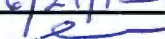


File ID Number	12-1580
Introduction Date	6-27-12
Enactment Number	12-179 b
Enactment Date	6/27/12
By	



OAKLAND UNIFIED SCHOOL DISTRICT

Community Schools, Thriving Students

OAKLAND UNIFIED SCHOOL DISTRICT  
Office of the Board of Education

To: Board of Education  
From: Tony Smith, Superintendent 

Subject: District Submitting Grant Proposal

**ACTION REQUESTED:**

Approval and support by the Board of Education of District applicant submitting grant proposal for OUSD schools for fiscal years to accept same, if granted, in whole or in part, pursuant to the terms and conditions thereof and to submit amendments thereto, for the grant year, if any.

**BACKGROUND:**

Grant proposal for OUSD schools for the FY12-13 fiscal year was submitted for funding as indicated in the chart below. The Grant Face Sheet and grant application packets are attached.

File ID #	Backup Document Included	Type	Recipient	Grant's Purpose	Time Period	Funding Source	Grant Amount
12-1580	proposal		Oakland Unified School District Leadership Curriculum and Instruction Math Department	Math Department to support Phase 1 of the transition of elementary mathematics to Common Core	June 1, 2012 to August 31, 2013	S. D. Bechtel, Jr. Foundation	\$100,000.00

**DISCUSSION:**

The district created a Grant Face sheet process to:

- Review proposed grant projects at OUSD sites and assess their contribution to sustained student achievement
- Identify OUSD resources required for program success

OUSD received a Grant Face Sheet and a completed grant application for the program listed in the chart by the school.

**FISCAL IMPACT:**

The total amount of grants will be provided to OUSD schools from the funders.

- Grants valued at:\$100,000.

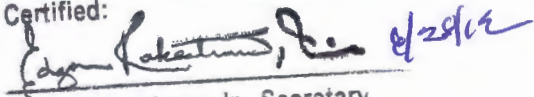
**RECOMMENDATION:**

Approval and support by the Board of Education of District applicant submitting a grant proposal for OUSD schools for fiscal year to accept same, if granted, in whole or in part, pursuant to the terms and conditions thereof and to submit amendments thereto, for the grant year, if any.

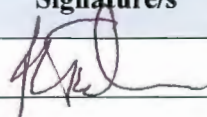

**ATTACHMENTS:** Grant Face Sheet, Award Letter, Grant Agreement, Proposal, Budget

OUSD Grants Management Face Sheet 2012-13

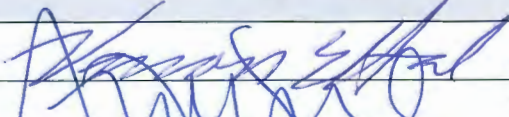
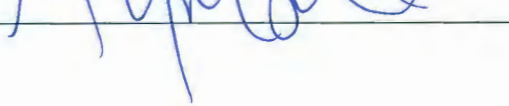
<b>Title of Grant:</b> Elementary Math Common Core Phase 1	<b>Funding Cycle Dates:</b> June 1, 2012 to August 2013
<b>Grant's Fiscal Agent:</b> Oakland Unified School District	<b>Grant Amount for Full Funding Cycle:</b> \$100,000.
<b>Funding Agency:</b> S. D. Bechtel, Jr. Foundation	<b>Grant Focus:</b> Elementary Math Transition to Common Core
<b>List all School(s) or Department(s) to be Served:</b> Elementary Schools	

Information Needed	School or Department Response
How will this grant contribute to sustained student achievement or academic standards?	This grant will support elementary math teachers and students to make the transition to the Common Core state standards in a set of cohort schools, including leveraging preschool, after-school, Caring School Community's development of socio-emotional skills to drive success in math.
How will this grant be evaluated for impact upon student achievement?	Year over year improved student achievement as measured on benchmarks and CST for math.
Does the grant require any resources from the school(s) or district? If so, describe.	No
Are services being supported by an OUSD funded grant or by a contractor paid through an OUSD contract or MOU?	No <div style="text-align: right;">                     Certified:                        Edgar Rakestraw, Jr., Secretary                      Board of Education                 </div>
Will the proposed program take students out of the classroom for any portion of the school day?	No
Who is the contact managing and assuring grant compliance? (Include contact's name, address, phone number, email address.)	Deputy Superintendent Maria Santos 1025 Second Avenue, Room 301 Oakland, CA 94606 879-8200; maria.santosdept.su@ousd.k12.ca.us

**Applicant Obtained Approval Signatures:**

Entity	Name/s	Signature/s	Date
Principal	Phil Tucher		6/7/12
Department Head (e.g. for school day programs or for extended day and student support activities)			

**Grant Office Obtained Approval Signatures:**

Entity	Name/s	Signature/s	Date
Fiscal Officer	Vernon Hal		6/14/12
Superintendent	Tony Smith		

## **THRIVING MATHEMATICIANS: IMPROVING EARLY CHILDHOOD AND ELEMENTARY MATHEMATICS THROUGH A COHORT STRUCTURE**

*The foundation for K-12 mathematics is laid in the early years of elementary school. To succeed in college, this foundation must be solid.*

---“Elementary School Mathematics Priorities,” W. Stephen Wilson,  
Unpublished Papers, Mathematics Department, Johns Hopkins University

Oakland Unified School District (OUSD) in Oakland, California, is a district of 133 schools (101 regular public schools and 32 charters) serving over 46,516 students. Among our students, 33% are African American, 40% are Latino, 26% are English Learners (for 19% of all students, Spanish is their home language) and 70% are eligible for free or reduced price lunch (CDE data for 2010-11).

Over the last 7 years, OUSD has consistently been California’s most improved urban school district. Dr. Tony Smith’s strategic reorganization of the district and tightening of its goals have accelerated our remarkable progress in raising academic achievement. Our strategic plan, *Community Schools, Thriving Students*, ([www.thrivingstudents.org](http://www.thrivingstudents.org)), approved unanimously by the OUSD Board of Education on June 18, 2011, mandates that OUSD immediately invest in highly effective teaching and leadership and strong student learning, especially in the areas of mathematics and science.

The project proposed here takes a comprehensive, coherent approach to bolstering elementary mathematics learning, (including intentionally aligned mathematics exposure in the early years), unified by a shared logic model clearly aligned to OUSD’s strategic plan, and organized by the same four goals that guide the work to improve the quality of mathematics instruction at the middle grades. The current project with middle schools, like this early childhood and elementary project, has been organized into four Program Goals that accelerate student learning in a way that addresses the rigors of Common Core State Standards in Mathematics (CCSS-M). To reflect our district-wide commitment to a full service community school partnership approach to instructional improvement, we have added a fifth Program Goal that takes into account the full range of needs of students, teachers, and school communities. Our mathematics focus is synergistic with the key levers of the Caring School Communities (CSC). The underlying core learning principles for adults and students in both efforts include the fundamental importance of supportive relationships, collaboration, opportunities for autonomy and influence, as well as common purpose and ideals.

We are incorporating what the district has learned from recent successes in the academic intervention and work begun at the middle school level and in focal student inquiry. Our after-

school programs, which have long included tutoring and homework help, will now begin to be more intentionally integrated with the academic work of the school day. Moreover, our plans for 2012-2013 also include a significant commitment to align early childhood education (pre-school, transitional kindergarten, and traditional kindergarten students) in support of mathematics learning P-5, as articulated in the California Preschool Learning Foundations (CPLF) and CCSS-M.

The *P-5 Elementary Mathematics Inquiry Cohort* of 2012-13 will benefit from the findings from our work this year (2011-12) with elementary science, middle school mathematics, and Caring School Communities. Like the middle school collaboration – and informed by the student performance and content analyses of our middle school mathematics program – this Cohort will pioneer mathematics strategies to meet and exceed the challenge of the new Common Core State Standards.

Our goals for the P-5 Elementary Mathematics Inquiry Cohort are as follows:

**Program Goal 1:** Strengthen instructional leadership for mathematics and equity.

**Program Goal 2:** Establish and support communities of practice for continuous instructional improvement.

**Program Goal 3:** Promote coherent and effective instructional practices across all grade levels (P-5).

**Program Goal 4:** Implement strong curriculum tied to Common Core State Standards in Mathematics and the California Preschool Learning Foundations.

**Program Goal 5:** Extend the learning day for students, integrate socio-emotional learning into mathematics program development, and pursue all of these goals to include full school-readiness and a protected instructional pathway from PreK through 5th grade.

### **Partnering with the S.D. Bechtel, Jr. Foundation**

The S.D. Bechtel, Jr. Foundation has been an invaluable partner in all of our STEM planning and as an investor in the middle school mathematics and elementary science programs. We respectfully request a new grant of \$100,000 to help us to hire an Elementary Mathematics Coordinator and a subsequent grant of \$250,000 to help us to hire two new Elementary Math Specialists and begin our Elementary Mathematics Inquiry Cohort summer professional development activities for P-5 teachers. The Foundation's added investment will allow us to jumpstart this work so that students will begin to benefit in fall 2012 and the lessons learned from the initial Cohort can begin to spread throughout the district in 2013. District leaders are fully committed to immediate and extensive partnership, and further funding development through multiple avenues will begin immediately to ensure the success of this work in years two, three and beyond.

## OPENING FRAMEWORK

In June, 2011, the Oakland Unified School District (OUSD) School Board unanimously approved the district's strategic plan, *Community Schools, Thriving Students*—a comprehensive and aggressive blueprint for naming district practices that will lead to all students graduating from high school ready for college and career. Similar to our middle school program, the activities proposed herein are tightly aligned with the strategic plan and are appropriately located on an organized progression that leads from the 'big picture' of the strategic plan to specific articulation of program activities to improve elementary mathematics instruction and student learning.

