World and Beyond* (Teachers' Curriculum Institute), will compliment their

studies. Our 7th graders will learn about feudalism by comparing and contrasting the roles of serfs, knights, merchants, and monarchs in Medieval Europe. They will use the look at multiple perspectives of the Crusades, and answer a provocative DBQ prompt on whether the Crusades were justified, basing their answer on primary source material. Students will again visit LACMA via videoconference, and create a podcast highlighting the achievements of the Mayans, Aztecs, and Incas, and tying those achievements to contemporary accomplishments in their own communities. The students will also tie into their local communities with their Service Learning project.

Returning to the study of US History that they began in elementary school, our 8th graders will utilize *History Alive! The United States Through Industrialization* (Teachers' Curriculum Institute) as their text. Covering US History from the revolutionary fervor that led to our break from Britain, through slavery and Civil War to the beginning of the 20th century, students see how diverse groups struggled to make the words of the Declaration of Independence a reality for increasing numbers of Americans. They will continue to compose DBQs on subjects ranging from the goals of the Woman's Rights Movement to evaluating best strategies for the Abolitionists, and whether Reconstructions was an overall success or failure for the freed slaves. They will travel to the collections at the Smithsonian Museum of American Art via video conference to study the impact of photography on the home front during the Civil War, and create a website on Google Sites to compare and contrast the experiences of various immigrants to America. They will continue to post to our history blog, and compare their thoughts to their peers. Finally, in an effort to expand sharing their learning to a wider audience, 8th grade students will participate in the History Day Los Angeles event in either the exhibit, performance, or website categories.

The **teaching and learning strategies** associated with the curriculum at all three grade levels are designed to high levels of depth and complexity, while providing scaffolds for language learners and others with diverse learning styles and abilities. For example, visual discovery allows students to analyze paintings, photographs and political cartoons in order to understand different points of view in history; experiential exercises bring history to life on a kinesthetic and emotional basis, for example when students role play as members of a factory assembly line, or a student sit-in; response groups allow students to take sides of historical controversies such as Indian removal and the abolition movement; problem-solving group work gives students varying roles to play in a trial based on Hammurabi's code or a symposium on whether the Crusades were just. Each of these teaching and learning strategies provide not only access to the content for all learners, but access to higher levels of thinking as well.

Elective Studies:

Developing a system of Linked Learning pathways at middle school:

Every effort will be taken at the middle school to becoming a part of developing a system of Linked Learning pathways. ConnectEd talks about the preparation that is needed in the middle school for getting the students ready for a pathway selection at high school. According to ConnectEd if the students are expected to select a pathway at the end of their 8th grade year, they should be able to do so in an informed way.

Students can only do this if they have been exposed to career opportunities in a variety of industry sectors and know their high school pathway options. Equally important, students must be academically prepared to succeed in rigorous pathway programs of study and be assisted in making the transition from middle school to high school pathways. The STEM Academy will provide students with required assistance in developing the self-awareness and knowledge needed to select, in an informed way, among their pathway options. The STEM Academy will initiate a robust career exploration process during the middle school years that supports the selection of pathways.

The Academy through the use of portfolios, multi-year college and career success plans will encourage students to reflect upon and synthesize results of career exploration activities, as well as those of formalized interest and career assessments, to inform the pathway selection. The Academy will also develop career exploration activities that may include career speakers, worksite visits, job shadows, videos, informational interviews, and career investigations. All activities to the greatest degree possible will be integrated into a standards based curriculum and few of them will be added into the electives curriculum.

The writing team has contacted the Career Technical Education (CTE) unit with LAUSD and is also in talks with the CTE advisor of the local district 6. The writing team is planning to develop a plan of action for the STEM electives and for developing the Linked Learning Pathways exploration at the middle school. With that in mind the writing team will apply to the CTE unit to leverage some Perkins fund, which would be utilized for some of the activities stated above and also for buying some of the resources needed to efficiently run the STEM elective programs at the middle school.
The first year will be the development phase and the school will commit that it will provide a full time teacher with CTE credential to run the program in the year 2.

STEM electives:
The Gateway To Technology® (GTT) is a cutting-edge program that addresses the interest and energy of middle school students, while incorporating national standards in mathematics, science, and technology. GTT is “activity oriented” to show students how technology is used in engineering to solve everyday problems in units of study. There are currently four instructional units that excite and motivate students to use their imaginations and teach them to be creative and innovative, while gaining the skills they need to develop, produce, and use products and services.

The GTT curriculum provides project-based learning; a hands-on approach that is exciting and fun for the full-range of students and that relates technology to students’ daily lives. It also promotes communication and collaboration by emphasizing a teaming approach in the instructional units. This approach utilizes the strengths of each team member to accomplish the goals of the project, while offering students learning challenges at all ability levels.

6 Units- GTT currently consists of 6 independent units. The units are designed to challenge and engage the exploratory minds of middle school students and spark an interest in the STEM subjects and prepare students for further study in high school.

Year 1 Students will complete the following 2 modules: Each module will be for a period of 10 weeks.

Design and Modeling This unit uses solid modeling (a very sophisticated mathematical technique for representing solid objects) to introduce students to the design process. Utilizing this design approach, students understand how solid modeling has influenced their lives. Students also learn sketching techniques, and use descriptive geometry as a component of design, measurement, and computer modeling. Using design briefs or abstracts, students create models and documentation to solve problems.

Automation and Robotics Students trace the history and development of automation and robotics. They learn about structures, energy transfer, machine automation, and computer control systems. Students acquire knowledge and skills in engineering problem solving and explore requirements for careers in engineering.

Specialization Units- Advanced Gateway to Technology Year 2 and Year 3 will complete the following 4 modules:

Module 3. **Flight and Space (FS)** -Students explore the technology of aeronautics, propulsion, and rocketry through hands-on projects involving math and science.

Module 4. **The Science of Technology (ST)** -Students will apply scientific principles and concepts of simple machines and energy to solve real-world problems.

Module 5. **The Magic of Electrons (ME)** -Engaged in relevant hands-on projects, students unravel the mysteries of digital circuitry.

Module 6. **Energy and the Environment Advanced Course** for Second Year Students-Students investigate the importance of energy in our lives and the impact energy use has on the environment. They design and model alternative energy sources and participates in an energy expo to demonstrate energy concepts and innovative ideas. Students evaluate ways to reduce energy consumption through energy efficiency and waste management techniques.

Art

STEM will also offer students a second option of an art elective. This program will also follow a pathway sequence. The sixth grade will be a foundation for the art program at this Academy. Students will learn about the artistic contributions throughout history. Exploration of development of artistic principles will be part of that focus. The art program will make connections to themes across all curricular areas. Students will be doing the museum visits like Latino Museum in Downtown Los Angeles and also to the

California African American Museum in Exposition park to gain understanding and appreciation for the historical and cultural elements of art.

Year 2 will go deeper into the elements of arts as the visual arts curriculum will provide students an opportunity to develop technical skills and explore the creative process with a wide range of materials, including paint, mixed media, 3D materials. Different techniques and approaches like drawing, painting, sculpting, designing and creating projects that align with the themes studied in their core curriculum classes throughout the year. Opportunities will be provided for the students to meet professional artists who will share their experiences and expertise. The art projects created by the students will also be presented to the community audience.

The final year of study in art will culminate with an artistic civic engagement project to benefit the local community, which follows the service-learning model used in high school. Eighth graders will be able to build on their perspective of art developed by the art history classes in their first year and the artistic applications the work on in the previous year. Students will partner with their classmates to create a project that will benefit their local community. This elective will follow the project based-learning model, as students with analyze and address an authentic need or issue in their neighborhood.

AVID

STEM Academy will adopt the Advancement Via Individual Determination (AVID) program to further develop the intrinsic motivation of students to attend a four-year university. Initially, the school will schedule one AVID elective for the sixth grade class, and expand the program to two sixth-grade and one-seventh grade offering by the second year of operation. The third year will experience additional growth, as we will add another section to the sixth grade class, and continue the existing clusters of students. Using this model, the middle school will have three AVID sections designated for each grade level by the third year of operation. AVID teachers will be trained to implement the curriculum with fidelity as they attempt to couple the development of self-management skills while infusing motivation to attend a four-year college. Students will learn study skills and the resiliency to withstand the social, intellectual, and personal demands of preparing for, and going to, a four-year college of their choice.

Technology embedded Curriculum:

The role of technology will play a major role in STEM Academy. WE recognize that technology is just a tool and hence its use will be incorporated in every aspects of the STEM school. Our technology standards will be based on the ISTE standards and will be evaluated based on their recommended performance indicators. The goal of the school will be that when our students leave middle school they will have developed computer skills that will be expected of a student entering the undergraduate degree in college. These skills will include but not limited to word processing skills, use of excel, formula bar, creating graphs, linking documents, research using internet, use of presentation software, use of digital cameras, using of imovies, itunes, pod cast, web 2.0, digital cameras and video cameras and so on.

Some of the examples of using the tools will be evidenced as following:

a. Apply existing knowledge to generate new ideas, products, or processes.

b. Create original works as a means of personal or group expression.

c. Identify trends and forecast possibilities

d. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.

e. Communicate information and ideas effectively to multiple audiences using a variety of media and formats.

f. Develop cultural understanding and global awareness by engaging with learners of other cultures by using digital media and environments to communicate.

g. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks

h. Process data and report results

i. Collect and analyze data to identify solutions and/or make informed decisions.

j. Advocate and practice safe, legal and responsible use of information and technology

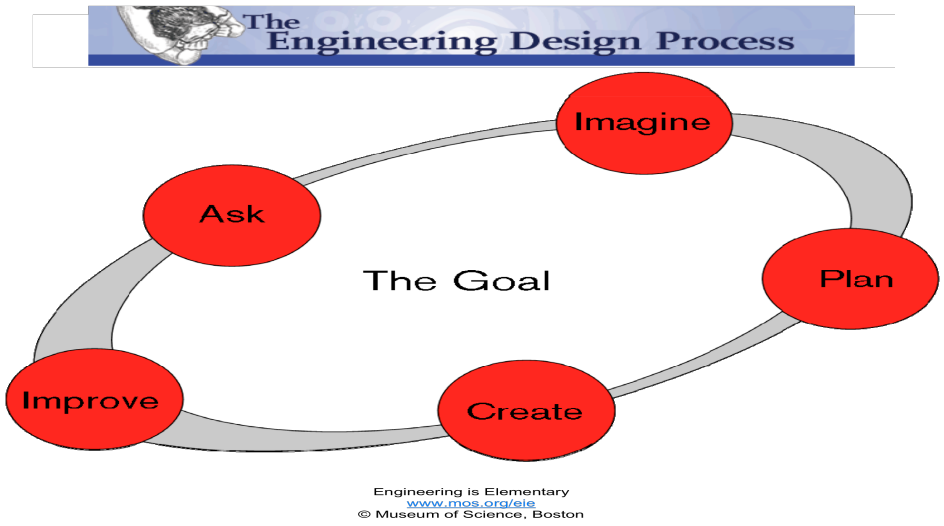
k. Exhibit a positive attitude toward using technology that supports collaboration, learning and productivity

l. Exhibit leadership for digital citizenship

m. Select and use applications effectively and productively

Engineering Design Process and the 5 E Learning Cycle

Use of Engineering Design Process as a curriculum and the teaching method of 5E learning will form an important component of STEM academy. The following process explains how the engineering process will be applied across the different content areas to problem solve.



Moving through the Engineering Design Process might involve asking the following questions or making the following decisions:

ASK

- What is the problem?
- What have others done?
- What are the constraints?

IMAGINE

- What are some solutions?
- Brainstorm ideas.
- Choose the best one.

PLAN

- Draw a diagram.
- Make lists of materials you will need.

CREATE

- Follow your plan and create it.
- Test it out!

IMPROVE

- Talk about what works, what doesn't, and what could work better.
- Modify your design to make it better.
- Test it out!

The above type of curriculum recommends teaching methods that are based in a constructivist view of learning, in which the ideas and skills that students bring to the learning situation are recognized. Students will be encouraged to share their initial ideas about the problems and to examine these ideas in light of new information and activities introduced by their peers, teacher, and experiences.

5 E Learning Cycle:

The pedagogical methods emphasized throughout include the five "E" learning cycle:

Engagement: the students are drawn to the challenge because it is interesting to them.

***Exploration*:** the students begin to explore related science and engineering principles in brief activities. During this phase they encounter problems or ask questions leading into the explanation phase of a learning situation.

Explanation: students describe what they think is happening and are ready to learn from their peers and teacher.

Elaboration: students apply what they have learned to meet the challenge of the learning situation.

***Evaluation*:** students reflect on what they learned.

Why Use the Engineering Design Process and the 5E Learning Cycle?

***Contextual Learning and Problem Solving*:** Curricula often fail to show students how what they learn in school connects with the world around them. The engineering design process and problems demonstrate how math, science, engineering, cultural understanding, and creativity are needed to solve a problem. Situating learning in a larger context piques students' interest and helps them to understand how classroom learning interacts with the real world and can be used to solve problems.

Collaborative Learning and Teamwork: In using this process most activities are done in small groups. With good management from the teacher, this can encourage students to consider more than one solution or idea and work together to develop a design. Working in small groups also provides the opportunity for students to refine communication skills.

***Communication*:** The process encourages students to communicate what they are doing and why, which can encourage deeper reflection. The process encourages students to communicate their ideas through a number of modalities: oral, written, drawn, and built. Whole class discussions moderated by teachers can prompt students to share their insights and learning.

Projects: Assessment of engineering and technology understandings and skills requires more than paper and pencil assessment. Engineering Design Process encourage teamwork and communication. Particularly during the STEM elective periods, students will work together to design and create solutions to a problem.

Curriculum Development:

To implement our instructional plan, there is defined set of areas where new curricula will need to be developed. Key among these is the creation of curriculum for transdisciplinary projects and the integration of the national standards and California state standards especially in the content areas of math, science and technology. The stem elective will follow the pre-defined modules set by Gateway to Technology program that is the middle school component of Project Lead Way. Curriculum development on transdisciplinary projects will be done with oversight by the Instructional Specialist (budget permitting) or will be with the help of the content leads who have extensive experience in their respective content areas.

The proposed principal with her depth of knowledge and experience in the STEM field will be very involved in the curriculum development for the trans disciplinary projects. Development of the trans disciplinary and the integration of national and state standards will be a priority in Spring and Summer 2012 in order to position STEM Academy for implementation in PSC Year 1 (2012-13). The Instructional Specialist/Proposed Principal, with curriculum development experience over a period of nearly ten years, will guide professional development time to this task as well as provide opportunities for staff to investigate existing curricula to create the curriculum maps. This is difficult and time-consuming work that requires an in-depth commitment to collaborative teaching. Due to the in-depth nature of the task, the timeline for developing trans disciplinary lesson units will occur over a longer period of time. We will begin the curriculum development process in 2012-13 but will likely not have had the full development of all projects until the end of Year 2(2012-13). To also support the curriculum and instructional design at the STEM Academy, the Academy intends to move toward block scheduling to allow extended learning time as well as more opportunities for student interactions and cooperative learning. However, we do not believe that block scheduling is feasible at this time as it requires both planning and extensive professional development. Lastly, we anticipate devoting time and resources toward the development of curricula for academic intervention courses targeting English/Language Arts and Mathematics. While many curricular programs exist, we plan to conduct an in-depth analysis of these programs and to tailor the curriculum to meet the specific learning needs of our diverse student population.

Locally Determined Curriculum *(LIS Waiver # 3, TA 2)*

Waiver for Curriculum and Instructional Flexibility rationale:

The STEM school model varies across the country but the common thread among all these schools is that they place a heavy emphasis on science, technology, engineering

and math and the teaching environment goes beyond the classroom. Students usually spend significant time working on group projects, and they often receive help from practicing engineers, inventors and scientists. Walnut Park Middle School aspires to be a STEM model school where the STEM agenda is to improve the proficiency of all students in STEM, even if they choose not to pursue STEM careers or post-secondary studies. The ability to understand and use STEM facts, principles, and techniques are highly transferable skills that enhance an individual's ability to succeed in school and beyond across a wide array of disciplines. These skills include:

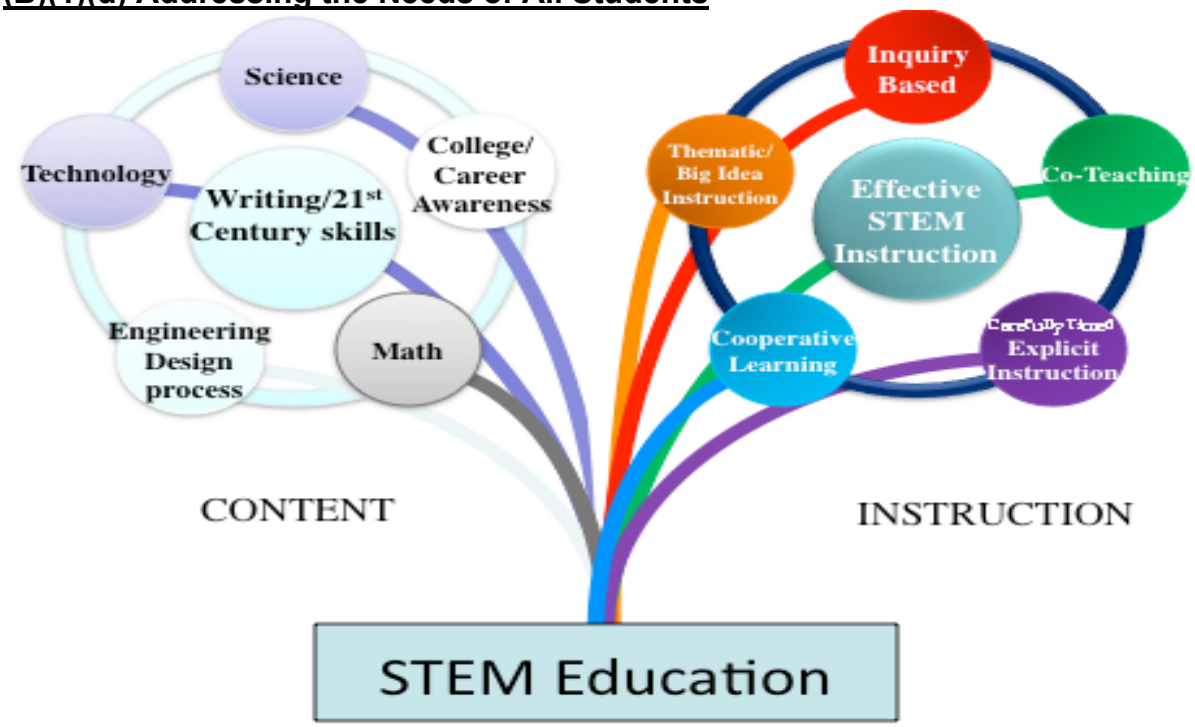
- Using critical thinking to recognize a problem;
- Using math, science, technology, and engineering concepts to evaluate a problem; and
- Correctly identifying the steps needed to solve a problem (even if not all the knowledge to complete all steps is present).

Achieving greater STEM proficiency begins by providing curriculum and pedagogy that will have improved math and science standards and the assessments that test student knowledge and problem solving. Our present state standards as they are, do not provide for such rigorous instruction in Math and Science. That increases the need for the school to use the state standards in conjunction with the National Science Education Standards and National Council of Teachers of Mathematics Standards. The implementation of Common Core Standards will only help the school in providing rigorous and internationally benchmarked standards in Language Arts, Math and Science standards which will be a crucial step in improving STEM education at the school. The school seeks flexibility not for eliminating the California State Standards but to use the CA state standards in conjunction with the four sets of national standards (NRC, 1996; NCTM, 2000; ISTE, 2007; and ITEA, 2007) .

Please see the Curriculum Development Timeline- Appendix 1

(B)(1)(c) WASC Accreditation- Not Applicable

(B)(1)(d) Addressing the Needs of All Students



STEM education emphasizes Inquiry Based, Big Idea Instruction, Co-Teaching, Cooperative Learning and Explicit Instruction. With those concepts to guide us, the Academy will make sedulous, ongoing efforts to continually improve and strengthen the core instruction. STEM's exceptional and committed teachers will deliver a research-based core program comprised of prioritized standards, differentiated small-group instruction, and learning strategies carefully selected to match individual and small group needs.

Core Instruction in the general education setting:
A cohesive RtI^2 process integrates resources from general education, categorical programs including special education into a comprehensive system of core instruction and interventions to benefit every student. RtI^2 demands high-quality initial classroom instruction, high expectations, for students, on-going assessments and data collection. To meet those demands, RtI^2 uses the problem-solving process, research-based interventions and staff development based on collaborative models to assure successful implementation.

The RTI^2 model for Tier 1 instruction will be used in all curricular areas to offer meaningful assistance to the struggling students. The writing team members that have extensive experience in middle schools understand the inherent challenges and settings in a middle school. The team started to study some of the RTI^2 models practiced at many successful middle schools in California and in other states.

Strong core instruction meets the needs of all students irrespective of the ability level and learning style. With that understanding, there will be a wide variety of instructional activities in the classroom to address the varied needs of students. The concept of repeating the same assessments continually will be replaced by periodic unit tests or even weekly assessments that will generate data on how well the student is doing across several units of instruction. Data from those assessments will be charted and used to discuss the student's performance over time. Differentiating instruction, addressing the unique needs of the various learners in the class based on their individual learning styles and the practicing of brain compatible teaching will be the instructional model at the Academy. Scheduling an intervention period and precision teaching will be the other aspects in the model to support the needs of all students at the STEM Academy.

Differentiated Instruction seeks to present the curricular content in a variety of methods that are consistent with current understanding of student learning styles and the emerging research on brain functioning in various learning environments. Small-group instruction aimed at particular learning styles, focused short- or long-term group projects, or cooperative-learning strategies will form part of the regular classroom instruction. The differentiated learning will be by learning process, by learning product, and by brain-compatible teaching techniques.

Learning Styles: Students' natural differences in learning styles will be taken into account. For example some students excel when small-group instruction encourages social interaction, student questioning, and peer support, whereas other students learn by doing-, which may include kinesthetic activities. Differentiating by learning product involves variations in the products that indicate mastery of knowledge. A wide variety of assessments will be used to check for a student's understanding of critical content, such as rubric-based performance tasks, product demonstrations with explanations and portfolio-based assessments. Differentiated instruction will be interfaced with the curriculum design at the Academy to include a wide variety of instructional activities for the students.

Teachers will use SHEMR (Song/Chant, Humor, Emotion, Movement and Repetition) – brain compatible instructional activities that have been shown to be highly effective in focusing students on the essential components of learning content and increasing retention. Teachers will use at least one type of these techniques in each of their instructional unit across all content areas.

Precision Teaching: The second phase of instructional intervention in Tier 1 at the Academy will be precision teaching. Based on student data, teachers will resort to increased intensity in instruction in one area of the content, for instance use of reciprocals in solving equations. Further precision teaching insists on increased performance monitoring for the few students who are struggling in a given area. Precision teaching lasts only for a brief period of time for any given standard.

Intervention Periods: The Academy will function in a seven period schedule. As the Academy's philosophy is to offer high-quality electives to all students, the Academy needed to create a flex period apart from the in-class intervention to meet the diverse needs of the students. The flex period will provide the more intensive type of intervention needed for some students. Each intervention block will be rotated at eight-week intervals. This will give students an opportunity to move through different intervention/acceleration rotations. Intervention will be done in small groups and will incorporate the use of technology. Students will receive intensive content-based instruction specific to their need/s as identified by the data. The performance monitoring assessments will be used on a weekly basis for all students to monitor progress and to evaluate the effectiveness of the intervention program in meeting the specific needs of the students.

English Language Learners:

STEM Academy will meet all applicable legal requirements for English Language Learners as it pertains to annual notification to parents, student identification, placement, program options, ELL and core content instruction, teacher qualifications and training, reclassification to fluent English proficient status, monitoring and evaluating program effectiveness, and standardized testing requirement. STEM Academy will implement policies to assure proper placement, evaluation, and communication regarding ELL's and the rights of students and parents.

Home Language Survey: STEM Academy will administer the home language survey upon a student's initial enrollment into school.
CELDT Testing: All students who indicate that their home language is other than English will be CELDT tested within thirty days of initial enrollment and at least annually thereafter between July 1 and October 31st until re-designated as fluent English proficient. STEM Academy will notify all parents of its responsibility for CELDT testing and of CELDT results within thirty days of receiving results from publisher. The CELDT shall be used to fulfill the requirements under the No Child Left Behind Act for annual English proficiency testing.

Reclassification Procedures: STEM Academy will follow all recommendations and procedures as outlined by LAUSD to determine whether to classify a pupil as proficient in English.

English Language Learner Instruction and Intervention Strategies: STEM Academy will provide students with academically rigorous learning opportunities that will allow them to explore scientific phenomena and construct scientific understanding based on their own linguistic and cultural experiences. The students identified as English language learners will be provided with a meaningful learning environment in which to develop fluency in oral and written English as well as in the discourse of STEM content. The Academy will support learning opportunities in different classroom formats (e.g., individual, small-group, and whole-class instruction) so that students learn to work independently as well as collaboratively across varied settings; Incorporate effective instructional strategies to enable students who are learning English to access their prior

knowledge, learn STEM content, and communicate STEM ideas by using multiple modes of representation (gestural, oral, pictorial, graphic, and textual). The instruction will be academically rigorous and develop academic language in the context of learning other content areas; incorporate experiences, examples, analogies, and values from diverse linguistic and cultural groups, and consider the knowledge and abilities that all students bring from their home and community cultures and include embedded assessments that take into account linguistic and cultural influences that affect ELL students' thinking and reasoning, as well as the ways that the students interpret and respond to assessment items.

Instructional Strategies from Robert Marzano's Classroom Strategies that Work with English Language Learners will be incorporated into the classroom instruction across all content and grade levels. The Academy will implement the Specially Designed Academic Instruction in English, strategies recommended by the Sheltered English Observation Protocol and Culturally Relevant and Responsive Education to meet the needs of the English Language Learners and the Long Term English Learners to access the core curriculum. The framework of the 3 C's and the I will be used in the instruction of English Learners. Specific school based recommendations for LTELs based on 'Reparable Harm' will also be incorporated into the instructional approach with the EL's.

Students with Disabilities:

The STEM Academy will follow the three-tiered approach to instruction for students with disabilities. The Academy will follow intervention/prevention framework that supplement and support the district's base program for special education.

In the inclusive setting, intensive and ongoing collaboration of all members of a student's education team will be fostered. The Academy will use the trans-disciplinary teaming model, with integrated special services during the regular program in the regular classroom. The rationale for using this model is that, everyone works collaboratively on the same goals, sharing responsibility for assessment, planning, sharing of information, problem solving, and decision-making. Experts in each area are responsible for reporting and monitoring progress in goals most related to their area of specialization, as well as role release, or training of other team members in the best practices of their specialized area as they apply to an individual student.

Inclusion in the regular classroom provides a continuity of curriculum for the student, with fewer interruptions in the day. The student can readily compare his or her skill level and achievement to that of his or her peers. Instruction in compensatory skills, such as the use of adaptations or assistive technology, is more effective and generalized when taught within the regular curriculum, in regular classroom activities. In order to make comparisons with peers and ensure that the student's development is age- and -ability appropriate, students enrolled in mainstream classes, will be observed by both special and general educators on the academic and social progress. It is the ideal way to determine if the student is using time and assistive devices appropriately, and whether he or she is using effective note taking strategies. This will provide opportunities for

teachers to teach wisely.

Teachers will collectively plan, present lessons, and check assignments. It is vital that students (as well as teachers) view both classroom and special educators as teachers, rather than one as a teacher, the other as a helper. Professionals share personal and professional strengths, and appreciate each other's expertise. The teachers will move back and forth between direct and indirect support. The Academy believes that this system will help improve instruction by working collaboratively with strengths, joint efforts to solve problems, generation of creative methods, reduction of professional isolation, increased understanding of roles of different professionals, and a reduction of the stigma of special education. Please see the special education service plan for more details.