*Figure One: Progression from Strategic Plan to Proposed Activities and Budget*



In a short amount of time, the OUSD mathematics team has developed a strong, collaborative effort with departments across the District and with external partners to improve mathematics teaching and learning in the middle grades. The program of work in the middle grades in one year has been far-reaching in that it engages central office leaders, building leaders, and teachers in a collaborative learning and improvement process intended to foster CCSS-M practices in service of better student learning. This proposal extends that program and develops a coherent approach for the elementary school level. The goals and activities proposed here are steps towards meeting goals one, two, and three of the district's strategic plan.

### **Districtwide Goal 1: Safe, healthy, and supportive schools**

Socio-emotional learning integration | Extended day supporting school-day academics

### **Districtwide Goal 2: Students prepared for success in college and career**

Core curriculum | Targeted approaches for student success

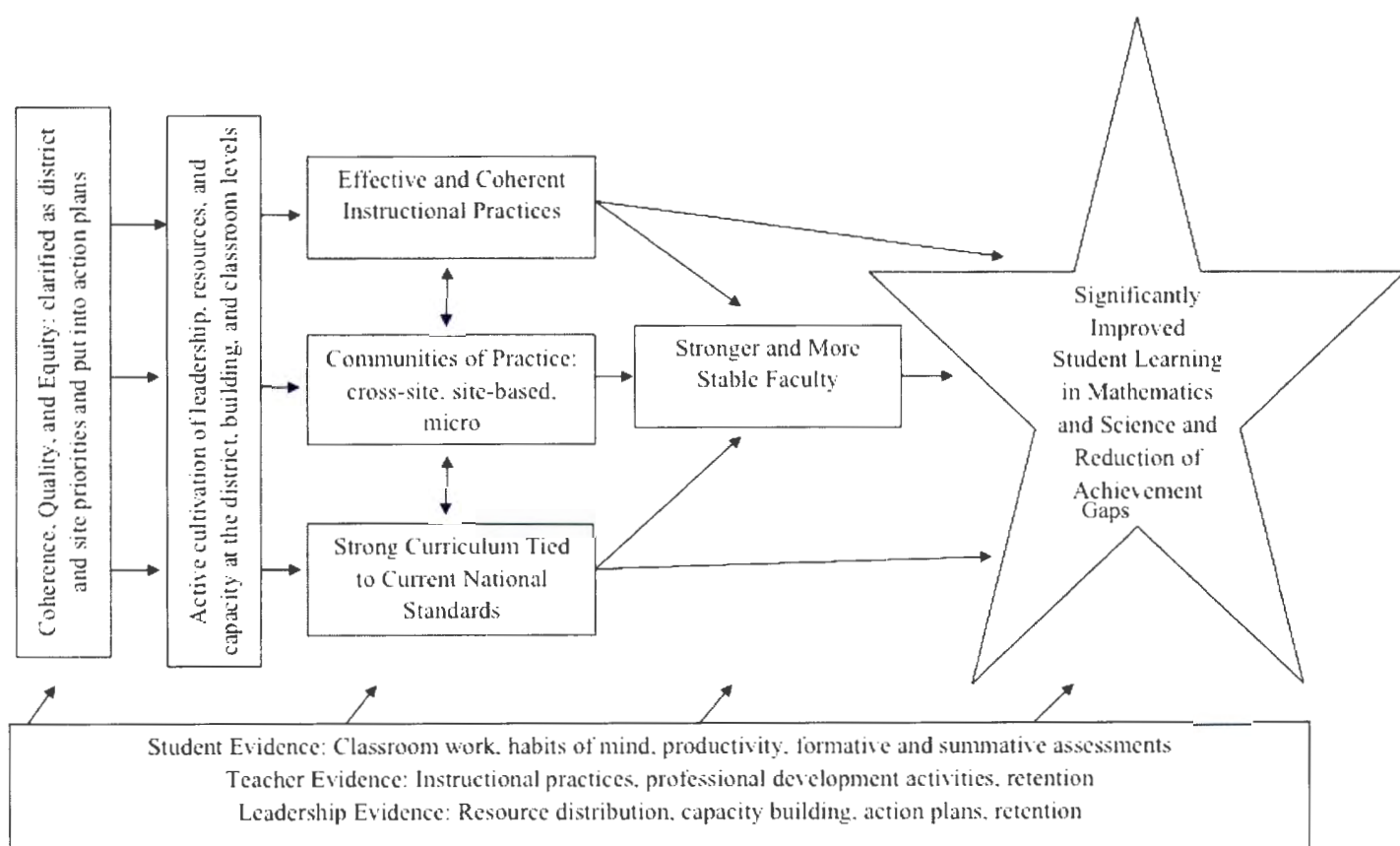
### **Districtwide Goal 3: High quality and effective instruction**

Effective teaching | Effective instructional leadership

### **STEM Logic Model**

Committing to support the achievement of the goals in the strategic plan required that the OUSD STEM team articulate a logic model (see *Figure Two*) to organize our work. OUSD mathematics and science leaders, and their external partners, worked closely with the Deputy Superintendent and Regional Executive Officers (RExOs) to create a logic model for the proposed mathematics and science work that depicts *how* elements of the OUSD strategic plan will lead to improved student learning.

Figure Two: OUSD STEM Logic Model



The Logic Model indicates that: starting with a foundational focus on: (1) Coherence among instructional and management efforts, (2) Quality instruction, and (3) Equity in student learning, we will promote strong leadership, resources, and capacity to implement evidence-based mathematics instructional practices, supported through communities of practice and bolstered by strong curriculum. These efforts, augmented in the work proposed here with the addition of socio-emotional learning and both early childhood and after school programs integration, are intended to increase the number of effective teachers who remain in OUSD and to increase student learning in mathematics and other subjects while significantly reducing achievement gaps.

**Aligned Program Goals and Activities**

Attending to the instructional, socio-emotional, and unique learning needs of students simultaneously cannot be achieved by the mathematics team in isolation. Therefore, the project described in the next section connects these critical areas, and partners teams within the District, to enact the STEM Logic Model with organizational, as well as strategic coherence. Early childhood and elementary math teacher leaders, math specialists, and the

district's Mathematics Manager have partnered with RExO and Family, School and Community Partnerships colleagues to define five Program Goals based on the STEM Logic Model. In the Project Description section that follows, we propose a set of activities that are organized according to the following *P-5 Elementary Mathematics Inquiry Cohort* goals:

**Program Goal 1:** Strengthen instructional leadership for mathematics and equity.

**Program Goal 2:** Establish and support communities of practice for continuous instructional improvement.

**Program Goal 3:** Promote coherent and effective instructional practices across all grade levels, (P-5).

**Program Goal 4:** Implement strong curriculum tied to Common Core State Standards in mathematics and the California Preschool Learning Foundations.

**Program Goal 5:** Extend the learning day for students, integrate socio-emotional learning into mathematics program development, and pursue all of these goals to include full school-readiness and a protected instructional pathway from PreK through 5th grade.

## PROJECT DESCRIPTION

Our proposal stems from the District's recognition that intentional instruction in mathematics in students' earliest years and a more robust mathematics focus through the elementary years that includes conceptual development and problem solving has the power to close historic mathematics achievement gaps and transform life-long outcomes for our students. As was noted in 2008, by the California P-16 Council Report for the State Superintendent of Schools, "Closing the Achievement Gap", the top two recommendations for closing the achievement gap are: 1) Provide High Quality PreK Programs, and 2) Better Align Educational Systems from PreK to College. Learning from our on-going analyses of middle grades mathematics performance, our district has a unique opportunity to align instruction across grade levels and dramatically improve access for students who have historically been underserved and socio-economically marginalized, ensuring successful preparation for middle school and high school mathematics, high school graduation, college, and a meaningful career.

In our district, historically, student achievement in elementary mathematics has been low, particularly among African American and Latino/a students. However, in recent years, after significant investment in K-5 mathematics instruction, as of 2010, our second graders began performing on the California Standards Test (CST) at the same rate as second graders in the rest of the state. At the elementary level, in mathematics, CST performance within OUSD is about on par with state performance, generally. This exceptional progress proves the rule---that every child can learn to do mathematics well. There are at least two problems however: California students rank consistently towards the bottom on national comparisons (e.g. National Assessment of Educational Progress, NAEP); and, middle school performance and mathematics course pathways analyses evidence the fact that district 6<sup>th</sup> grade students are ill-prepared for the multi-step problems and conceptual challenge of middle school mathematics.

Still, we have reached a "tipping point" where student achievement in mathematics in the majority of our elementary and middle schools, including those that serve high numbers of children from the poorest neighborhoods, is consistently rising. Through a thoughtful process with our community, we have closed schools that have been historically difficult to enroll, with the vision of increasing our per-student investment across the district. As a result, we are now creating better ways of deploying our limited resources to support students with the greatest needs, while supporting master principals and teachers to share their knowledge with their peers.

While the district has seen gains over the past six or seven years, achievement in mathematics appears to have plateaued at schools that saw gains earliest. We have every indication that the first phase of instructional reforms has reached its limits. The set of improvements that sought to bring classrooms in line with California's math standards and testing, we believe, needs now



to be retooled and re-cultured for district teachers and students to rise to the rigorous challenge of the Common Core.

Through this proposal we seek funding from the S.D. Bechtel, Jr. Foundation to continue a program of promising practice that builds teacher and principal capacity in service of effective learning of elementary mathematics. The proposed *P-5 Elementary Mathematics Inquiry Cohort* will ultimately impact all 55 elementary schools and 32 state-subsidized preschools, 27 of which are co-located on K-5 campuses. Cohort schools will model the systems alignment, instructional practice alignment, and changed relationships needed to implement the Common Core and Preschool Learning Foundations for Mathematics on a fast-track.