Meeting the needs of the Gifted Students in the Inclusive Classroom:

The curriculum design advocated for STEM education in this proposal has a well-established reputation for meeting the needs of gifted students. There are five ways to differentiate for gifted students in the regular classroom: Modifying content, allowing for student preferences, altering the pace of instruction, creating a flexible classroom environment, and using specific instructional strategies. Most of the instructional strategies that have been linked to improved student achievement and have been shown to increase critical thinking, problem-solving abilities and creativity with the gifted learners already form part of the curriculum design of the STEM Academy. The Academy will use the following strategies with the gifted students:

1. Posing open-ended questions that require higher-level thinking

2. Modeling thinking strategies, such as decision-making and evaluation

3. Facilitating original and independent problems and solutions

4. Helping students identify rules, principles, and relationships

5. Taking time to explain the nature of errors.

Support for Gifted Minority Students

The main goal of the STEM Academy is to identify, encourage and grow the STEM talent in our minority community. All gifted students may experience isolation and pressure to hide their abilities, but minority students tend to feel the weight of these forces to an even greater degree. Gifted minority students report feelings of inferiority, as well as the need to constantly choose between using their talents and fitting in with their peers (Cropper, 1998).

Providing minority students with extra support is especially important in *mathematics and science*. In these fields, cultural stereotypes have contributed to the underrepresentation of minorities. Although there is not yet a substantial body of published research, there are many suggestions and strategies developed by educators

for meeting the needs of gifted minority students:

- Communicate high expectations.
- Be sensitive to the experiences and beliefs of people from different cultural groups. Get to know all students and their cultures. Consider the challenges that students may face in school.
- Continuously and firmly encourage students to go to college.
- Discuss the necessary college-preparatory coursework, tests, and other requirements with students and parents.
- Create a multicultural learning environment, and make sure the curriculum reflects a variety of cultures.
- Help students connect with role models and mentors. Organize peer support groups for students with similar interests and abilities.
- Reach out to parents and family members. Enlist their support in providing encouragement and high expectations.
- Provide students with a variety of learning options. Create or select activities that are engaging, active, and grounded in reality.
- Listen to students' concerns, fears, and beliefs about their experiences and their education.

Social and Emotional Climate for meeting the Needs of All Students:

STEM Academy recognizes the importance of a nonthreatening atmosphere for all students. This is also true for high ability learners. The Academy realizes that a good learning environment offers a feeling of safety and acceptance for all types of learners. Teachers at the Academy will help create this atmosphere by modeling respect and care for all members of the classroom. Emphasizing every student's strengths is another important element of an effective atmosphere for learning. All students at the Academy will need to feel, to recognize and to value the abilities and experiences of themselves and others. Teachers at the Academy will remind students that mistakes are an important part of learning. The Academy believes that is possible to communicate understanding for students' feelings while also being firm about the requirements of the task.

(B)(1)(e) Vertical Articulation

Purposeful, intention and productive vertical articulation is powerful in its potential to maximize the learning opportunities afforded to each and every student. When the "whole child's" K-12 learning pathway to college and career is viewed through the lens of numerical data (attendance, attitude, academic) over several grade levels, the school community gains valuable awareness and information about its progress and challenges.
STEM Academy will work with site leadership from nearby schools to build a sustainable, vertical team of grade 5-10 teachers from the primary feeder pattern of Walnut Park Elementary, STEM Academy at Walnut Park Middle School, and the three

small schools of Huntington Park High School that build upon the middle school STEM preparedness. The small schools of Huntington Park High School that our graduates will be encouraged to attend are: the Technology, Entertainment and Design School (TED), the Innovation Design School (iDesign), and the School for Applied Mathematics and Science (SAMS). The following depicts the development over time of and the clear expectations for educators involved in vertical articulation.

Year 1 (2012-13)

Summer, 2012: The STEM Academy's Authentic Literacy Team reviews and analyzes data for incoming 6th graders from Walnut Park Elementary School. The team reviews focusing questions around the

- Performance Meter goals and past performance in terms of ELA outcomes (CST, Periodic Assessments);
- Re-designation rates;
- Math outcomes (CST, Periodic Assessments, 5th and 8th grade diagnostic exams and End-of-Course exams) and attendance rates.

A data caucus consisting of fifth grade and ninth grade teacher representatives from the schools named above in the Walnut Park Middle School feeder pattern, counselors and coordinators, and Principals will convene for a full-day discussion of the STEM Academy's findings. The issues to be discussed will include A) accelerate learning at the STEM Academy by building upon the successful practices for students at the feeder elementary while using Tier 2 and Tier 3 services to address learning needs; B) preparing students for taking A-G requirements and C) CTE pathways.

Fall/Winter, 2012: The data caucus will meet for three half-days of classroom observations, using the Instructional Rounds protocol, at grades 5, 7 and 9 in Walnut Park Elementary, STEM Academy and the small schools of Huntington Park High School. Observations will focus on meeting the authentic literacy learning needs of English learners, re-designated but still underperforming students, and students with disabilities across the core content areas.

Spring, 2013: Vertical teams reunite in a full day planning meeting to share Periodic Assessment and mid-year course completion data, as well as effective approaches to improve the core and close gaps through intervention services. Sites invite members of the vertical team from the other schools to participate in a second set of Instructional Rounds observations, to observe and document the evidence of the positive impact these effective practices in higher performing classrooms have on students.

While the Authentic Literacy Team is responsible for ensuring the overall academic progress of students throughout the feeder pattern, the STEM Partnership Team is responsible for ensuring the vertical articulation with partners outside the school and assure STEM-readiness congruent with college and career preparedness.

Sample year 1 activities for vertical articulation with STEM Partnership include, but are not limited to:

- Summer, 2012: STEM Partnership team brings together outside partners as well as representatives from the feeder elementary school and STEM-related small schools of Huntington Park High Schools, namely TED, iDesign and SAMs.
- STEM Academy's members invite for the first half-day meeting in early August 2012 each school and partner to provide the whole group a brief presentation on highlights of instructional student activities, materials, competitions, and community-outreach.
- STEM Academy shares the outline for grade-level specific themes and trans-disciplinary projects at the middle school and invites feedback and cross-age partnerships for each of these themes/projects.

Fall/Winter, 2012: STEM Partnership Team organizes joint professional development for the vertical team and STEM Academy educators and community partners on the characteristics of effectively multi-disciplinary, integrated units of study and companion projects. The elements called out by ConnectEd as crucial include: academic and technical rigor; authentic real world contexts; applied learning and active student engagement; adult connections with project mentors and coaches; and authentic assessments. STEM Academy will regularly monitor its effectiveness of the vertical articulation with a keen eye to academic alignment and appropriate student placement.

(B)(1)(f) Early Care and Education- Not Applicable

(B)(1)(g) Service plan attached.

(B)(2)INSTRUCTIONAL PLAN- PROFESSIONAL DEVELOPMENT

(a) Professional Culture

Lifelong learners- The professional culture at the STEM Academy is a learning culture in which we, as educators, are committed to our own growth and development as professionals. That culture grows out of our deep professional desire to continue to develop our knowledge and improve our practice to maximize opportunities for learning. The Academy realizes that such a culture is central to effective, high quality teaching. A learning culture demands that, as educators, we see ourselves, and are seen by others, as lifelong learners- of content, of cultures and of teaching itself.

As education is a changing field, we need to continue to keep up to date with new developments. Moreover, our professional drive is to continue to deepen and broaden the knowledge of our chosen field through ongoing learning throughout our careers and beyond.
The focus of STEM Academy's learning culture will be to up hold the integrity of the school mission," to design and live in innovative landscapes of teaching and learning" and our vision "where our students will become agile learners who advance civilization locally and globally."

A professional learning culture is one, which engages with learning in many different contexts. It is not simply the students' learning or an individual teacher's learning, but rather it is a commitment to learning as a valued activity in its own right. Creating a culture of learning for students is an important part of this work, as is having a supportive environment in which to develop as a professional, however nothing can create a professional learning culture if this is not found in the practice of teachers themselves and their disposition to develop their professional learning. At the Academy the professional learning culture will require active engagement with ideas, issues and critical reflection of knowledge and practice. To engage this way, teachers in the Academy will take an active responsibility to understand, develop and experiment with aspects of their professional work. Teachers will be, in this sense, observers and analyzers of what is occurring in their schools, classrooms and communities - not just planners and deliverers of curriculum.

The professional learning culture at the Academy will be based on dialogue with others, including students, peers, mentors and professional networks. While a professional learning culture is characterized by the engagement of individual teachers in an ongoing process of learning, it does not mean that teachers learn in isolation from others. The culture at the Academy will be a shared enterprise, as we believe that professional learning is at its most effective when it is done collaboratively. This means that a professional learning culture requires a communal dimension in which professional learning is both a formal and an informal process of sharing expertise and experiences as a professional learning community.

Developing a Professional Learning Culture:

A professional learning community involves teachers working collaboratively together. Such collaboration involves dialogue about issues and problems related to teaching and learning and to students' progress. Teachers often work in isolation from other teachers of the same subject, and in some cases in isolation from other teachers in the school. For this reason, professional learning communities are vital. A professional learning community means developing a collaborative approach to, and mutual support for, personal learning by providing 'opportunities to learn that (involve) collaboration, dialogue, reflection, inquiry and leadership' (Lambert, 1998:xi).

For all teachers, networks are therefore an important part of the professional learning culture. Such networks will be constructed in various ways at the Academy, connecting:

- teachers within a school community across disciplines
- teachers of the same content
- teachers of same grade level but different content.

Effective Teams:

Creating effective teacher teams that are committed to improving student, team, and school performance is a complex undertaking. Understanding what creates effective teams will help make teacher teams successful. Numerous studies and books chronicle the complexities of developing teams within organizations and document the practices that help teams successfully meet their goals.(Turning Points, *Transforming Middle Schools)*

The findings in these resources have been adapted to establish certain characteristics of the STEM Academy's teacher teams.

1. Have a culture of discourse at their center.
2. Have a clearly defined purpose that guides their work and specific, measurable goals that they achieve
3. Define and are committed to norms that guide how the team operates
4. Are disciplined in maintaining their focus
5. Communicate effectively within the team and with those outside of the team.

Deliberate and conscious efforts will be made in developing collaborative groups so that they can function as effective teams at the Academy. The strategies from Adaptive Schools will be used to develop collaborative culture at the school. The seven norms of collaboration as advocated by Adaptive School (http://www.adaptiveschools.com/aspublications.htm#sourcebook2) will be used to create and conduct effective meetings. All teachers at the STEM Academy will be trained in the Adaptive School strategies to help them apply the skills, concepts and strategies in the workplace. Teachers will be supported and trained in Cognitive Coaching to help improve the individual and collective human potential at the Academy.

b. Professional Development

Objectives

The mission of the professional development at the Academy is to prepare and support educators to help all students achieve at high standards of learning and development. It will be done through learning how defined learning content can be integrated into differentiated classrooms through promising practices in instruction and assessment including: Standards-based instruction, 21st Century teaching and learning Rigor/Relevance Framework, Multiple Intelligences, Differentiated Instruction, New Bloom's Taxonomy, Performance assessment, Understanding by Design, Analytical Rubrics, Integration of technology tools and assessment.

Differentiated Instruction: Teachers will be trained periodically to provide in-classroom modifications and accommodations to support students in danger of not meeting standards. To provide consistency and thematic learning, same grade and interdisciplinary teachers will plan units around common grade level themes.

Diverse Needs of Students & Data Driven: Professional Development (PD) will be organized and facilitated by a teacher-team and the principal and, when necessary, find outside experts to lead/train the staff. PD will be driven by data obtained from state, district, and school developed assessments; teachers will employ data-analysis, of formative, alternative and summative assessments to update/modify their research based instructional practices. Teachers will be trained in the use of SDAIE, CRRE and SIOP strategies to better serve our identified sub-groups to include English Learners and special education students. All instructional staff members will have knowledge of and collaborate on the development of strategies for teaching of 21st century skills.

In the summer, prior to school, teachers will meet to evaluate CST and/or Periodic Assessment results. Based on patterns of student performance, the teachers will determine the direction of next year's curriculum. Starting at the beginning of the school year a base-line assessment will be given to all students at the Academy. The data from these assessments will give additional information about the curriculum planning and instructional approach for Year One. Teachers at the same grade-level will look at the first ten weeks or so of their frameworks and the national standards, prioritize critical standards, create curriculum maps, and determine how to create thematic or parallel units among the disciplines. They will also engage in creating formative assessments and creating rubrics for alternative assessments.

The teachers will continue to regularly evaluate the effectiveness of their lessons, analyze student work, and revise their methods/approaches if necessary to ensure student mastery of standards. Professional development will support the school vision and the learning goals established by the school/community.

Content literacy and comprehension will be a high priority of PD. Teachers will meet in their inter-disciplinary teams to reflect and discuss how to implement research-based strategies. Teachers will share student writing samples from all content areas and

provide evidence (podcasts, video) of students actively using academic language and content vocabulary embedded in their class presentations/discussions/activities. Teachers will share strategies, evaluate for effectiveness, and implement what provides evidence of student success.

Developing Collaboration: Using *Turning Points* guidelines, professional development will be an ongoing collaboration and reflection process on the realities of what is planned and happening in each classroom. It will not to be business as usual. The first year is crucial to establishing the consistency and flexibility that is required in meeting the projected learning successes of our at-risk students. Using journals of daily teaching practice, samples of student work, and other appropriate data, all staff will participate in designing, revising, and refining the approaches, methodologies, and strategies that take place inside the classroom. The goal will be "Whatever It Takes" for all of our students to succeed and the measure of our success will be tangible in test scores and overall enthusiasm.

STEM curriculum related training:
The five goals of STEM related training will be to develop Standards based STEM related curricula, teacher enhancement, research concerning teaching and learning of STEM, advance technological literacy and curriculum implementation and diffusion.

Academy faculty will dedicate professional development time to exploring the instructional strategy of Project Based Learning (PBL) using a trans-disciplinary approach and will be trained on skills needed for developing inquiry-based lessons. Teachers will also complete online professional development on the engineering-design process. All science teachers will train to become NASA explorers. Few of the faculty members will also be trained in the STEM elective curriculum of *Gateway to Technology*. The first school year will be a year in training for all skills needed for successfully implementing STEM education at the middle school with the intention that the following year will include full implementation. Autonomy over professional development allows for the extra time needed to implement the professional development goals. Interdisciplinary teams will be set by grade level. Teachers will also engage in extensive research using Internet search to download STEM related project based lessons and other STEM education resources. Teachers in the Academy will dialogue and blog with the STEM community of educators throughout the nation to share lesson plans, ideas, presentations, websites, videos and other STEM related resources that may be useful to expand their classroom materials. Teachers at the Academy will be continually introduced to online resources and links that follow the latest research on Science, Technology, Engineering and Mathematics from groups related to the STEM fields. Teachers will be trained to use technology to help deepen and enhance the learning process. For example, using the web to connect students to experts in the real world and to provide opportunities to the students to understand through the use of images, sound and text. Ultimately teachers should be able to use technology to make learning more meaningful and fun for the students.

Support: A professional learning culture may include a mentoring relationship between a beginning teacher and a more experienced teacher. In this case, the relationship is not a simple 'master-apprentice' relationship, as learning in such contexts is a two-way process in which the knowledge and experiences of the less experienced teacher provide possibilities for learning for the more experienced teacher as well.

It is important to have a clear sense of one's own learning needs and professional standards for teaching. *The California Standards for the Teaching Profession* is designed to describe *accomplished* teachers. They reflect an ideal to which teachers should aspire. Working with professional standards enables all of us at the Academy, as educators, to consider our own practice and professional capabilities in a critical way. Using such a document can help target professional learning, identify personal learning goals and develop personalized learning plans.

PD Calendar:
Professional development will occur regularly through out the school year. There will be eleven days of paid professional development (depending on budget allowances) in the summer, prior to the start of the new school year. There will be ongoing professional development through out the school year. One day per week, Mondays, will be set aside for staff driven professional development. The Academy will use its autonomy to adopt a reverse minimum day schedule for Monday professional development days which will allow teachers to meet in their Professional Learning Communities (PLC) before school to analyze assessment data, look at student work and compare instructional deliveries prior to meeting their students. Teachers will be able to implement ideas when they and the ideas are fresh. Two days per week at minimum, teachers will use time during their common conference periods to work closely with their teammates to discuss, share, and create improved instructional opportunities for students that they are responsible for at that time. The professional development calendar will be created with the end of the school and California Standards Test in mind, as it will incorporate the backward planning model and the establishment of SMART (Specific, Measurable, Attainable, Relevant, and Time-Based) goals. School Governance Council will have the responsibility of designing the content of the PD. An emphasis on using periodic assessment data and the formative assessment will be used in a timely manner to drive the professional development dialogue and topics. Teachers and the instructional leaders will be the experts who will deliver the presentations to the staff in a format that promotes participation and collaboration from all educators.

(c) Teacher Orientation:
At the beginning of the school year, teachers, administrator, parents, and student leaders will participate in aligning the school's vision and mission, and developing curriculum and discipline plans. This will communicate the school-wide expectations for teaching and learning. An added benefit of the small staff size at STEM Academy is the personalization of the teachers' work environment. A culture of respect and trust will be fostered among this small group of professionals in the months and weeks before the

students begin the 2012-2013 school year through a variety of team building and goal development activities. The first members of the school's staff will be responsible for much of the high expectations and quality of the learning environment for the students. The Academy will adopt a mentoring system to help new staff members acclimate to the rigorous challenges of the school-learning environment. With no more than six teachers per grade level or department, it is imperative that all team members contribute to the orientation process of new staff members. Since the collaborative culture of teacher interactions, lesson designing, and long-term planning has already been identified as professional development priority; teachers on each team will identify their own strengths and weaknesses, as they will work to meet the needs of not only newer teachers, but also all staff members. Additionally, National Board Certified Teachers (NBCT) and Beginning Teacher Support and Assessment (BTSA) support providers will be actively sought to join the staff with the intention of keeping these forms of assistance and collaboration among teachers local.

Some of the specifics that will be addressed will be:

1. Orientation to computer systems – make sure every teacher has a login for the computers, email, and provide access to student information systems and provide training on how to use them all.
2. Disseminate information about special education services and how the process works.
3. A list of "people to go to" for different issues, such as computer problems, supply needs, and so forth.
4. List of services available to students – special education, social work, health and medical, etc.
5. Classroom management that specifically addresses the policies of the school and the district rather than being general.
6. Provide time to look over the curriculum and then have someone from that department to help with any issues, especially with the material for the first month of school.
7. Allow time one afternoon to go to their building and start setting up their rooms, have time with the department chair, to look over the classroom, get a tour of the building and get shown where resources and offices are.
8. Give each new teacher orientation booklet with all resources, expectations, schedule, rules and procedures. There will be continued and ongoing support to the new teachers based on the personalized needs till they assimilate into the school's system.

(d) Evaluation of PD

The professional development (PD) at STEM Academy will be evaluated based on the Thomas R. Guskey's five critical levels of evaluation. They are participants' reaction, participants learning, organization support and change, participants' use of new knowledge and skills and student learning outcomes. A backward planning approach would be used to evaluate the effectiveness of the PD at the Academy. You must plan "backward" (Guskey, 2001), starting where you want to end and then working back.

With that in mind each department will start with outlining the student level outcomes that they want to achieve. Critical analyses of relevant data from assessments of student learning, examples of student work, and school records will be used in identifying these student-learning goals. Then the Academy will determine, on the basis of pertinent research evidence, what instructional practices and policies will most effectively and efficiently produce those outcomes. Next, the aspects of organization support that needs to be in place for those practices and policies to be implemented will be considered. The next step will be to decide on the knowledge and skills the participating professionals must have to implement the prescribed practices and policies. For example, what must they know and be able to do to successfully adapt the innovation to their specific situation and bring about the sought-after change? Finally, the set of experiences that will enable participants to acquire the needed knowledge and skills will be outlined. Knowledge delivery will be in the form of workshops and seminars, especially when paired with collaborative planning and structured opportunities for practice with feedback, action research projects, organized study groups, and a wide range of other activities, depending on the specified purpose of the professional development.

Each of these levels will be measured using the following criteria: What questions are addressed? How will information be gathered for each level? What is measured or assessed and how will the information be used?
The tools for measuring will be through questionnaires, participant reflections, minutes from follow-up meetings, structured interviews with participants, direct observation on implementation, videotapes, student assessment outcomes and also student interviews.

Professional Development Autonomy *(LIS # 7, TA – 3)*
Rationale:

The STEM academy agrees that all teachers/administrators will receive the training related to legal/compliance mandates.

The STEM Academy seeks autonomy in the following areas related to Professional Development. Content of the PD, PD Calendar and Adaptability/Flexibility to the changing needs of the teachers/students. In addition to participating in the trainings as advocated by the district, teachers at the STEM Academy will also participate in specialized trainings needed for being a STEM schoolteacher. The rationale for additional content PD, mandatory summer PD etc has been clearly outlined under STEM related training and PD Calendar. STEM Academy is aspiring to build an effective PD evaluation that informs professional development. STEM academy seeks the waiver to build enough flexibility in the planning/execution of the PD plan as informed and supported by the data collected from the PD evaluation.

Please see Professional Development Schedule/Timeline- Appendix 2

(B)(3) INSTRUCTIONAL PLAN- ASSESSMENTS & SCHOOL-WIDE DATA

(a) Student Assessment Plan- STEM Academy will use a balanced approach to assessments. One type will be the summative assessment that fulfills the traditional role of measuring student progress. This will help measure student learning at a particular point in time. Another type is the formative assessment, an ongoing process used to inform instructional decisions made by the teacher and student. This process will be encouraged and promote further learning. The third type will be alternative assessments that will be through the use of performance, authentic and portfolio assessments. Formative assessments at the Academy will be linked to the targets of daily instruction, provide continuous information to develop targeted professional development. Formative assessments will happen while teaching is still underway, helping shape decisions about what needs to happen next to better prepare students for the summative assessment.

In our balanced classroom assessment approach, the formative and summative assessment will work together to generate the combined effects that are greater than the sum of the individual parts. The summative and formative classroom assessments will be high quality and purposefully planned recognizing that they are synergistic parts of the same system and can help from a more complete and accurate picture of student learning.

In addition to the state mandated California Standards Test (CST) and the district prescribed periodic assessments (PA) used to assess student academic achievement in the STEM Academy will use the following types of assessments to measure student learning and student needs.

- **Base-line Screening Assessments**: Beginning of each year screening assessments will be used to identify students who are at-risk or who are experiencing difficulties and who may need extra instruction or intensive interventions if they are to progress toward grade-level standards by the end of the year, as well as students who have reached benchmarks and who need to be challenged.

  Screening assessments are quick and efficient measures of overall ability and critical skills known to be strong indicators that predict student performance. It will be administered to all students as an initial baseline. These assessments will help to identify students who do not meet or who exceed grade level expectations. Results will be used as a starting point for instruction or to indicate a need for further evaluation.

- **Progress Monitoring Assessments/Common Formative Assessments**- will be used to monitor students' progress during the year to determine whether at-risk students are making adequate progress in critical skills and to identify any students who may be falling behind or need to be challenged. There is a need to assess student progress throughout the school year while there is still time to implement interventions that increase student learning. Progress monitoring assessments will be brief, but will be given periodically to determine whether students

are making adequate progress. Progress monitoring assessment data will be collected, evaluated, and used on an ongoing basis for the following purposes: Determine rate of a student's progress; Provide information on the effectiveness of instruction and to modify the intervention if necessary; Identify the need for additional information; Analyze and interpret gaps between benchmarks and achievement, note patterns, select students for intervention and enrichment and modify instruction for units in any subject matter where the standards or concepts are recursive.

STEM Academy teachers will work collaboratively to develop formative assessments or benchmark tests to see how students are progressing. Common assessments will be developed in math, history, science and ELA. While the PA were originally designed to serve as formative assessments, (in fairness, they are often used as formatives for the CST), they are most frequently used as summative unit tests. Teachers selected for the STEM staff will share a common understanding that additional progress monitoring is necessary. In addition to these common formative assessments, individual teachers and pairs will use selected formatives to further assess achievement toward standard proficiency. These might be designed by the teacher, selected from the menu on the CoreK-12 progress-monitoring tool, or borrowed from the teacher-designed section of the Core k-12 monitoring tool. Common assessments at the Academy will ensure in determining whether the guaranteed curriculum is being taught and, more importantly, learned. Doug Reeves (2004) refers to common assessments as the "gold standard" because they promote consistency in expectations and provide timely, accurate, and specific feedback to both students and teachers.

The Academy will use the Common assessments to build team capacity to improve its program. The Academy envisions that collective analysis will lead to new curriculum, pacing, materials, and instructional strategies designed to strengthen the academic program offered. Common assessments will be used at the Academy to facilitate a systematic, collective response to students who are experiencing difficulty. Students will be identified at the same time and because they need help with the same specific skills that have been addressed on the common assessment, the team and school will be in a position to create a timely, systematic program of intervention.

As a team four to six formative assessments will be developed to cover essential learning. Assessment questions will be in a format consistent with state summative assessments as a practice for students. STEM Academy teachers will have access to software with test bank questions and various web resources that may assist this teamwork. There will be at least two to three questions to assess each essential learning skill covered on the formative assessment. It may also be necessary to reassess a skill that was widely deficient on a previous formative assessment to determine if interventions were effective.

Summative Assessments: Given at the end of the school year, CST the state mandated test would be administered to all students. CST will be used for school, district and or state reporting purposes. As part of an effective assessment plan, the

CST assessments will be administered at the end of every year to evaluate the overall effectiveness of the instructional program at the Academy. Periodic Assessments of the school district will be administered as a summative assessment for each unit period and as a formative for the CST.

Alternative Assessments: STEM Academy curriculum design is based on inquiry-based learning and encourages students to analyze, think critically and evaluate. Traditional way of assessing will not reveal these skills. Academy proposes to use alternative assessment by which it will require students to demonstrate the skills. It will be mostly in the form of open-ended tasks. Content-based knowledge will still be the purpose of these assessments.
Alternative Assessments in the Academy will take different forms based on the skills and knowledge assessed. For example, students may be asked to demonstrate learning by creating a product, such an exhibition or oral presentation, or performing a skill, such as conducting an experiment or demonstration.

Performance Assessment at the Academy will be used to provide teachers opportunity to observe students completing tasks using the skills being assessed. For example, in a science class, rather than take a multiple-choice test about scientific experiments, students actually conduct a lab experiment and write about their process and choices in a lab report.

Authentic Assessment will be used to connect assessment with the real world. It requires students to apply skills and knowledge to the creation of a product or performance that applies to situations outside the school environment. For example, Biology teachers will assess students' understanding of the scientific process and collaboration by involving students to utilize GLOBE data from other schools to look for trends and patterns and compare and contrast weather and climate around the world. Students will develop spreadsheets and computer generated graphs to compare data sets and look for patterns and trends.

Portfolio Assessment will be used for grading trans-disciplinary projects that will be completed over an entire grading period or semester. Teachers using portfolios will require students to review their work and select items that best demonstrate that learning objectives have been met. Students will also write an essay reflecting on what they have learned; including the processes they have used to meet their goals. Portfolios will be computer-based. The students' work will be evaluated against a predetermined set of criteria and will provide evidence of the learning that has occurred over time.

Assessment/Progress Monitoring Across the Tiers: The RTI ^{2} model to be successful will have to use data to drive the decision –making process- at the individual student, classroom and school levels. To support RtI ^{2}'s fluid approach, reliable and ongoing information must be available to:

- Identify academic and behavioral needs of individual students
- Inform the problem-solving process

- Design and modify instruction to meet student needs
- Evaluate the effectiveness of instruction at different levels, of the system(e.g., classroom, school, district)

The Academy will use timely and reliable forms of assessments mentioned above to monitor which students are falling behind in critical skills or which students need their learning accelerated, as well as allow teachers to design instruction that responds to the learning needs. By regularly assessing students' progress in learning and behavior, teachers can identify which students need more help, which are likely to make good progress without extra help, and which students need their learning accelerated.

Waiver on Assessments *(LIS # 4, TA- 2)*

The STEM Academy will comply with all the State and Federal requirements of testing; The STEM academy will also use the Algebra Placement and the periodic assessments of the district. The STEM academy seeks autonomy over Base-line screening assessments, Formative assessments and Alternative assessments. This is due to the unique nature of STEM curriculum that is trans disciplinary in approach and the traditional testing methods alone will not reveal the extent of learning.

Please see Assessment Development Timeline- Appendix 3

(b) Graduation Requirements/Culmination: Students will conform to the requirements set forth by the LAUSD for participation in the middle school culmination ceremony. At the Academy, student progress toward 8th grade culmination and attainment of passing credits in all content areas will be carefully monitored especially with a keen eye to their performances in language, math and science to ensure that they are ready to take on more rigorous courses in science and math that will prepare them for STEM careers. The school counselor and teachers will work together to meet with parents and students at least twice a year to discuss progress toward meeting the requirements. To be aligned with the A through G graduation requirements and accepted classes for admission to CSU/UC schools, students will be encouraged to earn no lower than a "C" in any class. Additionally, students must earn an average of 60 credits during the regular school years, with no less than a total of 180 credits earned by the end of eighth grade to participate in the Culmination activities. Students who are not meeting the average of 60 credits earned per semester will have ample opportunities to make up credits and work through the numerous intervention opportunities.