### **A Cohort Model for Collaborative Inquiry**

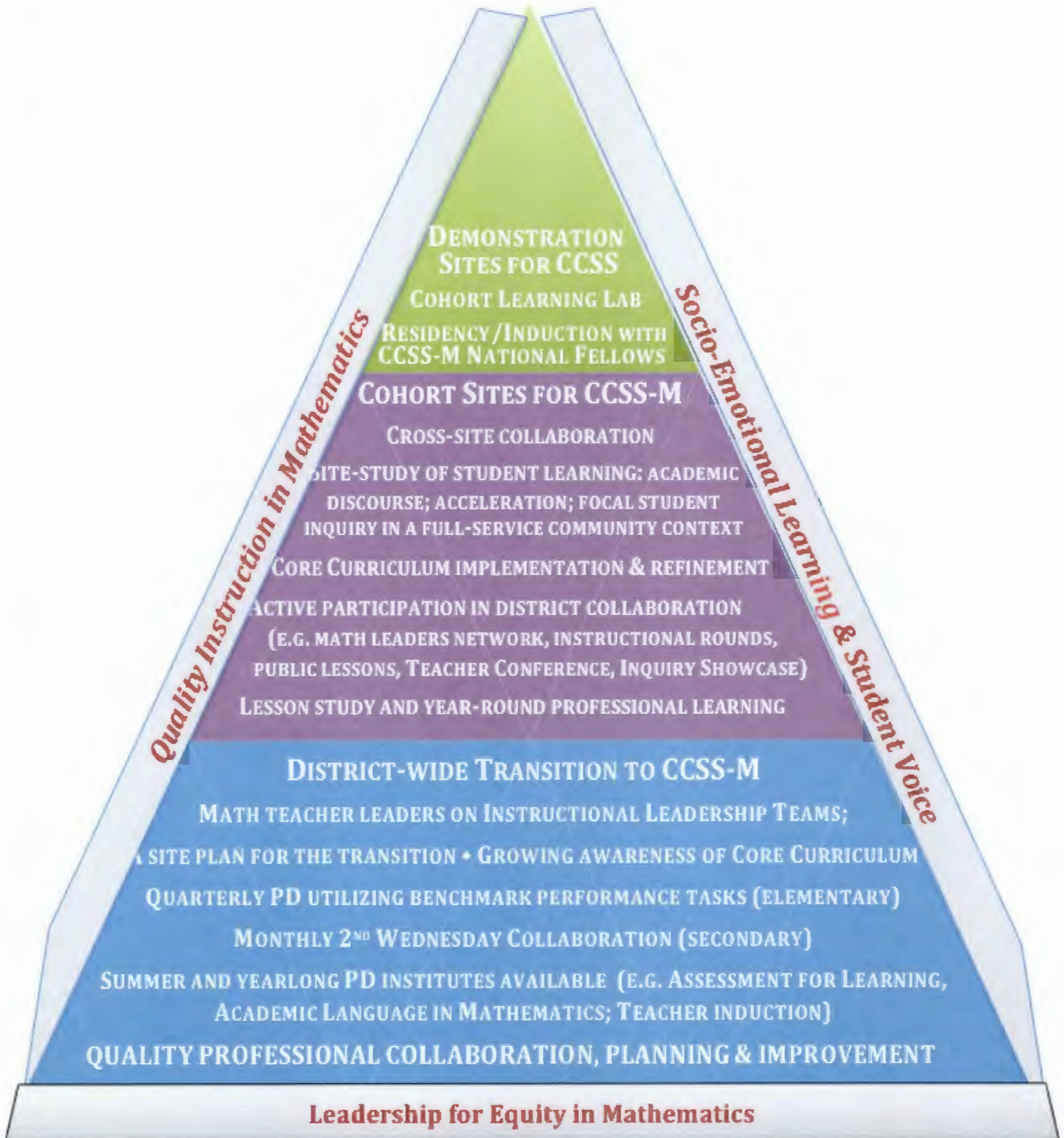
Before describing the *P-5 Elementary Mathematics Inquiry Cohort*, in particular, we believe it may be valuable to describe the larger program of professional learning in which the Cohort is located. Approximately 40 schools will be organized into cohorts that will get more attention and support to address a targeted set of learning areas for the organization. Cohorts will build job-like competency, instructional leadership capacity, and equity through on-going cycles of collaborative inquiry: planning, doing, reflecting, and refining to achieve their respective goals. Teachers and principals will be empowered to do the work envisioned in the strategic plan with built-in time, a clear focus, flexibility for local decision-making, and resources and partners to deepen impact. This larger program is an ambitious and compelling plan for professional learning that OUSD leadership has just launched, spring 2012. [See Attachment A: Rationale and Context for District Cohort Model]

The diagram below shows how all schools will have access to key district resources and guidance for mathematics program development as we begin to create systems alignment, P-12, for the transition to the Common Core. In 2012-2013, all schools will begin the transitions phase. Schools will have options for tiered-participation, getting involved in a variety of activities open to them (the bottom of the triangle in Figure 3.)

Schools in the Cohort, however, will also have more intensive support, with deeper, and more frequent activities and commitment of time and resources. Within the Cohort, a smaller subset of classrooms (perhaps a whole school) will serve as demonstration sites and model classrooms. Non-cohort schools in the district will benefit from partnering with Cohort schools and from learning from their experiences. Schools that partner with sites in the initial cohort will become the next cohort that enters the fast track the following year (2013-2014).



Figure Three: Model For Tiered Participation in District Mathematics Development Work



The *P-5 Elementary Mathematics Inquiry Cohort* will include six schools: Bridges, Brookfield, Horace Mann, RISE, Sequoia, and a school still to be determined. There will be six schools with totals of approximately 130 teachers and 2600 students in the proposed Cohort. These schools reflect a diversity of elementary site contexts, in terms of geographic location, Academic Performance Index, leadership and teaching staff turnover/longevity, involvement in Swun or other district mathematics program improvement efforts, etc.

As a result of their participation in the Cohort activities described below, teachers and leaders, will gain:

- better understanding of optimal mathematics outcomes for students, P-5, as informed by Standards and by analysis of existing student performance, particularly at grades 5-8.
- better understanding of the social and affective aspects of school environments that contribute to teacher efficacy and student learning in mathematics;
- better understanding of the instructional, leadership, and adult learning practices that are associated with optimal mathematics outcomes for students, including core foundational teaching practices;
- increased opportunities for student voice, discussion, and argumentation practice to define classroom environments;
- increased attention (via focal student inquiry) to instructional, wrap-around, and social processes that accelerate learning for students currently outside of the sphere of success
- increased teacher perceptions of supportive and effective working environments.

### **Building the Foundation: Mathematics For Pre-K Through Grade Five Learners**

For the next two years OUSD mathematics leaders will organize their work to achieve the organizational, curricular, and pedagogical shifts that must occur in early childhood and the elementary grades to ensure that students are on track for middle school and, later, for high school graduation and success in college and career by meeting the high expectations of the Common Core State Standards for Mathematics (CCSS-M) and the California Preschool Learning Foundations (CPLF-M). The work will be based on demonstrated success and lessons learned during year one of the middle grades program implementation.

Specifically, the Program Goals seek to continue building sustainable systemic transformation through high-quality instructional leadership, collaborative communities of practice, instructional development, curricular and assessment upgrades that will align instruction to the Common Core Standards and Learning Foundations, and the integration of socio-emotional learning principles and activities and an extended learning day for students.

Simultaneous, coordinated attention to the dimensions of the Logic Model for the proposed *P-5 Elementary Mathematics Inquiry Cohort* demands a new collaborative strategy within OUSD. At a minimum, representation and coordinated effort will be required from the Regional

Executive Officers (RExOs), Leadership, Curriculum, and Instruction (LCI, an umbrella organization for content area teams including mathematics), Families, Schools, and Community Partnerships (FSCP) that currently promotes attention to the socio-emotional needs of teachers and students through its Caring Schools Communities program (CSC), as well as programmatic leadership for after-school programs, and the Early Childhood Education Program. Consideration for the unique learning needs of students, especially those who are currently outside of the sphere of success, suggests that extended learning opportunities – such as those that can be provided in after-school settings - will be needed to foster truly equitable learning for all students.

The primary agent to direct the collaborative action described in this proposal will be a newly formed *P-5 Elementary Mathematics Inquiry Cohort* leadership team to be comprised of: the LCI Elementary Mathematics Coordinator (TBD, Phil Tucher for now), an LCI Mathematics Specialist (TBD, Kenan Delgado for now), the CSC Program Coordinator (Mary Hurley), the After-School Programs Manager for STEM (Kasey Blackburn), the 0-8 Early Education Coordinator (Michelle Grant-Groves), the RAD-LCI math data/research analyst, and a Regional Executive Officer representative focusing on mathematics (Janette Hernandez), who also oversees two of the schools in the Cohort.

Now that sites have been selected for the cohort, and an articulated vision that includes socio-emotional learning, pre-school, and after-school integration has been established, the leadership team will convene a design summit to chart a fully integrated course for this work. The plan of action will include short-term options for participating sites that allow for differentiated, flexible, tiered involvement in the various full-service community components. Still to be determined are the cross-discipline staffing and support for sites associated with participation in the Cohort. In addition to the conversations taking place among LCI managers, a series of design meetings for the Cohort lead team is already underway and will continue through the summer.

The district mathematics team and Cohort leadership team will continue, with support from SERP partners (Phil Daro, Harold Asturias, Kirsten Kainz), to build district and site coherence to achieve a strong curriculum aligned with CCSS-M and the CPLF-M and aligned instructional practices.

***Program Goal 1: Strengthen instructional leadership for mathematics.***

We are building capacity for continuous improvement towards a vision of high quality instruction in mathematics. This continuous improvement requires that we create the recursive conditions in the system that allow information, feedback, and learning to flow from the classroom, out to the professional learning community, school site, and central office – and back again.

As is the case in middle school, the District’s mathematics team acknowledges that effective instructional leadership is needed to promote equitable learning to the standards of the Common

Core for P-5 students. This past year, we have implemented a distributed leadership model with tiers that include central office leadership, site leadership, and leadership in the classroom. We see a growing commitment and capacity in mathematics from Regional Executive Officers, principals, mathematics teacher leaders, and the teaching community alike to take up leadership roles.