(c) Data Collection and Monitoring:
The school will utilize web based Student Information System (SIS), Integrated Student Information System (ISIS), Welligent IEP System, Core K12, My Data, the District system for enrollment, attendance, and grade system to collect data and monitor student progress. These District web based systems offer historical tracking of student academic and other demographic information. All staff members will be provided professional development to access the data. The training will help teachers to get to

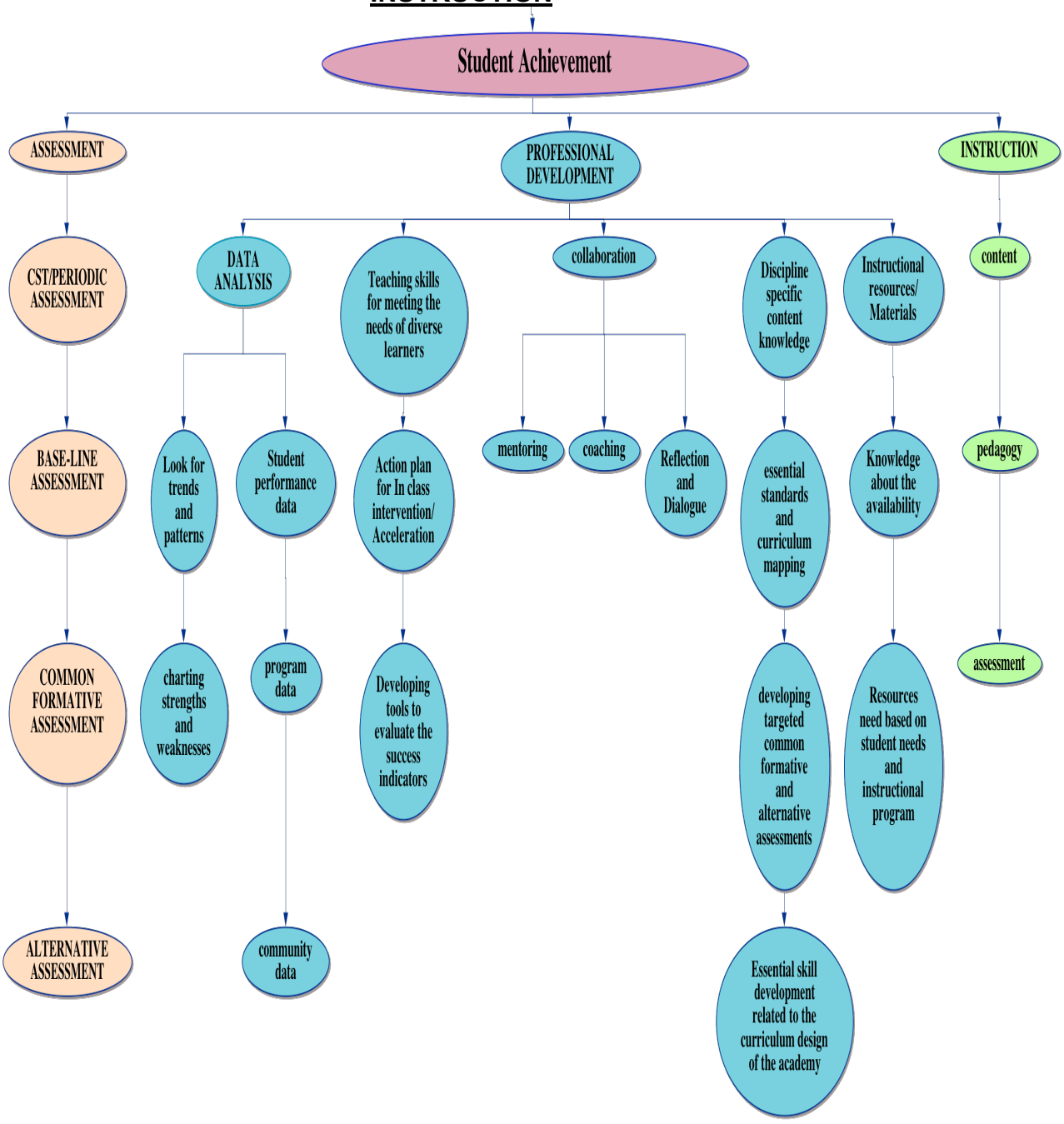
know each student's data profile – past achievement,
English Learner status, etc. so that they can authentically differentiate instruction and personalize the delivery of instruction.

STEM Academy is committed to building an outcomes-based school culture based on holistic assessment (baseline, formative, alternative and summative, etc.) disaggregated by standards/skills and student subgroups. School leaders, teachers, and students will discuss assessment results openly and honestly in large-group, small-group, and individual meetings. The data gathered from multiple assessments will be used to guide instruction. It will be the responsibility of all grade-level professional learning community members to reassess teaching methods or assessments for the improvement of the students during weekly common planning time. When areas of weakness are identified, professional development will be used to help guide the further instruction of the students including curriculum adjustments and the use of differentiation and scaffolding.

Data will be the starting point for reflecting on what students have learned, not merely what has been taught. Adults will be held accountable for and take responsibility for improved student outcomes. Moreover, teachers will be expected to analyze individual student data before coming together for structured collaboration so this time is focused on devising collective, strategic *responses* to student learning need based on data.

Teachers will also use the data to identify areas for school-wide improvement; set goals for selected (targeted) students; develop strategies to help these students reach achievement goals; follow up on progress of targeted students; and determine the professional development needs of individual teachers, or of all teachers in a subject area. Data will be the starting point for reflecting on what students have learned, not merely what has been taught. Adults will be held accountable for and take responsibility for improved student outcomes. Moreover, teachers will be expected to analyze individual student data before coming together for structured collaboration so this time is focused on devising collective, strategic *responses* to student learning needs based on data.

ORGANIZATIONAL CHART AT THE STEM ACADEMY SHOWING THE ALIGNNMENT ASSESSMENT/DATA/PROFESSIONAL DEVELOPMENT & INSTRUCTION



B. 4. SCHOOL CULTURE AND CLIMATE

B. 4. School Culture and Climate

a. Description of School Culture:

b. Student Support and Success:

DESCRIPTION:

Student Success at STEM Academy will be to deliver a successful whole child upon culmination—an emotionally, physically and intellectually complete and well-rounded person. While a major goal is to engender an appreciation of and aptitude for math, science, engineering and technology, an equally important and complementary goal is to assure that all STEM students receive a rigorous liberal education that will allow them to be adaptable, well-rounded people. Young people who, with some specialized training, are equipped to do anything. We seek collaboration and mutual respect among stakeholders in order to provide a safe and nurturing environment that is extensively involved with the local community and businesses. We are committed to becoming a center of culture and education that serves as an anchor for the community.

STEM Academy will create a collaborative environment where all stakeholders share accountability for student success. Successful partnership is predicated upon mutually beneficial relationships where the collective whole is exponentially stronger than its individual components. This more personalized focus will be exemplified in the classrooms on a daily basis. Every student at the academy will have an advocate responsible for monitoring student progress. Throughout the instructional program, teachers and students will interact with each other to develop protocols and procedures that build trust, promote order, assure safety, and support the growth of knowledge. In establishing a collaborative environment we will be able to support the success of our students, focus on their emotional needs, create an environment that is college and career ready and increase parental involvement.

The support system will include:

- RtI ^{2} framework for targeted intervention. RtI ^{2} is a framework that offers a thoughtful, systematic databased method for differentiating and personalizing instruction, interventions and enrichment for all students. RtI ^{2}'s canopy extends to cover the three domains–academics., attendance, and achievement. Moreover the RtI ^{2} framework is, according to the National Center of Response to Intervention (2011) designed to benefit all students in all ways through "rigorous implementation of . . . a combination of high quality instruction of high quality culturally and linguistically responsive instruction; assessment; and evidence-based intervention. . . . RtI ^{2} implementation will contribute to more (timely) identification of learning and behavioral problems, improve instructional quality, provide all students with opportunities to succeed in school, and assist with the identification of learning disabilities and other disabilities."

- What that means in the Los Angeles Unified School District is to look at all three domains (attendance, achievement, and attitude) through the lens of distinct sub-groups: language learners, students with special needs, Standard English learners,

and gifted and talented students. In addition, as the Los Angeles Unified School District is culturally, ethnically, and economically diverse, the RtI ^{2} framework urges educator teams to look at all students through the lens of culturally relevant and responsive education. Lastly we realize that the first purpose of RtI ^{2} is to limit the need for intervention—to assure good first instruction.

- PLC focusing on desired learning results, current research and practices, perceived student needs and interest and data. Student surveys will be administered twice yearly to determine and measure interests and aptitudes Differentiated instruction based on LASW and scores to include (CELDT, CAHSEE, CST, Periodic Assessment, and CFA)
- Positive school-wide support plan affecting achievement, academics and attendance.
- Peer tutors
- AVID -Advancement Via Individual Determination is an elementary through postsecondary college readiness system that is designed to increase school-wide learning and performance. The AVID system accelerates student learning, uses research based methods of effective instruction, provides meaningful and motivational professional development, and acts as a catalyst for systemic reform and change.
- Teacher sponsored student study groups--Student study groups promote a positive emotional and academic school culture. Just as in college, study groups make leaning and study social. Learning is a social activity, accountable, promote academic conversation and reinforce cooperative skills taught in classrooms and modeled on campus.
- Using the problem-solving process within PLCs, teachers using CFAs as well as other measures, will identify areas to focus on for whole class instruction, differentiation, intervention and re-teaching, Students needed different approaches to achieve will receive targeted differentiated instruction based on data from multiple assessments. This instruction will occur within the school day—both in their primary classrooms and in advisory periods by content specific teachers.

c. Social and Emotional Needs:

Among the programs, resources and services that STEMS Academy will offer to meet the social and emotional needs of its students are stakeholder training on the Search Institutes Forty Developmental Assets, the CHAMPs Proactive Approach to Classroom Management, the Safe and Healthy Schools Practical Prevention Strategies (Sprague and Walker). Of course the above trainings will ultimately be evidenced under the umbrella of the Academy's school-wide positive support plan. The School Based Leadership team with advisement and consultation from all stakeholder groups will draft this document. Faithful and comprehensive application of the positive support plan is the responsibility of all stakeholders.

Another program essential to the emotional and social welfare of our students is "***Second Step*,** a research based and research validated violence prevention curriculum, Pre-K-8, that teaches social-emotional skills through visuals, media, story-

telling, modeling and skill practice by means of role-play." *Second Step* was "recently rated as the number one program for ensuring school safety according to a blue ribbon panel from the U.S. Department of Education." (Hill, Walker, Ramsey, Gresham, ***American Educator****, 2003-2004) Second Step* at the middle school level teaches the following skills:

- Empathy/Communication Skills
- Bullying Prevention
- Emotion Management (Calming Down Strategies)
- Problem-Solving/Decision-Making/Goal Setting
- Substance Abuse Prevention

In addition, *Second Step* meets the following federal and state mandates:

- Meets the federal mandate for Title IV: Part A, Safe and Drug-free Schools and Communities
- Its universal prevention strategy for Response to Intervention (RtI ^{2})
- Meets NCLB LEA plan for closing the achievement gap.
- Meets state standards for social-emotional learning
- Is in alignment with ELA Content Standards

In addition, Individual Success Plans for all students will be written by group of stakeholders in collaboration with the child's success as its only focus. These plans will be reviewed and modified as necessary at least every semester. Of course, a campus counselor will collaborate with Local District, Central and outside support personnel to provide all students with specialized assistance and shepherding through adolescence. (JAR and Junior JAR)

(d). College and Career Readiness: Describe the specific programs that the school will provide to expose students to college and career opportunities as well as support them to be successful in whichever pathway they choose.

To encourage and support our students' future endeavors, counselors will provide students with college admission, financial aid preparation information. Students will receive a review of their college admission requirements and admissions possibilities on a yearly basis. Members of the community as well as staff will speak to the students classroom by classroom regarding their own college preparation, financing and campus experience during **College Awareness Days (CAD).** On ***Cali-Forecast Night***, students and parents will attend an assembly highlighting what the council of economic development has predicted in its statewide economic forecast, so that they may anticipate future economic and occupational opportunities as well as make thoughtful decisions regarding educational and career pathways. On ***Green Day***, speakers representing the top ten green careers will be invited to speak to students at a school-wide assembly. Counselors will provide a preview of student A-G college course requirements, standardized test scores, and GPA. They will also help guide students explore possible high school small learning communities that will best help them achieve their academic and career goals. The Academy will place a great emphasis on

its **AVID** program, which has a track record of success in preparing students for college. The AVID website notes that:

While many folks talk about what should be done to prepare students for college, AVID is doing it and has been for over 30 years. Although AVID serves all students, it focuses on the least served students in the academic middle. The formula is simple - raise expectations of students and, with the AVID support system in place, they will rise to the challenge. What differentiates AVID from other educational reform programs is its astounding success rate. Since 1990, more than 85,500 AVID students have graduated from high school and planned to attend college. Of the 22,210 AVID 2010 seniors who reported their plans, 91.3% intended to attend a postsecondary.

(e)School Calendar/Schedule:

Waiver for Scheduling- ***(LIS # 5, TA- 2)***
Rationale:
The Academy will operate on a 180-day school calendar, seven periods a day. The seven period day will allow for additional electives, AVID, and smaller class size per period. Smaller class size will allow for greater personalization and differentiation of instruction leading to increased academic achievement for all students. Having the flex period will help in students rotating through classes to maximize their learning time based on their needs.

The Academy will use its autonomy to adopt a reverse minimum day schedule and Mondays as professional development days, which will allow teachers to meet in their PLCs before beginning of school week to analyze assessment data, look at student work and compare instructional deliveries prior to meeting their students. Teachers will be able to implement ideas when they and the ideas are fresh.

Please see Daily Schedule, PD schedule and School Calendar- Appendix 4

(f) Policies on Retentions, Graduation and School Behavior:
The STEMs Academy at Walnut Park Middle School will promote a positive behavior program in accordance with LAUSD Policy Bulletin BUL-3638.0, Discipline Foundation Policy: School-Wide Positive Behavior Support. Culmination activities will be conducted, and certificates of completion will be awarded, in a manner consistent with the policies outlined in LAUSD Policy Bulletin, BUL-3815.0. Retention and promotion policies will adhere to the measures delineated in LAUSD Policy Bulletin, BUL-721: Eighth Grade Standards-Based Promotion, Parent Notification, Documentation and Appeal Process.

(B)(5) INSTRUCTIONAL PLAN -PARENT AND COMMUNITY ENGAGEMENT

(a) Background:

Walnut Park Middle School's Preparing Students for Success in STEM Academy will serve the communities of Walnut Park and Huntington Park. The community of Walnut Park is 98.2% Hispanic, 0.9% White and 0.9% Other; the community of Huntington Park is 97.2% Hispanic, 1.6% White, and 1.2% Other.

Of the student population, 40% are English learners and 90 % of the students quality for free/reduced lunch programs. All of the schools in the area of Walnut Park Middle School are Title 1 schools; hence Preparing Students for Success in STEM Academy will qualify as a Title 1 program school. In addition to Title1 a significant English learner program, Preparing Students for Success in STEM Academy and will provide a Special Needs program.

The community encompasses much of the unincorporated area of Los Angeles County known as Walnut Park, and the northwest half of the city of Huntington Park. The heavily commercial district on Pacific Boulevard and the key transportation corridor of Alameda Boulevard are the major north-south streets on the west side of the service area for the school. The northwest boundaries abut the city of Vernon, a center of a vital industrial complex. The economic heart of Los Angeles county is driven by the many small and mid-sized commercial industries in this southeast sector of the Los Angeles metropolis, the city center of which is located in 10 miles away in the center of downtown Los Angeles.

Community recognition is important to elevating students' civic and community responsibilities. Preparing Students for Success in STEM Academy will develop relationships with some of the following neighborhood and community agencies:

- City Council of Huntington Park
- Greater Huntington Park Chamber of Commerce
- Huntington Park Coordinating Council
- Huntington Park Library
- PARC Council (Huntington Park's Parks and Recreation, Arts and Culture, Youth Council)
- Rotary Club of Huntington Park
- Kiwanis Club of Huntington Parks.

The Preparing Students for Success in STEM Academy teacher collaborative is a group of LAUSD and UTLA teachers that have a vested interest in the school communities of Huntington Park, Walnut Park and Vernon. We are highly qualified LAUSD teachers that have chosen to teach in these inner-city communities for the majority of our careers, and have close personal ties to the communities. Educators in the team include teachers who have realized consistent gains in student learning outcomes, teachers with extensive experience empowering parents and community partners to support

college and career preparedness, teachers with a track record of success in working with partners from business and industry in our schools, and teachers who have lead efforts to bring the vision of 21st century learning to reality in schools.

(B). Strategies- Family and Community Engagement

Research shows (Gordon & Louis, 2009) that parental involvement and high expectations (Jeynes, 2003; Fan, 2001; Feuerstein, 2000) in the students educational experience benefit in the following ways:

- Higher grades and test scores; Better attitudes and behavior; Better school attendance; More homework completed; Less chance of placement in special education; Greater likelihood of graduating from high school; and Better chance of enrolling in postsecondary education

Ongoing, frequent and sustainable communication with parents and community stakeholders is critical to create a 'family neighborhood school' within the LAUSD family of schools. The first step is to creating a culture where parents become full partners into the school community and part of their child's educational journey from middle school to college and beyond is effective communication between school and staff.

School staff will be available daily. Parents will be encouraged to commit at least three (3) hours per school year, per family, to volunteer in the school. Volunteers will be trained to engage students in ways that support learning throughout the campus environment. At the beginning of each academic year, a parent orientation meeting will inform parents of the high expectations for the students, parents, and school. By creating a "family neighborhood school," school staff will initiate community activities. Some of the specific ways for parents to be involved include these school outreach strategies:

Students' Academic Progress: When students have received needs improvement grades, parents will be informed by the teacher on specific strategies they can be used at home to help support their child. In addition, all parents will be expected to participate in back to school night, parent conferences, and open house.

Students' STEM-Readiness and Pathways for College and Career Preparedness: Parents will be provided workshops on the A-G requirements and information as to how student success in their current grade level prepares them for future academic progress in college preparedness at the middle and high school levels. Parents and guardians will be offered workshops to learn how economic forecasts in the Los Angeles county and the southeast Los Angeles industrial complex translate to a need for STEM-Readiness. In addition to content-specific standards proficiency, specific resources will be offered to parents to understand how to support and extend to home the school-based project-based learning, creativity, communication, critical thinking and collaboration that are essential to students future success.

Students' Character Progress: All parents will be included in both celebrating their child's academic and character progress. Teachers and parents will construct effective ways in which to communicate regarding the behavior of students.

High Quality Parent Communication: Effective communication fosters effective teaching and learning between students, teachers and parents. Each parent will receive family packets with information on the school, its policies, contact information, and ways to be more involved in student life. The school will communicate in a timely fashion with parents regarding the progress of students in meeting academic, attendance and attitude goals and benchmarks, both when students are doing well and when students are struggling. Connect-Ed will be utilized to communicate the students' needs and accomplishments with their parents. In addition to phone calls, the school will connect with parents via email and the school's website. Parents should never be surprised during a parent conference with information about the school, the learning pathways or their child's performance.

- The school will host a "Back to School" Dinner at the beginning of the year to meet and greet parents
- Family Dinners/potlucks "get to know the parents" through Professional Learning Communities
- Parents will receive a survey at the beginning and end of the year focused on school experiences and satisfaction
- Workshops will be offered for parents and an effort will be made to provide childcare (by other parent volunteers). Parents will also be invited for an early morning coffee with the principal and staff at least once a month to share a school goal for students that month and how parents may support students achieving that goal.
- Parent Awards will acknowledge and celebrate the efforts of the parents
- There will be Community Nights to bring entire families of our students together, which will include fundraiser events such as Shakey's Pizza Night and Bowling Night
- Yearly and monthly calendars, monthly newsletters and a "Parent Corner" of the school website will include specific "tips and tools" for families to engage in enriching STEM activities in the home and community, and strategies for parents to support student school success.

A school community's culture, morals, and norms are representative of the surrounding community (Gordon & Louis, 2009). Preparing Students for Success in STEM will create a family development center (modeled after those created by the USC Neighborhood Academic Academy) that will train the parents to be effective leaders within the school. The program that empowers students and teachers to be their best, also seeks to empower parents to do the jobs as best as they can. Training by the school staff and teachers, will teach parents how to have effective communication with teachers via parent-teacher conferences.

(C) Key Community Partnerships

Appropriate community support will work in conjunction with the Preparing Students for Success in STEM Academy. This consortium will focus on sponsoring school activities by providing volunteers as well as community relationships. To support these critical aspects the following events will promote participation from local community agencies:

- Community STEM Fair: Focus on Green Technology
- STEM Projects to Connect School, Home and Community
- Imaging the Future: Exploring STEM-based Solutions Locally and Globally.

In addition to local partnerships, joining a Los Angeles Regional Alliance under the California STEM Network initiative will leverage statewide resources for STEM education. This alliance within the Los Angeles region will allow the Academy to bring the most effective and innovative partners in education, economic and workforce development and science together to serve our students. Partnerships within the California community of science, technology, engineering and mathematics (STEM) (referred to below as "STEM Partners") will directly support student access to hands-on projects that involve community leaders as mentors and coaches.

The synergy when STEM partners and providers work with the school and community agencies and leaders will translate to bringing enriching student projects to the school, such as:

Project	STEM Partner	Community Leaders' Roles
Fly By Math	NASA	Team Facilitator
Science Olympiad	LACOE	Team Coach; Chaperone
Mathematics Field Day	LACOE	Teach Coach; Chaperone
CyberChase	Northrup Guman	Incorporate in STEM family fair in the community sponsored by community agencies

(B)(6) INSTRUCTIONAL PLAN- SCHOOL GOVERNANCE AND OVERSIGHT

(a) SCHOOL TYPE:

To govern a school is to steward the vision of a learning community. Mike Schmoker in "*Focus: Elevating the Essentials to Radically Improve Student Learning*" argues for *simplicity, clarity* and *priority* in every action taken by school leadership, to ensure that "***what we want* from our schools is precisely *what we communicate,"*** year in and year out. He elaborates that this focus on *what matters most* – what we teach, how we teach, and authentic literacy – requires leadership that repeatedly clarifies these highest priorities so that "everyone in the organization knows implicitly what to do and *what not to do.*"

This plan aims to transform the educational landscape of the STEM Academy community. The new landscape for learning relies upon a relentless focus on uniquely engaging, accessible and rigorous STEM-centered classroom learning.
The trans-discipline nature of a STEM-focused curriculum is hands-on and project-based. A STEM approach to education relies upon close ties to and involvement with community organization, business and university partners. The academic acceleration provided for incoming English learners and students with disabilities requires an unprecedented capacity for learning and specific teaching skills of our faculty as well as a novel approach to curriculum.

The ideal model that will provide for this level of excellence and innovation should be able to provide the STEM academy complete autonomy over curriculum selection, assessment development, school governance, staffing, budget, and scheduling, guided by a data- and evidence-driven basis for collaborative decision making. STEM Academy is accountable to the students and their parents/guardians, as well as the larger community, district and state, for excellent and sustainable student learning outcomes.

(b) SCHOOL LEVEL COMMITTEES:

With increased autonomy comes increased accountability and engagement of stakeholders. Closing the achievement gap and increasing the competency of our students to face the global challenges will require the active partnership between and amongst all stakeholders, supported by clear lines of communication and interaction between school councils and committees.

The council and committee dates, meeting times and location, will be made public to all stakeholders through the STEM Academy's website and school calendars sent home monthly and posted in the main office. The Leadership Council agendas will be posted to the public on the school's website at least 72 business hours in advance of each meeting.

The minutes of the council and committees will be posted in the main office within a week of each meeting, and key decisions shared at least bi-monthly at faculty and parent meetings. The sharing of key decisions, when appropriate, will be accompanied

by a summary of the data findings and analysis driving such decisions and/or follow up monitoring of student learning.

STEM Academy will form the following committees and councils to advise and inform school site governance and oversight, and foster genuine, on-going partnerships with all stakeholders:

Authentic Literacy Committee

The data-driven monitoring of student progress towards authentic literacy in each of the four core content areas will be essential to guide the work of the school's professional learning communities, committees, and councils. The acceleration of learning, to close historical gaps in sending schools' ability to create effective learning conditions for every student, will require the core curriculum

STEM Partnership Committee

The primary responsibility of the STEM Partnership Committee is to ensure high quality interaction between STEM partners and effective student learning opportunities. Specifically, these responsibilities include: A) fostering and maintaining partnerships with business and industry representative of the industry sectors that STEM Academy's exploratory STEM career pathways align to; B) reviewing the grade-level specific trans-disciplinary curricular units and projects to ensure these academic plans afford each student, regardless of prior academic success or language proficiency or special needs, access to the habits of mind, language, and conceptual understanding of both the content discipline and the STEM processes involved and; C) developing school partnerships with community organizations, to ensure that students learning is enhanced by and through relationships with adult mentors and public sharing of STEM projects.

Wellness Team

The responsibilities of the Wellness Team include: assisting in the development of the Wellness/Safe School and Attendance Plans; establishing the dress code for staff and students; planning for emergency drills; revising or updating the Positive Behavior Support plan; and coordinating physical, psychological/mental services with the Northeast Community Clinic. The school will fund a half-day a week PSW position, to be housed at the clinic currently situated at Gage Middle School the remainder of the week. In addition, the team will develop procedures for campus visitors and/or volunteers, coaches or mentors. Other duties as assigned may include the development of a cross-grade student-to-student mentor-mentee program, and augmenting community-based academic projects with a lens on individual wellness and developmental assets.

COST – Coordination of Student Services Team

This team will serve as a "Concerns Central" for students referrals based upon teachers' observation and evidence of student social, academic, and emotional concerns that appear to not be resolved with the school's pyramid of Tier 1 or Tier 2 intervention. CoST is not the first nor the last stop on the pyramid of interventions for STEM Academy students; CoST is charged with viewing the whole child's needs through a

variety of lens to determine specific, individual needs and the best intervention measures. CoST meetings will be held weekly and involve teachers, parents and all support members.

English Learner Advisory Council

The English Learner Advisory Council (ELAC) will be comprised of parents of English learners and community members. In monthly ELAC meetings, statistical information as well as progress reports on the nature of classroom teaching and learning for the typical English learner will be reviewed. Alongside periodic assessment data, ELAC will learn how to look at randomly drawn student work samples from common formative assessments to understand how well the school is progressing towards content and language proficiency benchmarks. Based upon this analysis, the council advises the Principal and school staff on programs and services for English learners.

ELAC is also responsible for making spending recommendations, pertaining to English learner progress under EIA-LEP state categorical funding, in the development phase of the Single Plan for Student Achievement (SPSA) by the Leadership Council.

Compensatory Education Advisory Council

Designing, implementing and monitoring a school-wide Title I program, parents and community members who form the Compensatory Education Advisory Council (CEAC) meet monthly with the Principal and/or designee from the Leadership Council to make recommendations as to the development of services and programs to raise student achievement for disadvantaged students. Specifically, CEAC advises the school's Leadership Council on the EIA-SCE expenditures of state compensatory education funds in the development of the Single Plan for Student Achievement (SPSA). CEAC also serves as the primary agent for parent engagement and community activities and involvement for STEM Academy.

As outlined below, the **Decision Making/Leadership Council** is the decision-making council for Single Plan for Student Achievement (SPSA) programs operated at the school to improve student achievement. The day-to-day implementation of action plans that realize the goals set forth by the Leadership Council is the responsibility of the entire school leadership team, and in particular the elected members of the Leadership Council. It is ultimately the responsibility of the school Principal to ensure seamless articulation of input and decision-making between the three councils and that each council is formed and operated within district and state guidelines, policies and memos of understanding.

The English Learner Advisory Council and Compensatory Education Advisory Council will continue to function under the supervision of the Leadership Council. Both ELAC and CEAC may elect to delegate duties of the Leadership Council, though only after they have been duly formed and trained on their rights and responsibilities.

Each of the three councils will be trained on collaborative processes to arrive at decisions or recommendations by consensus; however, in the event no consensus is

reached, a vote by the majority of the elected members of each council is valid.