District mathematics leaders will continue to cultivate mathematics leadership at every level of the system. The priorities are to: 1) strengthen the instructional vision for elementary school mathematics within each school community; 2) improve classroom visitation practices and observation protocols in ways that give useful feedback to students, teachers, and site leaders, and align to CCSS-M and the CPLF-M; 3) develop site teams to implement and revise site plans that increase the rigor and support for quality mathematics instruction; 4) develop re-cultured and re-tooled systems for school quality review, site planning, and cross-site learning, eventually district-wide, that integrate socio-emotional learning and academic language acquisition into a comprehensive mathematics program, and pursue all of these goals to include full school-readiness and a protected instructional pathway from PreK through the 5<sup>th</sup> grade.

The following programmatic plans demonstrate a district commitment to infuse existing cross- site and site-based leadership efforts with mathematics-specific direction. These plans will continue to develop as the leadership team for the *P-5 Elementary Mathematics Inquiry Cohort* responds to the site-specific needs for program integration put forward by participating schools.

**A. Regional Executive Officers (REXOs) and central office mathematics leaders**

Three STEM planning and development retreats will be held each year Summer, Fall, and Winter. Additionally, the Deputy Superintendent and district mathematics leadership will continue to meet monthly for follow-up program design and review. The Mathematics Working Group made up of the district mathematics manager, coordinator, specialists, a REXO, and representatives from SERP will convene monthly to plan and review program activities. We expect this transition -- expanding to include PreK-5 mathematics within the existing elementary science and middle school mathematics leadership structures and activities -- will be seamless.

**B. Principals and site leaders (a site-based instructional leadership team)**

In our work with principals this past year we learned the importance having assistant principals and/or teacher leaders and instructional leadership teams in the same room, engaging in the same learning and planning at the same time. The Cohort model, with cross-site collaborative inquiry amongst leadership teams, continues in this vein.

Critical design specifics for the collaboration among principals and instructional leadership teams in the Cohort requires input from our newly identified school sites.

What we do have planned, however, is for instructional leadership teams (including the principal, at minimum) to participate in the last two days of the teacher leadership institute in August. Also, instructional leadership teams will partner over the course of the year – at professional development buy-back days, with the use of rotating STIP substitutes (for PreK staff), and in cross-site instructional rounds – to monitor progress and share learning across the cohort, as instructional leaders and school communities begin to identify, address, document and learn from the leadership challenges particular to the transition to the Common Core and the use of the California Preschool Learning Foundations.

At a minimum, the professional development, job-alike inquiry, and follow-up support for principals and site leaders needs to connect directly to the professional learning they are simultaneously undertaking in the area of elementary science. Instructional leadership development in mathematics must enhance and build from that work by utilizing parallel processes (e.g. cross-site instructional rounds, Math Teacher Leader development) and familiar tools (e.g. the 5x8 card for classroom visits, the template for Community Schools Strategic Site Planning).

Elementary principals and instructional leaders need to understand more deeply: a) the features of quality mathematics instruction and how to support it; b) set of student competencies developed at each grade-level through OUSD's emerging Core Curriculum aligned to the CCSS-M and CPLF-M; c) how to engage a math team at their school to develop and begin implementing a site mathematics improvement plan aligned with other site initiatives and efforts.

As part of the re-tooling and re-culturing necessary in this process, we will work with schools in the cohort to design effective assessment measures for student learning and to document shifts in classroom practice so that principals connect their instructional leadership development in mathematics to their instructional leadership practices in school culture more broadly. We believe it is essential that principals and leadership from the school communities be empowered to take responsibility for identifying, observing, collecting data on the kind of practices they want to see. This will contribute to the authenticity and effectiveness of the cohort collaboration, and thus enhance the long-term sustainability of the program.

### **C. Teacher Leaders at school sites**

To develop the capacity of teacher-leaders in the Cohort – as well as in other schools not in the Cohort – and to build a coherent approach to program improvements, we will hold the P-5 Elementary Mathematics Leadership Institute in August. This is a five-day institute for Lead Math Teachers from each elementary school. Participants will engage in

leadership development -- in the classroom, with a partner, in site teams, or across sites -- and plan for the school year. Across the district, each school may send one or two Teacher Leaders. The six Cohort schools will be required to send a team of three or more Teacher Leaders. Key topics for school change and personal leadership transformation will include: a) classroom leadership (student-student and student-teacher interactions); b) working with colleagues within and across sites; and, c) systems and processes for continuous program learning and improvement.

Teacher leadership is increasingly vital to the changes underway in curriculum, instructional practice, and the culture and conditions in which teachers teach. The Cohort structure allows for intensive and sustained support in the following goal-related areas of work:

- i) Site-based professional learning community (goal 2)
- ii) Mentoring new teachers (goal 2)
- iii) Leading student intervention inquiry (goal 3)
- iv) Producing grade-level core curriculum (goal 4)
- v) Develop course development and assessment review (goal 4)
- vi) Special math events such as family mathematics nights, competitions (goal 4, 5)
- vii) Caring School Communities integration (goal 5)
- viii) After-School Program integration (goal 5)
- ix) Full integration and inclusion of on-site PreK staff/students/and families (goal 5)

**D. Elementary School Mathematics Coordinator and Specialists**

The core activities of the sister project in middle school have been successful because of the collaboration, hard work, and follow-through on site of the team of district mathematics specialists. We plan to implement and expand the team concept with distributed leadership responsibilities for each specialist as shown in the chart below. An elementary mathematics team of six people will develop tools and resources for 55 schools, while focusing a highly concentrated support infrastructure to ensure classroom impact at each of the six schools in the Cohort and to meet the goals articulated in this proposal.

Position	Sample Leadership Responsibilities
Elementary Mathematics Coordinator	Site development at one Cohort site; instructional leadership design and development; coordination of all project activities; team leadership and personnel management; partnership development and sustainability
Specialist #1	Site development at one Region 1 Cohort site; teacher leader development; Cohort lead team participation; communications; math-



	science integration opportunities and West Oakland STEM; achievement of African American males
Specialist #2	Site development at one Region 2 Cohort site; assessment development; Response to Intervention and Instruction; instructional technology and connected learning; RAD liaison (elementary)
Specialist #3	Site development at one Region 2 Cohort site; instructional quality, teacher induction and development; SVMII liaison
Specialist #4	Site development at one Region 3 Cohort site; curriculum development; After-School and Caring School Communities liaison
Specialist #5	Site development at one Region 3 Cohort site; achievement of English Learners; Early Childhood liaison

The proposed roles of the elementary mathematics specialists and coordinator are listed here aligned to program goals. They include:

- a) Manage elementary school instructional leadership development, systems alignment. P-5, including content-specific support and development of REXOs, site administrators, and a team of specialists (Coordinator, goal #1)
- b) Work with teachers, principals, REXOs to ensure strong mathematics site plans and program development at each Cohort site, including a coherent approach to curriculum and instructional practice development, student assessment, academic intervention, and program leadership and improvement through teacher leadership development and a process of focal student inquiry; (Specialists and Coordinator, goal #1)
- c) Work with teachers, teacher leaders and mentors, and site administrators to ensure site-based communities of practice develop the instructional capacity of all teachers, and that site needs are met through Cohort and cross-site opportunities for professional learning and instructional planning aligned to the CCSS-M and CPLF-M (Specialists and Coordinator, goal #2)
- d) Coordinate elementary school instructional practice development, including in-classroom coaching follow-up through the use of Lesson Study and a Formative Assessment Lesson inquiry cycle (Specialists and Coordinator, goal #3)
- e) Lead elementary school curriculum and assessment development and the transition to the Common Core (Specialists, goal #4)
- f) Partner within LCI and OUSD -- particularly with Regional Executive Officers, Caring School Communities, After-School Programs, and Early Childhood Education – to align services and supports relating to Cohort and district goals. (Specialists and Coordinator, goal #5)

- g) Lead formative evaluation and longer-term development efforts for the elementary, P-5, program to ensure teachers experience the set of specific activities outlined in this proposal as a coherent and impactful system, sustained over time. (Coordinator, Sustainability and Formative Evaluation components of this proposal)

The team of Specialists, along with the Elementary Mathematics Coordinator, will continue to develop coherence throughout the system. The district Mathematics Manager, 0-8 Coordinator from Early Childhood Education, and a SERP partner will join this team to form a mathematics working group for this project. As with the middle school work, we will continue with the evidence-gathering theme and making learning visible. We are planning for an ever increasing variety of student learning artifacts that will eventually include analyses of students' learning as evidenced by quality shared assignments, student learning exhibitions, video samples, classroom visits, and benchmark performance assessments. We are grateful to the Foundation for funding a 0.5 FTE Administrative Assistant position to support the math team and help with coordination of events and materials related to all activities in the middle school and elementary mathematics initiatives.

***Program Goal 2: Establish and support communities of practice within and across sites***

We are pursuing learning through collaborative inquiry across the district through a cohort structure that will provide for job-alike and cross-role activities.

In year one of the middle school program, we made the argument that substantive and substantial improvement in mathematics teaching and learning would result from effective communities of practice (DuFour & DuFour, 2008) focused on student data and bounded by a framework of change defined by CCSS-M. With respect to the Common Core, year one district-wide was designed as an awareness year, in which the tools for awareness were the MARS performance tasks embedded in curricular documents and benchmark assessments, as well as at the middle schools the 5x8 card observation protocol that sharpens teacher and leader classroom visits to align to CCSS.

With the *P-5 Elementary Mathematics Inquiry Cohort* sites, we will continue this commitment to evidence-gathering as a driving process that improves and guides instruction, as it allows for the system to substantiate and validate the claims that students are learning to rigorous standards. Below are the claims about student learning that elementary school communities of practice will seek to substantiate and validate through the careful analyses of student learning. (These claims are aligned to the CPLF-M and are entirely appropriate for back mapping to the DRDP-PS and SR assessment tools for PreK, TK, and K.) Each claim is a summary statement about the knowledge and skills students will be expected to demonstrate on assignments and assessments related to a particular aspect of the CCSS for mathematics, (Schoenfeld and Burkhardt for SMARTER Balanced Assessment Consortium.)

Mathematics Claim #1: Concepts and Procedures

“Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.”

Mathematics Claim #2: Problem Solving

“Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.”