(c)LEADERSHIP COUNCIL:

The 15-member Leadership Council of STEM Academy will be composed of both elected and appointed members, selected annually according to the process and guidelines below.

The three (3) appointed members of the Leadership Council are selected from actively involved individuals chosen from identified community partners, institutions of higher education, business and industry partners, and professional organizations of STEM career professionals committed to providing services to STEM Academy.

Appointments are made annually by the Principal, and require the approval of the majority of the elected members of the Leadership Council. The elected members of the Leadership Council reserve the right to impose "term limits" on the appointment process or void an appointment on the grounds that the appointee is no longer actively participating in meetings and work that advances the vision and mission of STEM Academy.

The twelve (12) elected members of the Leadership Council will be comprised of both site-based and community-based members. Elected seats will be allotted as follows:

Site-Based	**Community Based**
Certificated* 4	Students 2
Classified 1	Parents 3
Administration 1	Community** 1

**1 teacher seat must be allotted to UTLA Chair or designee*

***Reserved for Business or Community member*

All Leadership Council members are advisors on all issues, whether or not the member may formally vote or offer consensus. These elected members also oversee any school subcommittees that address the following areas:

1. Discipline/Safety
2. Curriculum and Instruction
3. Professional Development
4. School Calendar/Activities
5. Fiscal Responsibility
6. Equipment
7. School-Home Connection
8. Community Relations.

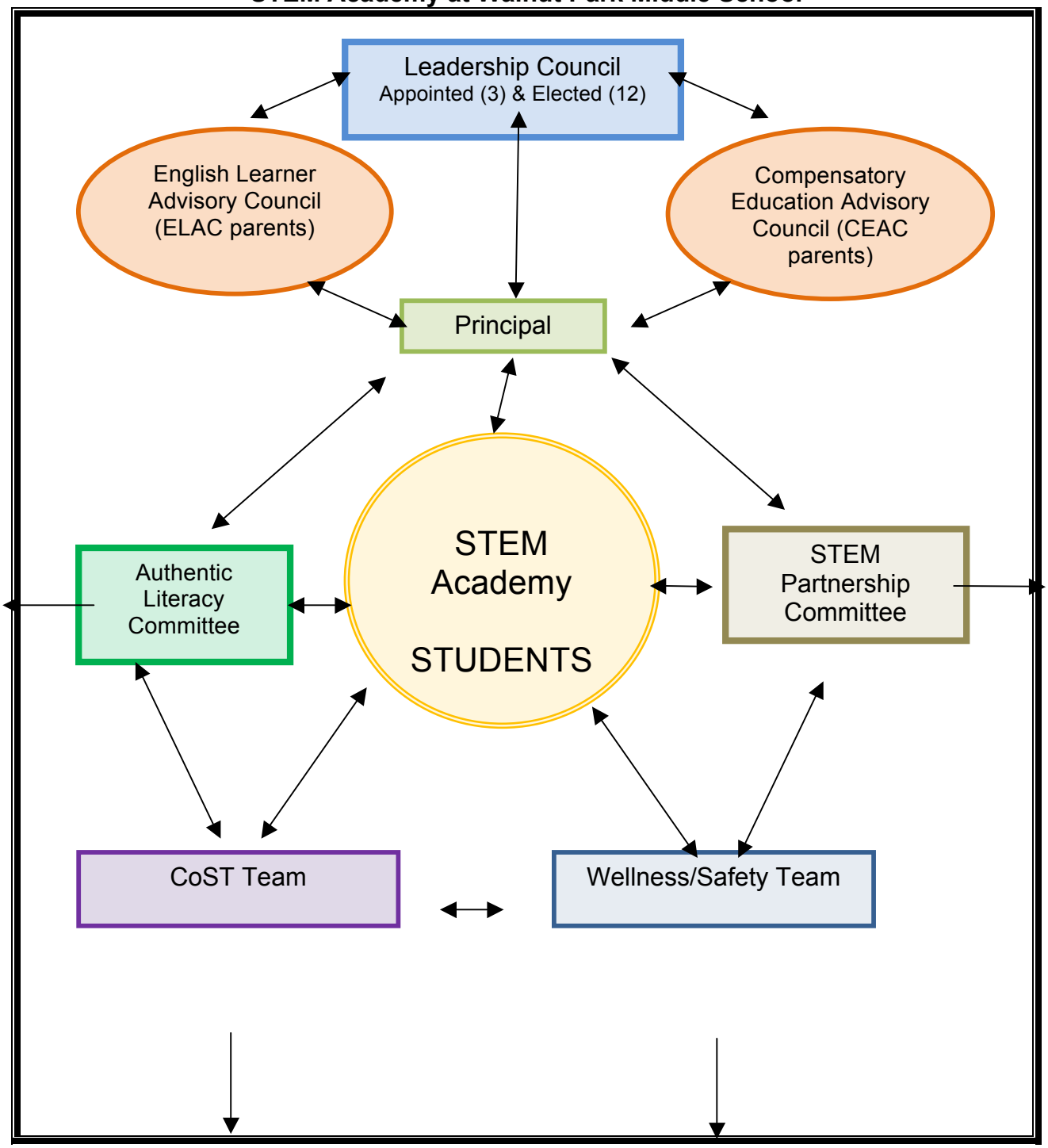
The chairperson or a designee of the Leadership Council will attend the meetings of the

English Learner Advisory Council and the Compensatory Education Advisory Council to facilitate coordination and communication between the various councils. The Leadership Council will determine the use of categorical funds; the elected members of the Leadership Council will determine the use of general funds.

STEM Academy will apply to participate in the School-Based Coordinated Program (SBCP). SBCP provides for greater flexibility of use of state categorical funding sources (EIA-LEP, EIA-SCE, Special Education and GATE).
In addition to determining the use of categorical funds and acting as the decision-making body for Single Plan for Student Achievement (SPSA) programs operated at the school to improve student achievement, the roles and responsibilities of members of the Leadership Council include, but are not limited to:

- Set the school vision, based upon the vision set forth in this document, and establish indicators of school progress which also guide the school plan and any needed revisions to the school vision/mission
- Establish bylaws, to include the Leadership Council's election processes, by September of the first year and review annually thereafter with amendments approved by mid-April
- Approve the school budget
- Make staffing decisions, with the Superintendent as final authority over the selected school Principal
- Develop, with the Principal, measurable goals to evaluate the effectiveness of school leadership and establish a Principal evaluation subcommittee and timeline to report to the Local District Principal Leader and Local District Superintendent the progress made towards these goals, to be submitted, annually, by early May
- Policy development, including an internal appeals process
- Review of the school Safety Plan
- Review of the Positive School-wide Behavior Plan
- Review and oversight of the School Impact Report, through a Building Council subcommittee of the Leadership Council
- Establish the length of the unit member work year for UTLA members
- Establish the length of the instructional year and school calendars
- Establish by November of the first year, and reviewed annually thereafter, the amount of time an employee is required to render services beyond the instructional/work year or day set forth in an "Commitment Agreement" that will be provided to each employee for review mid-February annually and for signature no later than April 15th annually thereafter or at the inception of their employment at STEM Academy.
- Establish any additional required duty time, such as during summers, school breaks, etc.
- Additional teacher evaluation measure, which enhances the STEM program.

SCHOOL GOVERNANCE AND OVERSIGHT
STEM Academy at Walnut Park Middle School



(B)(7)INSTRUCTIONAL PLAN- SCHOOL LEADERSHIP

(a)Principal Selection

The mission of STEM ACADEMY is "We design and live in innovative landscapes of teaching and learning" and our vision is that "Our students shall become agile learners who advance civilization locally and globally."

The principal must share this philosophy and collaborate with students, parents, community members and organizations, school and district staff and outside agency STEM partners to achieve the desired school mission and vision.

Criteria to select the STEM ACADEMY principal are based on Class Description Principal, Secondary School. The criteria include, but are not limited to:

- The ability to collaborate with stakeholders to implement the school's vision and mission
- The ability to work cooperatively with students, parents, school and administrative personnel, and representatives of community organizations or agencies
- Provides leadership for and facilitates collaboration with all stakeholders on identifying goals for student achievement
- Maintains positive public relations and outreach contacts with parents and community groups
- Provides guidance, supervision, and assistance in instructional practices and curriculum development in a reflective manner
- Maintains a positive school climate that ensures the safety, health, and welfare of students and personnel
- Organizes and conducts professional development for teachers and school extra-curricular activities.

In addition to meeting the above criteria, the applicant must meet the following District requirements:

- Five years of successful full-time public school certificated service
- Three years experience as a teacher in a K-12 public school program especially at the Middle School level and in one of the STEM subjects.
- At least one year of verifiable experience in an out-of-classroom leadership position such as coordinator, instructional coach, etc.
- Hold a California Administrative Services Credential; have a Master's degree.

Finally, the additional desirable qualifications for the school principal are:

- Experience with successfully accelerating learning for English learners and/or students with special needs in a middle school setting, thereby "closing gaps" in service to students while increasing proficiency rates
- Experience in the design, delivery and subsequent monitoring and support of STEM education-related professional development that also addresses the language development and differentiation needs of English learners and students with disabilities

- Experience with establishing and fostering professional learning communities
- Experience evaluating the outcomes of adult learning from professional development through follow up classroom observations and focused "action research" to improve student outcomes as a result of transferring adult learning to classroom practice
- Knowledge in STEM content and career pathways, Understanding by Design, Authentic Literacy, Common Core Mathematics Standards and other instructional initiatives.
- Understanding of, and sensitivity to, the needs of the various cultural and ethnic groups comprising the community
- Knowledge of the District's resources relating to culturally relevant and responsive education and instructional materials
- Knowledge of effective administrative and managerial practices and ability to implement them

Selection Process

In order to identify high quality candidates, the position will be posted on the LAUSD website to allow a large pool of qualified candidate to apply. The selection process will be conducted by the STEM ACADEMY Leadership Council, which will establish an interview panel consisting of, at a minimum, LAUSD District 6 Director/Principal Leader and members of the STEM ACADEMY design team and Support Team. The Superintendent of Local District 6 will make the final approval.

Please see Job Description for Principal- Appendix D

Proposed Candidate*:*

The instructional leader who has been identified to be the principal of STEM ACADEMY is Ms. Sudha Venkatesan. Ms. Venkatesan is a *proven* instructional leader with a litany of experiences that testify to her ability to transform instruction and improve academic achievement and student learning. Ms. Venkatesan is an excellent candidate to establish and lead a new middle school irrespective of academic focus, but she is the *ideal* candidate to lead a middle school emphasizing STEM. Not only does Ms. Venkatesan boast an extensive list (a list that grows longer every day) of experience in improving student learning in STEM-related learning at the middle school setting and Common Core, but she has the credentials and education that give her an element of gravitas and afford her the respect of people in the fields of math, science, technology and engineering. Add to that distinguished profile of instructional leadership volumes of high recommendations, a history working successfully with teachers, outside partners, the STEM office at CDE and grant-funding organizations and a portrait of a leader who can collaborate with others to make things happen becomes clear. Her vision for the first STEM-focused middle school in the southeast Los Angeles area has attracted the support of highly qualified teachers, influential community leaders, dedicated parents, and STEM partners.

Ms. Venkatesan has served in leadership positions for the past six years with LAUSD. She was a Mathematics Instructional Coach at South Gate Middle School from 2006 to 2009. While as a coach, she observed, coached the teachers and provided professional development in instructional strategies, data analysis and in mathematics content. Ms. Venkatesan built a very strong professional learning community at the school. With her leadership, the Algebra 1 scores moved up from 5% to 45% over a period of three years.

Ms. Venkatesan presently serves as a Project Director for the Mathematics grant with Local District 6. This three-year, three million dollar grant serves a cohort of teachers teaching mathematics spanning from elementary to high school (Grades 5 through 9). Thirty schools and as many as one hundred teachers from Local District 6 have participated in the grant. The three-year data evaluation conducted by Public Works and the Local External Evaluator(UCI) has clearly indicated *substantial* increases in the teachers' content knowledge, increase in the teachers' knowledge of practices to help English Learners access and use the language of mathematics and pedagogy. The student achievement in mathematics of those students taught by the grant teachers has risen commensurately. (Data included in the appendix).

Ms. Venkatesan's and the team's success has not gone unnoticed. Owing to the success of this grant, CDE has awarded LD 6 another grant where our LD 6 will serve as a Demonstration Center to share the strengths and successes of this program to other struggling and potential programs.

Ms. Venkatesan has built excellent relationships with the elementary school leadership, high school principals, high school coordinators in small schools, grant partners, community members, students and teachers that will serve very valuable in the efficient opening and transition of the new school.

(b)Leadership Team

The primary responsibility of the leadership team members is to facilitate an effective instructional program for STEM ACADEMY students, at the site level, the grade level, and the classroom and individual student level. This team consists of the Principal and one representative from the Authentic Literacy team, one representative from the STEM partnership team, and one elected member of the Leadership Council. The STEM ACADEMY leadership team is focused upon "what we teach," "how we teach," and "authentic literacy in a STEM-focused curriculum." In short, this team ensures that the school's vision and mission are reflected in the daily learning opportunities afforded every STEM ACADEMY student.

Waiver for Staff Appointment at the school. (LIS # 11,TA # 3)

Rationale for requesting a waiver:

In addition to the above, our leadership team members may consist of one or more of the following: department chair, content lead, coaches, instructional specialist or deans.

The primary purpose of having such leadership at the school will be to close the student achievement gap and accelerate learning for all students by building capacity through implementation of effective instructional practices. Every one of these members that form part of the leadership team will play the role of classroom supporter, instructional supporter, curriculum or content facilitator, data coach, facilitator for change (to engage teachers in reflective thinking while looking at their own instructional practices critically and analytically), learner, professional learning facilitator, resource and school leader.

Owing to the small size of the school with limited resources, the academy will need flexibility in choosing what type of an instructional/ leadership team the academy requires to achieve the vision and mission. STEM academy teachers will require ongoing and unique training in many areas of STEM. The leadership team that will facilitate such training needs to bear multiple responsibilities and should be very knowledgeable about STEM education and should have proven record of success with the English Learners. In many cases they will be the trainers at the STEM Academy. This requires identifying people with the right kinds of skills to form part of the leadership team. STEM Academy should be able to have the discretion of choosing the right person for the right job in accordance with the rules as stipulated by the Leadership council. STEM academy Leadership Council would require the freedom and flexibility in defining the roles and responsibilities and choose a person who will be well qualified to do the same.