Mathematics Claim #3: Communicating Reasoning

Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.”

Mathematics Claim #4: Modeling and Data Analysis

“Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.”

Thus far into year one of the middle school work we have observed the positive impact of professional learning communities on teachers’ enthusiasm and commitment to the work. These communities of practice are the result of collaboration across sites, within sites, and within the “micro-communities” of teacher-to-teacher mentoring and coaching. Through the Cohort structure, we will develop these same differentiated communities of practice (P-5).

Elementary teacher communities have already begun to develop across the district this year. These teams are focused on curriculum production, the use of lesson study to understand careful experimentation with new methods and materials aligned to CCSS-M, and novice teacher mentoring (not yet math specific mentoring at PreK-5 level.) We are confident that these teams will strengthen and go deeper in the next two years, as we develop site-based teacher leadership specific to mathematics, build from a more coherent Cohort collaboration, and expand and articulate with our Early Childhood, Caring School Communities, and After-School Programs colleagues.

Though many of the design specifics for this collaboration require input still from our newly identified school sites, and from our intra-OUSD partners, we are confident that the Cohort structure allows for the kind of deep and systemic professional learning that is only possible with weekly involvement and support from colleagues. Site-based and cross-site collaboration in job-alike and cross-roll groupings will take place during grade-level “circuit” meetings, early release days (including substitute coverage for our PreK teaching staff), cross-site visits

and public lessons, and Cohort-wide professional development “buy-back” days in August, October, and January.

**Program Goal 3: Promote coherent and effective instructional practices across all grade levels (P-5)**

We are building the instructional capacity of teachers to meet the level of rigor established by the Common Core State Standards, where every classroom is rich in sense-making with mathematical discourse, argument, procedural fluency as appropriate, problem-solving, and conceptual understanding.

The district mathematics team asserts that effective teaching in mathematics will need to be aligned with the CCSS-M and CPLF-M to include effective representation and engagement with important mathematical content, explicit teaching of academic language, skillful use of assessment, and targeted approaches and supports to accelerate learning for all students. Cohort schools will have professional learning opportunities in each of these areas and through a variety of professional learning and collaboration structures. (See also Attachment B: 2012-2013 Learning Structures Calendar for the *P-5 Elementary Mathematics Inquiry Cohort*)

Professional learning and collaboration will occur through the following: summer and midyear professional development institutes (available to Cohort and non-Cohort teachers); professional development “buy-back” days; early-release Wednesdays; grade-level common planning time; optional full-day release days with substitutes provided; and after-school collaborative planning meetings.

There are three main components of the professional development designed to improve teachers’ knowledge of mathematics for teaching and the quality of teaching and learning of mathematics in Cohort schools. **Summer Mathematics Academy** gives teachers an opportunity to choose at least two weeks of professional development from among several different 1-week offerings:

- a. Assessment for Learning: Introduction to the Common Core in Mathematics
- b. Academic Language and Literacy
- c. Mathematics Content and Curriculum Institute
- d. Using the EnVision Math Materials
- e. Core Curriculum Unit Development
- f. Bringing Common Core to the Classroom
- g. P-5 Elementary Mathematics Leadership Institute

Secondly, **cross-site Cohort inquiry** will be supported starting in the summer and continuing throughout the year in partnership with the Silicon Valley Math Initiative – East Bay (SVMIEB). The District has been hosting SVMIEB activities for at least two years and increasingly, clusters of Oakland schools have benefited from the variety of opportunities associated with SVMIEB membership and participation, among them – and building from the work begun at the

Mathematics Content and Curriculum Institute for teachers and their math “coach” – are: five daylong workshops, the Lesson Study Project, and MARS<sup>1</sup> performance task scoring training. District math leaders and specialists will continue to partner and participate in leading this regionally significant work. Specifically, starting this summer, Oakland is helping to launch a collaborative effort among OUSD, SVMI, and Alameda County Office of Education, in which approximately 14 of 18 school districts in the County will send math teams to build awareness and begin the transition to Common Core.

Thirdly, District mathematics specialists will facilitate **classroom-based coaching and follow-up** to ensure careful experimentation with new methods and materials is well supported. Instructional development in the classroom will be inquiry-oriented, using the Formative Assessment Lesson cycle shown in Figure 4, *Transitioning to the Common Core in Mathematics*. In this way, teachers will learn to engage their students in a productive struggle with important mathematics concepts through performance tasks. Then, with analyses of students’ work, teachers learn to give useful feedback to their students: feedback, based on evidence, that may re-engage students in the particular mathematical concept, or direct them to the specific mathematical practice (or student vital behavior) that is proving to accelerate classroom learning

Over the course of the next year or so, as a District we are developing and refining a toolkit for instructional practice, as part of the Core Curriculum Guide. In this toolkit we outline a set of *signature pedagogies* proven to accelerate learning in mathematics and consistent with the instructional shift needed to meet the rigors of the Common Core. Cohort schools are the learning lab within OUSD in which these instructional routines and strategies for re-engagement<sup>2</sup> are being developed.

Throughout the professional development and collaboration within the Cohort, we will partner with colleagues from Caring School Communities, After-School Programs, and Early Childhood Education to integrate socio-emotional learning principles, practices, and activities, and work with teachers in after-school and Pre-K/TK classrooms as appropriate. The leadership team is eager to get started, now that specific sites have expressed their interest in this program integration.

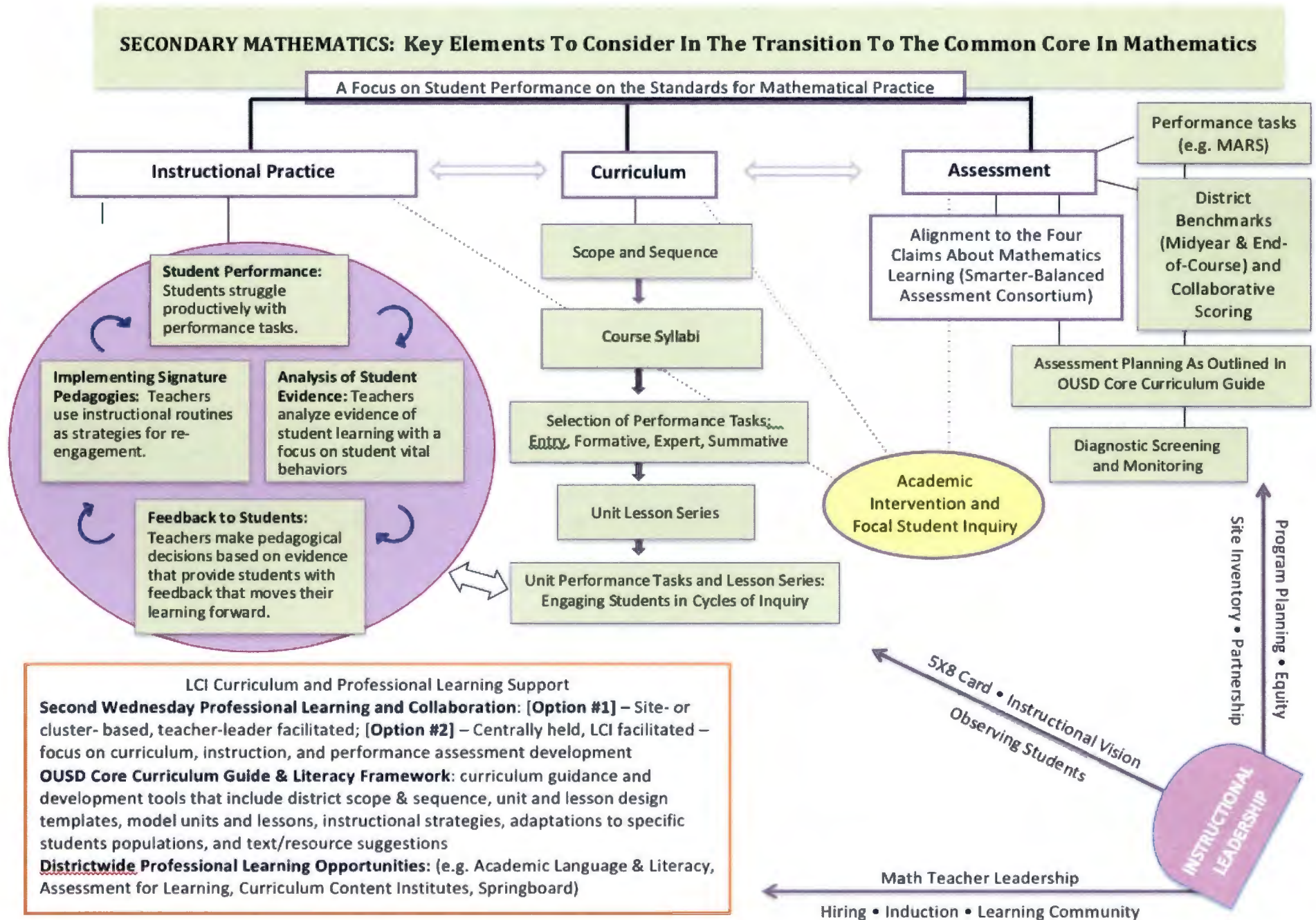
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<sup>1</sup> The acronym comes from Mathematics Assessment Resource Service (MARS), the creator of the MARS exams, which use open ended questions and focus on five core ideas taught at each grade level. The exam also assesses the mathematical processes of problem solving, reasoning, and communication. The tasks require students to evaluate, optimize, design, plan, model, transform, generalize, justify, interpret, represent, estimate, and calculate their solution. (The Mathematics Assessment Collaborative: Performance Testing to Improve Instruction, David Foster and Pendred Noyce, M.D., Silicon Valley Math Initiative, January 2004)

2

Linda Fisher and David Foster have been working over the past ten years or so, on re-engagement routines and re-engagement lessons at the Math Assessment Collaborative, (MAC), a part of SVMI. Formative Assessment Lessons, (FALs), related, and so important to the design of curricular units being develop for the Common Core, are being developed by Malcolm Swan and Hugh Burkhardt at the Shell Centre in Nottingham England.

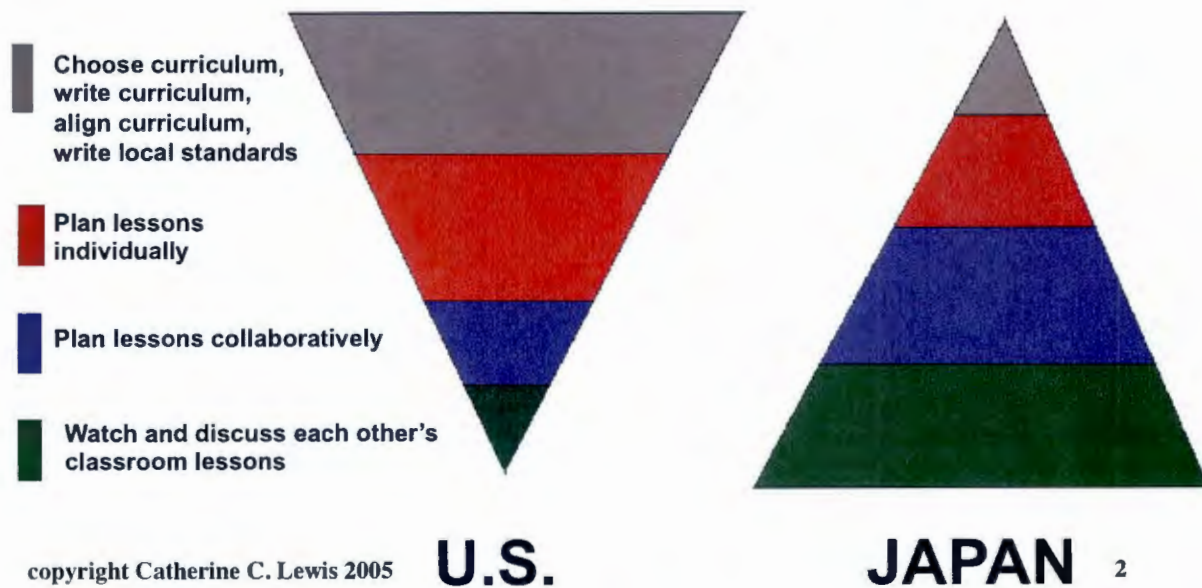
Figure 4: Transitioning to the Common Core in Mathematics



## Public Lessons – a bridge between instructional development and curricular development

Our colleague Catherine Lewis at Mills College brought a team of Japanese educators to a middle school administrator professional development session in February and served as respondent following a 6<sup>th</sup> grade public lesson. Her key advice to us was to keep the focus of work on the students and on teaching and learning, even as the standards and the instructional materials are so dramatically in flux. Figure 5 shows the prevailing tendencies for teachers in U.S. classrooms to put their time and energy into choosing, writing, and aligning curriculum to local standards, at the expense of collaborative planning, observation, and discussion.

Figure 5: Teacher's Activities to Improve Instruction



Next month, 10 or more OUSD math teachers and leaders will go to Japan to observe Lesson Study in action in Japanese schools. We have been actively involved in several Lesson Study initiatives in recent years, and in 2012-2013, this work will continue to move to the center of our work. Lesson Study affords teachers the opportunity to carefully make sense together of new methods (*signature pedagogy*) and new materials (OUSD Core Curriculum Guide.) It is perfectly suited for the kind of in-depth inquiry that will drive instructional improvement in the Cohort.

Lesson Study is also a wonderful way for groups of teachers to go more public with an emerging instructional practice. For that reason, each spring, OUSD teachers have been encouraged to take their teaching public by participating in a series of district-wide public

lessons. These one-day celebrations are based on the Japanese use of lesson study. Teachers spend the morning teaching/observing public lessons and in the afternoon convene to reflect on the student and adult learning.

This summer, a team of one dozen OUSD math educators – half classroom teachers and half math specialists and district leaders – have been invited by the Lesson Study Group at Mills College to participate in study tour to Japan to visit and research the use of lesson study in Japanese classrooms. The study tour, funded more than 80% through grants made available to us through a close partnership with Mills College, will allow Oakland teachers and educators to look closely at the instructional context of one of the world’s highest performing countries. Further, this opportunity grows our capacity for using lesson study in Cohort schools next year, and likely will provide us further access to local, national, and international expertise and support from leading mathematics educators.

For example, in June, Professor Akihiko Takihashi, a prominent Japanese educator currently at DePaul University, will teach a series of three public lessons at Brookfield Elementary School, one of our Cohort schools in East Oakland. It is not coincidental. Professor Takihashi has worked closely with Catherine Lewis from Mills College, but also with Phil Daro of SERP, and he has recently agreed to provide us with technical expertise and instructional materials to support our curriculum development efforts.

***Program Goal 4: Implement strong curriculum tied to Common Core State Standards in mathematics***

We are addressing the P-5 curricular gaps identified in our analyses of current student performance, particularly the foundational gaps we believe underlie, as root cause, our students’ woefully inadequate mastery of essential, pre-algebra and early-algebra mathematics content. This project provides an exceptional opportunity for learning more about the content and conceptual gaps elementary students bring to middle school, the potential they bring with them to ramp them up to their grade level, and how our middle school mathematics expectations can, and should inform teaching and learning at the elementary level – even in the early years and early grades.

From student learning data and teacher reporting we recognize that P-5 students need to improve in mathematics in at least these three key aspects: content retention, application, and more fluid/flexible understanding of important mathematics concepts so that they can apply the concepts to an array of novel problem-based scenarios. Each of the four student learning claims identified under Program Goal 2 raises serious concern about the rigor and quality of the curriculum and assessments that have driven a decade of reform in elementary mathematics in the district and throughout the state. There are critical data analysis questions we will study further, with support from SERP and Michelle Reininger at Stanford University and Neil



Finkelstein at WestEd, including longitudinal studies to understand the multi-year impact of the reforms in elementary mathematics over the past 5 years on student learning and achievement in elementary school.

Already we are able to use student learning data from MARS tasks on the district benchmarks as valid data that triangulates with what we know about students' performance on CST tests and in class performance (i.e. grades). We know, for example, that more half of district 6th graders scored proficient or advanced on the multiple-choice section of the Fall benchmark assessment; however, of those students, only about half also scored proficient on the performance component. Similarly, from preliminary Benchmark 3 data for district third graders, we see: only one third of the students who scored at grade-level on the multiple-choice also scored at grade-level on the performance task that was administered. We look forward to deeper levels of analysis that allow us to track more effectively which students are doing well on these assessments and what their preparation has been (curriculum and unit planning tools used, etc.).

In response to the greater demands of the college- and career-readiness standards from the Common Core, teams of teachers and district specialists are working with OUSD leadership to develop a Core Curriculum Guide for mathematics that will provide greater clarity about course content ("entrance" assessments to provide teachers with data about students strengths and gaps, "exit" criteria to define course mastery across the system. The OUSD P-12 Core Curriculum Guide is also being developed to provide all students opportunities for acceleration and intervention organized to adapt promising materials to the needs of specific student populations within Oakland and to enact the new standards within a performance assessment and Response to Intervention framework, with quality tier-one instructional materials and assessments, and augmented supports to students needing further tier-two instruction.

The core curriculum production work builds from the 2010-2011 Task Force work and features prominently in the *Community Schools, Thriving Students* strategic plan "landmarks" for 2011-2012 (year one) implementation. We are defining a core curriculum as: *a coherent set of learning experiences that develops in students particular knowledge, skills, dispositions and capacities; the course of study (informed by standards, and dependent on instructional practice) that guides teachers as they design, teach, and assess instruction for students.* We are in the process of outlining a shared vision for the kinds of coherent learning experiences that would instantiate the CCSS-M and the CPLF-M as well as the vision for teaching and learning beginning to emerge across the district.

A more complete overview of the District's Core Curriculum Guide can be found in Attachment C: *Development of a Core Curriculum Guide.*

As a direct result of the course and curriculum development work happening over the past year, the mathematics curriculum and assessments used in Cohort classrooms starting Fall 2012 will

be aligned to CCSS-M and CPLF-M. The curriculum production teams will continue to develop and field test sample instructional units, each with entry-, formative assessment-, expert-, and summative performance tasks. There is an elaborate plan in place for teacher teams that are developing the curriculum unit guides and materials to share their work with their colleagues, and this process will continue throughout the Cohort and in other curriculum field-testing classrooms next year. The strong curricular emphasis on student performance tasks lays the foundation for the collaborative planning and formative assessment inquiry cycles outlined in goals 2 and 3, respectively.

Over the course of the next 6 months, curriculum production activities include:

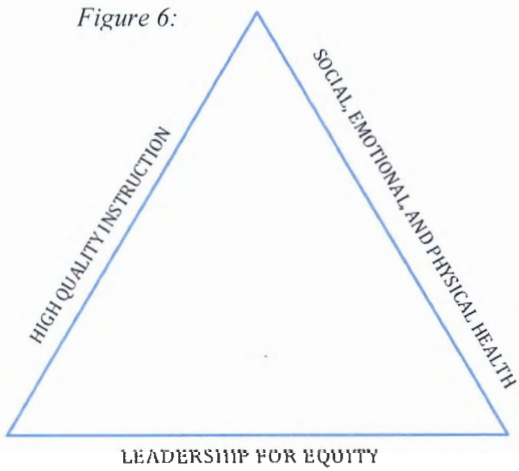
- i) Convening Curriculum Production Team monthly (stipends for 30 hours of face time and additional fieldwork) with grade-level production leader and feedback facilitator stipends.
- ii) Continue partnering with content experts including Phil Daro (SERP), a team from Lawrence Hall of Science, David Foster (SVMI) and Gretchen Muller (Alameda County Office of Education) to facilitate curriculum development at each grade-level.
- iii) Expanded summer curriculum production team (2 consecutive weeks; flashdrives, materials)
- iv) Documenting curricular innovation more closely (video, reciprocal classroom visits)
- v) Special invitation to curriculum development institute, *Bringing The Common Core to the Classroom*, for up to 25 OUSD Common Core National Fellows.