(B)(8) Instructional Plan- Staff Recruitment and Evaluation
(a) Staffing Model

Waiver for Teacher Assignments at the school. (LIS # 10,TA # 3)

- The academic needs of STEM Academy students will require a faculty and staff who have a track record of providing outstanding, effective first teaching and learning opportunities to a student population similar to STEM Academy, and who deeply understand and value the community's assets and needs. These assets include a strong and resilient family-oriented community, consisting of many multi-generational families with rich cultural and familial traditions and relationships. Non-academic needs of students are met through a social, emotional, and psychological safety net mutually constructed by STEM Academy staff, parents and community members. Members of the STEM Academy design team have a combined total of more than hundred teaching years in the community of Local District 6 of LAUSD; these years of investment in the community have led to skills and understandings that have enabled the design team to realize the twin goals of equity and excellence in academics and beyond.
- In addition to the mainstream academic program, to be staffed by both multi-credentialed teachers in grade 6 and single subject credentialed teachers serving grades 7 and 8, grade 6 ESL students needs will be met by a Waiver to Basic teacher and grades 6 through 8 students with disabilities receiving Special Education services in an inclusion model will be supported by one Special Education teacher who works in collaboration with General Education teachers.

- STEM Academy will be staffed with: the following twenty (20) full time positions and three (3) half time positions, two of which are certificated, administrative; 17.5 of which are certificated, non-administrative; and, two and half (2.5) classified positions. The positions to be shared with the second small school on the campus of Walnut Park Middle Schools are denoted with an asterisk (*); positions to be funded mid-year of the start-up year, 2012-13, with Title I funds are denoted with a set of brackets [ ]. As the budget permits, the single Coordinator position will be hired as an administrative position and that staff member will be hired at the Instructional Specialist level.
- *Certificated Staff, administrative*
- One (1) Principal
- [One (1) Instructional Specialist/Coordinator, serving Title I, Bilingual and Gifted/Talented Programs]
- *Certificated Staff, non-administrative*
- [One (1) Coordinator, serving Title I, Bilingual and Gifted/Talented Programs]
- One (1) Counselor, serving grades 6-8
- Two (2) multi-credentialed Mathematics/Science teachers, serving grade 6
- Two (2) Mathematics teachers, serving grades 7 and 8
- Two (2) Science teachers, serving grades 7 and 8
- Two (2) multi-credentialed ELA/History Social Science teachers, serving grade 6
- Two (2) English Language Arts teachers, serving grades 7 and 8
- One (1) Waiver to Basic teacher, serving grade 6
- Two (2) History Social Science teachers, serving grades 7 and 8
- One (1) Special Education teacher, serving grades 6-8
- One (1) and a half (.5)* Physical education teachers, serving grades 6-8
- One (1) Art teacher, serving grades 6-8 electives
- One (1) Math/science credentialed teacher, serving grades 6-8 STEM electives
- *Classifed*
- One (1) School Administrative Assistant (SAA)
- A half (.5)* Office Technician
- A half (.5)* Plant Manager
- A half (.5 FTE)* PSW

(b)Recruitment and Selection of Teachers
Waiver for Mutual Consent at the school. (LIS # 9,TA # 3)

Rationale:

For the design/writing phase of this school, STEM ACADEMY has recruited proven classroom educators with teaching middle school and upper elementary, experience in project based learning, serving the needs of English learners and students with disabilities in an inclusion setting, and recognized leadership in their specific content areas. Among the design team's expertise are skills to provide support to new recruits, including mentoring, coaching, facilitative leadership, professional development and learning community design and delivery.

The stakeholders of STEM Academy will collaborate to annually update the schools Commitment agreement. This document will ensure that all staff members are working toward the common vision of fulfilling the mission of the school, and collaborating with their co-workers to promote the highest level of student achievement. The Commitment agreement encourages all adult members of the school to buy into the culture of high expectations at STEM Academy, and will outline the responsibilities of teachers and administrators. In the case of a staff member not performing the duties clearly delineated in the Commitment agreement, the Leadership Council will take into consideration the locally designed evaluation process of a teacher's performance in combination with the inability to fulfill the expectations of the agreement to replace a staff member. If such a situation arises, the Leadership Council will act by opening the hiring process to explore a better fit for the school.

The selection committee will be made up of members involved in the writing/design team of the STEM academy. It will consist of, at a minimum four teachers from the writing team, parents and others who have been involved in the design/writing phase of STEM ACADEMY. To ensure that the community's interests are at the center of the recruitment and selection of teachers, representative members of the parents, community, and school leaders from the Walnut Park Middle School feeder pattern will also form part of the panel that conducts interviews.

(c) Performance Reviews:

The goal of faculty evaluation at STEM Academy will seek to go beyond the required STULL evaluation and utilize a protocol that incorporates professional development, teacher involvement in the process, reflection, and adherence to widely acclaimed national standards for teaching. To that end, STEM Academy teachers will complete a video lesson and accompanying written commentary using the protocols set by the National Board of Professional Teaching Standards. The lesson will measure a teacher's understanding of early adolescents, knowledge of his/her content area, response to diversity, equity and fairness issues, student engagement, effective learning environment, content area pedagogy, and reflective practice. Teachers will work on their video lessons and written commentaries during scheduled professional development, and utilize National Board rubrics to create a conversation about teacher effectiveness and future growth.

The design team members consist of members that are second observers and teacher volunteers that are part of the Initial Implementation phase of the Educator Growth Development Cycle. STEM Academy will fully embrace the Educator Growth Development Cycle in Phase II (if implemented) and the school faculty will continue to grow professionally by using the guidelines set forth by the teaching and learning framework and will utilize the following Performance Measures for Teachers.

- Observation of Teacher Practice - classroom observation by trained and certified professionals, including each teacher's supervising administrator and a second observer
- Contributions to Student Learning Outcomes - measures of each individual educator's contributions to student learning

- Stakeholder Feedback - surveys for incorporating the feedback of students and parents/guardians/caregivers into teacher and school leader reviews
- Contributions to School Community - methods of measuring educator's broader contributions to the school and its educational mission

The support and development of our educators will be individualized in Individual Growth Plans for each teacher and will be based on the specific needs and opportunities for acceleration identified during an educator's performance review process. These plans will include education (e.g., attending classes and workshops), exposure (e.g., watching someone else demonstrate excellence in the development area) and experience (e.g., targeted attempts at trying out new skills in one's role as a teacher or school leader).

(B)(9) Instructional Plan- Sharing a Campus

Walnut Park Middle School will be shared by the STEM Academy and School of Service Learning and Social Justice.

STEM Academy will work with the principal and the team from School of Service Learning and Social Justice on creating a "**horizontal network of collaborating principals."** The STEM principal with the partner sharing the campus hopes to create a horizontal network and share best practices and collaboration not just with the two principals at that school but also with all the principals in their regional area. Expertise and energy on recruiting students, testing, talking to parents/guardians, and trying to get resources from the outside can be shared. Peer networks are excellent for problem solving and sharing best practices and strategies, including ways to reduce costs, capture efficiencies and drive more dollars toward the classroom.

The following are the distinct areas in which the sharing can begin immediately:

- Cafeteria and Food Services- Students from both campuses will have a seven period day with lunched at different times in order to accommodate the students and provide for their safety.
- Dance and Music Studios and STEM & ART electives: Student will be programmed separately, although for band, dance, art and STEM, the students from both schools will take classes jointly, based on interest, and when the specific elective period is scheduled. Pass porting students between schools will increase the number of electives offered for the students. Staffing will be co-shared in these areas.
- Physical Education- This is another in which staffing will be co-shared. Students will programmed by school as much as possible, however procedures and systems will be set in place for having joint classes. The norms of PHBAO schools will be followed for the class size. Students from both schools will compose athletic team or Cross-country.
- School Administrative Assistant will be shared by both school, opening up the options for both schools to have increase number of clerical personnel by trading one SAA for two clerks.

- The following personnel and resources will also be shared once categorical monies become available and with the approval of the School Site Council: Nurse, Psychiatric Social Worker, Instructional Specialist/Bilingual/Title 1 Coordinator, and Librarian.
- School-wide professional development on 21st century, project based learning will also be done collaboratively to maximize the resources.
- Whenever possible, opportunities will be provided for the teachers from both schools to collaborate on instruction.

(C)INTERNAL MANAGEMENT

WAIVERS: The applicant team of the STEM Academy will adhere to several of the stipulations delineated in the LAUSD/UTLA contract. The applicant team is requesting that priority is given to the members of the writing team who have contributed almost six months of uncompensated time on the proposal.

The following waivers from the Waiver Identification Form are being requested that requires separate approval by UTLA and LAUSD.

1. **Teacher Assignments and 'must place'assignments**: Matrix development and teacher placement is based on student need, as opposed to seniority (waiver for Article IX-A). In year two and beyond, staffing will not be affected by seniority and any "must place" transfer situations.

2. **Professional Development**: A waiver to modify elements in Article IX of the Collective Bargaining Agreement by requesting for 14 days mandated professional development opportunities before, during, and after the school year compensated at District Sponsored Training (DST) rate or at the teachers' tenthly-time rate.

3**. Staff Appointments**: A waiver to modify Article IX-A Assignments- 3.0, 4.0, 5.0, 5.1, 6.0 and 7.0.Staff Assignments like coaches, deans and department chairs will be subjected to the rules of the Leadership Council that will be the decision making body of the school.

4. OTHER WAIVERS

a. Teacher Transfers: waiver will be requested for Article XI 2.0 to seek increased autonomy for the school in its ability to transfer teachers who are not meeting the higher expectations of the established school culture. Modifications within Article XI 2.0 will meet the demands of the Election-to-Work agreement, created by the stakeholders of STEM Academy.

b. Extended on-site school day commitment and mandatory professional development schedule:

Article IX - The school day will be extended on Tuesday through Friday to accommodate for the seven period schedule and Flex period. This will ensure that all students can participate in the three-year sequences STEM or Art electives and also get intervention or acceleration during the regular school day. School hours on Monday will be reduced to provide for the professional development time before school as described in the proposal.

Additionally, the school will schedule fourteen days of mandatory professional development – eleven at the beginning of the school year and three days at the end of the school year to prepare for the academic year and wrap up the school year and also to reflect on the progress from one year to another.

(2) BUDGET DEVELOPMENT:

Financial Resources

The STEM Academy at Walnut Park Middle School will receive its funding based upon the student average daily attendance (ADA), and categorical funding. The projected budget using 2011-2012 figures and based upon preliminary estimates for enrollment would be approximately 1.6 million dollars. As school funding questions loom, next year's figures remain to be determined. Parts of any general funding received will be earmarked toward meeting baseline mandates. Other expenditures will be determined through the drafting of a Single Plan for Student Achievement. Until categorical monies are determined and allocated, categorical services will be provided through a discretionary block grant.

The STEM Academy at Walnut Park Middle School will sustain its vision, mission, core beliefs and instructional goals by adhering to the STEM Academy Single Plan for Student Achievement (SPSA). The Single Plan for Student Achievement is a blueprint that aligns school data with goals and strategies and personnel to meet those goals given existing funding.

Transparency

Full disclosure eliminates secrecy, promotes inclusion and builds trust. STEM Academy will budget for student success as delineated in the SPSA, and it will do so transparently. The budget will be developed annually by the Leadership Council with the consultation of the both the Compensatory Education Advisory Council (CEAC) and the English Learner Advisory Council (ELAC). The Principal and the program coordinator will manage the budget on a day-to-day basis, while the Leadership Council will oversee and manage the budget through its monthly meetings. Leadership Council agendas and minutes will be posted publicly in print and electronically. The postings will provide explanations of any budget expenditures and requests made by the Principal or the coordinator.

The Leadership Council will be responsible for drafting and approving the annual STEM Academy budgets for categorical and grant- funded programs. The Leadership Council will be comprised of twelve (12) elected members, both elected and appointed. The Leadership Council will consist of the Principal, four certificated staff, one classified staff, two students, three parents, and one community member. The advice, counsel and recommendations of the parent advisory councils, Compensatory Education Advisory Council (CEAC) and English Learner Advisory Councils (ELAC), will inform Leadership Council decisions.

So that the Leadership Council may draft and approve the most effective possible budgets to promote student achievement, STEM Academy's annual budget development process will consider recommendations and requests from panoply of stakeholder groups including parents, students, certificated staff and classified staff. A projected overview of the proposed budget development process (based on Early Start) follows:

1. Winter (January—February): the District's Fiscal Services Branch will provide STEM Academy with projected annual budgets.
2. Early February (approximately a month before budgets are due): Stakeholders will be informed of budget projections and provided with a review of their budget expenses the previous year. Any other requisite available budget data will, likewise, be provided.
   A budget survey will be provided to assess what services (and personnel) they feel should be maintained for the ensuing year based upon school needs, data and budget allowances.
   Stakeholders will be apprised that their survey responses and recommendations are advisory and that the Leadership Council has full and final authority over the budget.
   a. Certificated staff will be informed via the monthly faculty meeting or during a special informational meeting regarding the budget.
   b. Classified staff will be informed about the budget at a special budget meeting.
   c. The councils (Leadership, ELAC and CEAC) will be informed about budget either at their monthly meeting or at an emergency budget meeting.
3. February (approximately three works before budgets will be due) CEAC and ELAC will meet and, using the available budget, data, surveys, and SPSA, make recommendations as to how respective budgets should be allocated. The formal recommendations of ELAC and CEAC will be aligned to the SPSA and submitted to the Leadership Council at its next meeting.
4. February-March: The Leadership Council will conduct a series of meetings to consider, draft and approve the budget in detail. The Leadership Council will review available budget and the SPSA and consider the recommendations of CEAC, ELAC and the survey results. Each budget will be developed with Leadership Council review so that the expenditure for each line item is aligned with the SPSA and is informed by relevant student achievement data.
5. Late March—early April: STEM Academy will submit its Leadership Council approved budget to Local District 6 for inspection and approval. Local District 6 Coordinators will study budgets within their purview to ensure that all budgets are in compliance. If Local District 6 finds that a specific budget is not in compliance, then steps 3-5 (see above) will be repeated.

Budget adjustments will be made throughout the school year, as needed, based on recommendations by ELAC and CEAC and approval from the Leadership Council. Budget changes and adjustments will be made public, electronically and in print, through Leadership Council agendas and minutes. The Leadership Council oversees and guarantees that all budget adjustments are consistent with the school's mission, vision and goals as stated in the Single Plan for Student Achievement.

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