District leadership and the mathematics teaching community within OUSD are genuinely committed to moving mathematics instruction in line with the CCSS-M and CPLF-M, improving current levels of achievement, preparing students with 21st century skills and habits of mind, delivering on systemic equality with a heightened awareness of the need for equity, and meeting the challenges of new performance targets. We recognize the inextricable links between curriculum and instruction, and the fundamental importance of sound assessment practices to drive curricular development and instructional improvement. With California a “governing” member of the SMARTER Balanced Assessment Consortium (SBAC), district leadership closely aligned with the California Department of Education Child Development Division (RTT: Early Learning Challenge Grant QRIS), and with vertically and horizontally aligned curriculum and assessment development work well under way, the district is well poised for a full curricular transformation within Cohort schools over the next two years, and across the district within 3-4 years.

***Program Goal 5: Extend the learning day for students, and integrate full-service, community partnerships and socio-emotional learning into mathematics program development, and pursue all of these goals to include full school-readiness and a protected instructional pathway from PreK through 5th grade.***

We are partnering within OUSD, even as we seek to partner beyond our organizational boundaries, to build cross-departmental collaboration and to ensure that from the beginning stages teachers, students, school leaders and communities will experience the improvement supports and impact of our partnership as integrated, comprehensive, and coherent.

By partnering together, district math leaders join their colleagues from Caring School Communities, After-School Programs, and Early Childhood Development to develop a plan that boldly connects the three sides of the strategic plan triangle: quality instruction, physically and emotionally safe learning environments, and leadership for equity, shown in figure 6.



In so doing, we create the *P-5 Elementary Mathematics Inquiry Cohort*, adding to the organizational coherence that has evolved through the work already underway in elementary science and middle school math.

As stated throughout this proposal, the design particulars for integrating services and program supports to engage school-day and extended-day, preschool and elementary teachers, will require not just the input, but the local problem-solving involvement of teachers and leaders across the Cohort on an on-going basis.

Here is a chart that shows preliminary projections for participation among Cohort schools in each of the program components detailed in this proposal.

School	Region	On-site Preschool	Caring School Communities	After-School Program	Previous Math Focus
Sequoia	1	Yes	Yes	Yes	EnVision
TBD	1	-	Yes	-	-
Bridges	2	No	Yes	Yes	Site developed
Horace Mann	2	No	Yes	Yes	Swun
Brookfield	3	Yes	Yes	Yes	Swun
RISE	3	Yes	Yes	Yes	Swun

Caring School Communities, too, brings a full curriculum and approach to building student autonomy, agency, and voice, and as district math leaders have been working over the past year, we only recently have taken this rich set of resources into account.

Our vision, however, and our work with schools to support students and families to higher levels of powerful math learning, seem to be a compelling match to the key levers of Caring School

Communities (CSC): classroom conversation/meetings; cross age-mentoring; home-side activities and school-wide activities. The CSC core principles align fully: supportive relationships, collaboration, opportunities for autonomy and influence as well as common purpose and ideals set the stage for group work in math, mathematical argument, and importantly, teachers' own work together to bring to all students in OUSD the enormous benefit of learning guided by the Common Core and Preschool Learning Foundations.

For further programmatic description of existing Caring School Communities, and after-school programs, please see Attachment D.

### **Focal Student Inquiry**

The Cohort activities described above will promote better connection between in-school and after-school learning, and equitable learning that is driven by CCSS-M and the CPLF-M, strengthened by attention to the socio-emotional development of younger students. Part of the documentation of program implementation will include studying the immediate impact that the innovation has on students, particularly students currently outside the sphere of academic success. This process of focal student inquiry will ensure that the practices that successfully accelerate student learning become practices integrated school- or cohort- wide.

## **STEM Education: The Road To Sustainability**

OUSD recognizes the critical role of STEM education to ensure that all students graduate career and college ready. Targeted science and mathematics programming currently funded by Bechtel has been developed in service of a larger STEM vision, and this proposal outlines a scope of work that continues to sharpen a strategy and path toward that vision. The programming herein was designed with sustainability in mind and will be implemented within a system of broad and precise supports that will ensure the viability of successful programmatic efforts after external funding ceases.

To achieve the STEM vision, including the elementary mathematics programmatic elements proposed within this proposal, OUSD leaders have already begun to organize operations and instructional programming for higher mathematics and STEM achievement. In terms of district operations, the OUSD Board of Education has launched a facilities renovation and expansion plan that will result in better science and technology resources throughout OUSD. Within the instructional program, OUSD leaders continue to foster professional development and high quality programming so that every student has access to rich and rigorous mathematics learning experiences aligned with the CCSS and CPLFs.

More specifically, the mathematics programming currently funded by Bechtel is tightly aligned with specific goals identified by the OUSD strategic plan. By aligning programming within the goals of the strategic plan we give meaning and momentum to the programming that could not be achieved were it allowed to unfold separately, apart from the primary engine of district improvement. Additionally, the major foci of the programming – cultivating school and classroom leadership; aligning with deep standards; reinforcing standards with effective curriculum; implementing communities of practice that plan for, observe, and refine standards-based practices; and promoting program development and refinement through collaborative teams across OUSD departments, with local evaluation and assessment - are carefully designed to build OUSD's capacity for continuous improvement. The major foci ensure that multiple OUSD departments are working collaboratively to develop local procedures that undergird improvement and will ultimately change the day-to-day functioning of the district. In the following paragraphs we provide concrete examples of the district and departmental shifts that are currently in place and will continue to develop over the next two years of programming to ensure sustainability.

*District Shifts.* In ways previously not seen, professionals from the Leadership, Curriculum, and Instruction department are working together and with their colleagues in Early Childhood Education, Families, School and Community Partnerships, with RAD, and with school site leaders to begin improving early learning and elementary school mathematics, together. Aligning and intertwining the efforts of four significant programmatic improvements – early childhood systems integration, building socio-emotional learning district-wide, content-integration in the

after-schools program, and systemic reform in mathematics – represents in itself a significant district shift. This expanded intra-OUSD collaboration will serve as a model for its comprehensive approach to implementation of the strategic plan.

Preparation for this shift within the LCI mathematics team has been at least a year in the making. The team has sought to partner within and beyond the district, continuously, to ensure multiple perspectives, access to the best thinking, and a multi-stakeholder commitment to improvement. Examples of this collaborative approach include participation and leadership in the following: district retreats; design team and working group meetings; intra-departmental professional development planning; and, participation in research and development projects that combine the expertise of multiple departments in service of mathematics (and science) learning. No fewer than 20 collaborative, cross-department meetings have occurred since funding for the middle school math (and elementary science) initiatives began in May, 2011. Additionally, math participation at 15 West Oakland STEM meetings has been vital.

It is precisely the collaborative approach – and the work by the Deputy Superintendent, the Regional Executive Officers (RExOs), research and evaluation specialists, and now leaders from early childhood education, socio-emotional learning, and after-school programs with our mathematics leaders – that will bring sustainable change within OUSD. New and more effective procedures for designing, implementing, evaluating, and refining instructional programming will take root across a wider swath of the organization. As these new procedures become the day-to-day business of the district, the re-culturing currently funded by Bechtel will become the OUSD collectively owned community culture.

*Mathematics Instruction Shifts.* The mathematics department leaders with the Deputy and Associate Superintendents, Early Education Coordinator, and RExOs have committed to implementing the CCSS-M and the CPLF-M throughout OUSD. Over the past year, district math planning teams that include external partners, district leadership, and LCI mathematics leaders have identified six mechanisms that are currently in development, proving effective, and will be enhanced over the next two years:

1. **Improved teaching** via professional development, collaboration, and reflective practice;
2. The use of **performance mathematics assessments**, as a key component in the curriculum and assessment for CCSS-M (and CPLF-M) learning;
3. An explicitly identified **chain of communication/command** that includes clearly understood roles and procedures for enhancing classroom practice, with the intent to establish the recursive condition: effective flow of information and feedback from the classroom to learning community, to site leadership, district leadership and back again;
4. The generation of ‘showcase schools’ through an **inquiry cohort model** that fosters innovation for the identification of promising practice, instructional research, and development;
5. Frequent and job-embedded opportunities for **making practice public** – and making the dilemmas of practice public – through instructional rounds, public lessons, presentations

at the OUSD Good Teaching Conference, focal student inquiry, and end-of-year inquiry showcase events;

6. **Strategic partnership within, and beyond OUSD** to meet the instructional, socio-emotional, and unique learning needs of all students, and their teachers (e.g. intentional systems integration and alignment of all grade-levels, P–12.)

These mechanisms will align professional interactions and district procedures in service of CCSS-M and CPLF-M, thus re-culturing mathematics teaching and learning in early childhood and elementary school levels in ways that will be sustained beyond the initial phases of cohort implementation.

## OUTCOMES AND EVALUATION

In our first year of work in middle school, we realized the importance and need for increased access to a broader range of student and teacher information and evidence. We believed a more robust formative evaluation component, with full integration of formative evaluation into the program planning and design work, would improve the depth and quality of project activities. Similarly, there was a need for better articulation internally between district mathematics leaders and Research, Assessment and Data, (RAD). We have received and are grateful for recent additional support for evaluation in the form of a 0.5 position that will focus exclusively on the research, assessment, and data needs in mathematics, science, and STEM, partnering internally with Human Resources, Talent Development Office, and Research, Assessment and Data (RAD), coordinating the formative evaluation, and incorporating the work with external data/research partners funded through SERP and any external project evaluation.

Below, we describe the plan for increasing district capacity for continuous improvement via formative evaluation. We see the work of cultivating capacity for continuous improvement as essential for mid-course programmatic adjustments, and for sustaining current investments. This “evaluation for learning” approach will bring together internal and external evaluators in partnership to document, assess, and provide critical feedback for program planning and design, but also offer independent analyses regarding program implementation and impacts.

As outlined above, teachers and leaders, as a result of their participation in the Cohort activities described below, will gain:

- better understanding of optimal mathematics outcomes for students, P-5, as informed by Standards and by analysis of existing student performance, particularly at grades 5-8.
- better understanding of the social and affective aspects of school environments that contribute to teacher efficacy and student learning in mathematics;
- better understanding of the instructional, leadership, and adult learning practices that are associated with optimal mathematics outcomes for students (P-12);
- increased opportunities for student voice, discussion, and argumentation practice to define classroom environments;
- increased attention (via focal student inquiry) to instructional, wrap-around, and social processes that accelerate learning for students currently outside of the sphere of success;
- increased teacher perceptions of supportive and effective working environments (P-12).

Student learning and achievement gains will be documented and measured by:

- Classroom visits with an observation protocol
- Participation and success with embedded assessments in the Core Curriculum
- Performance tasks as part of the new twice-annual, next-generation benchmarks
- Finer-grained assessments of targeted skill development of focal students



- Performance on California Standards Tests (not aligned to Common Core)

### **OUSD Formative Evaluation**

Preliminary planning is for OUSD’s Research, Assessment & Data (RAD) team to provide formative evaluation aligned to the five program goals defined by the logic model, outlined above. We will also provide a year-end summative evaluation of progress toward those goals and target outcomes. The formative evaluation will play a critical role in shaping district change through improved elementary mathematics programming.

We will continue to build OUSD’s internal capacity to gather, interpret, and analyze evidence for each of the five program goals. We will use formative evaluation for timely course-corrections and modifications, evidence collected during the coming year will serve the dual purpose of helping us determine whether we are on track toward our program goals as well as helping us determine if our targeted alignment and reform efforts are shifting student outcomes. Also, we will use data analysis and evaluation reporting from other district efforts – e.g. middle school mathematics performance analysis – to inform Cohort decisions.

Using 2012-2013 as a baseline year, we expect to see measurable evidence of improvement in all five goal areas as we move forward with our collective action plan.

One way of assessing whether we are on track is by examining the classroom observation data collected by Cohort teachers and principals. For example, educators at all Cohort sites will be using a specific 5x8 card observation protocol in documenting mathematics learning in their schools. We will expect to see continuing attention to the gathering of student evidence for the purposes of understanding the quality and quantity of mathematics learning by students: particularly, the vital student behaviors that bring to life the Standards for Mathematical Practice. We will continue to document the development of teacher and principal dialogue, as teachers and principals, alike, learn to give positive, descriptive feedback to students about their mathematics, and then ultimately shift to questions of instructional practice to understand the learning conditions necessary for students to demonstrate fully the Mathematical Practices and habits of mind. Greater consistency and frequency of student use of academic language and “second sentences” across classrooms, for example, would be an indication of greater coherence and shifting of curriculum and instructional practices aligned to the Common Core State Standards.

As LCI mathematics program staff develop the processes, practices, habits, and infrastructure to collect evidence throughout the year, and as more of the LCI-based mathematics specialists begin to document and disseminate their observation notes and findings from professional development sessions and communities of practice, it will be less and less necessary for RAD/SERP to deploy staff to collect these observational/qualitative data that are crucial for

the formative evaluation of our strategies, program, and implementation. RAD will then focus on the evaluation and timely dissemination of lessons learned, questions, highlights, and findings. RAD will also provide quarterly formative evaluation reports to the district mathematics working group for the purpose of program refinement and course correction.

In addition, RAD and Cohort leaders will work to ensure our PreK and K-5 data systems align to, and support one another. Currently our two data systems are entirely separate and do not correlate to one another. As we move forward with our alignment efforts (systems, communication, and instruction), it will become imperative for data systems to not only speak with one another – but to become protected and seamless by design.

RAD will draw lessons from each of the schools in the *P-5 Elementary Mathematics Inquiry Cohort* to identify successful, innovative practices and necessary supporting conditions that can be documented and ultimately disseminated and adopted system-wide.

The formative evaluation will document the ways in which our Cohort’s approach is taking root in the district, – in district leadership, in Cohort schools, and in schools throughout each region. RAD will examine how conversations among teachers and principals are changing over time, and will quantify and capture the characteristics of these changes from qualitative data such as transcripts and analyses of video clips.

Evaluation will also include measuring progress toward recruiting, developing, and retaining effective teachers with strong mathematics knowledge and pedagogy for elementary school throughout the district.

The priorities for the formative evaluation are outlined below, aligned to the five major Program Goals for Elementary School Mathematics.

## Evaluation Priorities for the 2012-13 School Year Mathematics Grades PreK-5

### Program Goal 1: Strengthen Instructional Leadership

*Use of 5x8 card: principal, instructional leadership team, and site math teacher leader learning, towards a vision*

- What are principals, instructional leadership teams, and site math teacher leaders able to recognize in terms of student mathematical thinking? How does the mathematics they see and hear impact their interactions and focus with students and teachers? How can REXOs and LCI staff help inform and support principal and instructional leadership team development in mathematics, P-5?

*Evidence Source:* Video clips of principal conversations, debriefs after; LCI Math specialists' & RAD/SERP observation notes

*Metrics:* Look for change over time, quantify change over time in principals' abilities to identify indicators from 5x8 cards, give feedback to students, and engage in conversation about student mathematical thinking and use of academic language, as well as the instructional conditions that promote mathematical thinking.

- How do principals, instructional leadership teams, and site math teacher leaders make sense of what they are seeing in classroom observations using the 5x8 card, along with assessment results on performance task items?

*Evidence Source:* Video clips of principal conversations, debriefs after instructional rounds; LCI Math specialists' & RAD/SERP observation notes.

*Metrics:* Look for change over time, quantify change over time in principals, instructional leadership teams', and site math teacher leaders' abilities to identify student mathematical thinking in classroom observations, and connect this learning to understanding what students need to know and be able to do in order to correctly solve the performance task items.

### *Site-Specific Program Planning*

- What are the conditions that promote strategic site planning and program improvement in mathematics? How do we ensure effective feedback and information flow from the classroom out to site and district leadership and back, so that sites experience district processes (e.g. school quality review, results-based budgeting, site- based planning,

and/or participation in Professional Learning Inquiry Cohorts) as complementary and coherent? How can what teachers and school leaders learn from accelerating a small group of students successfully in mathematics be use to inform decision-making, school-wide?

*Evidence Source:* Focal student inquiry documentation; LCI Math Specialists' & RAD/SERP observation notes.

*Metrics:* Look for focal student learning acceleration, mathematics focus and P-5 alignment within each phase of school improvement planning.

## **Program Goal 2: Communities of Practice (professional learning communities)**

### ***MARS performance tasks/Benchmark assessments: Teacher learning***

- What does teacher attendance and participation look like at district Math professional development sessions and Cohort learning activities? How does teacher participation in professional learning and collaboration relate to changes in classroom practice and student performance on benchmark performance task items?

*Evidence Source:* Attendance rosters by teacher, by grade level, by school. Math specialist observational notes from classroom visits and instructional rounds, and teacher grade-level collaboration sessions (professional learning community). Cohort/TeamMath Collaborative feedback forms (self-reported learning from professional development sessions).

*Metrics:* Correlation analysis of teacher participation in professional development and student performance on related benchmark performance task items (developmental levels) related. Triangulation (corroboration) with observational notes from classrooms. Quantify and summarize/evaluate responses from Cohort/TeamMath Collaborative feedback forms district-wide.

- How do conversations around performance tasks and benchmark assessments change over time? What is the impact of performance tasks and benchmark assessments/scoring sessions have on teacher practice?

*Evidence Source:* Videos and/or observation notes from performance task scoring sessions and training/calibration sessions. Math specialist observational notes from classroom visits and instructional rounds, and teacher meetings.

*Metrics:* Change in degree of calibration in scoring student performance tasks (developmental levels). (Example: Agreement across teachers and schools regarding what constitutes a “0” score versus partial credit.)

### **Program Goal 3: Coherent and Effective Instructional Practices across all grade levels (PreK-5)**

#### ***Use of 5x8 card: Teacher learning and Improved Practice***

- What are teachers able to recognize in terms of student mathematical thinking? How does the mathematics they see and hear impact their ability to provide students with useful feedback on their learning? How does the focus on students’ mathematically vital student behavior change the discourse between teachers and the students, or between teachers and their colleagues?

*Evidence Source:* Video clips of teacher (professional learning community) conversations, debriefs after instructional rounds; LCI Math specialists’ & RAD/SERP observation notes.

*Metrics:* Look for change over time, quantify change over time in teachers’ abilities to identify indicators from 5x8 cards, give feedback to students, and engage in conversation about student mathematical thinking and use of academic language, as well as the instructional conditions that promote mathematical thinking.

- Are all new teachers receiving professional development to create coherence with teachers who participated in year one? Are there differences in the practice or student performance on benchmark performance task items for teachers who did not participate in year one professional development?

*Evidence Source:* Professional development rosters 2012-13; benchmark performance task scores by teacher.

*Metrics:* Quantify access to professional development by teacher, school, region, grade-level. Analyze relationship between participation in professional development, use of MARS/DRDP informed tasks, and student performance on benchmark performance task (developmental level) items.

- What is the impact of summer professional development on participating teachers and schools?

*Evidence Source:* Benchmark performance task scores at all middle schools; classroom visits and specialists' observations notes; teacher survey data

*Metrics:* Look for evidence of school-wide consistency in student performance on benchmark performance task (developmental level) items and changes in instruction. Compare student scores on performance task (developmental level) items in classrooms with participating teachers.

- To what extent are teachers implementing strategies, concepts, and pedagogy addressed and modeled in professional development sessions?

*Evidence Source:* Notes on 5x8 card use in classroom visits and instructional rounds; observed student talk and teacher pedagogy focusing on targeted learning from most recent professional development session; Cohort/TeamMath Collaborative Feedback Form responses.

*Metrics:* Look for patterns or consistency across schools, regions, and grade levels for evidence of impact of professional development on teacher practice; quantify selected responses from Cohort/TeamMath Collaborative Feedback Form for each district professional development session.

#### **Program Goal 4: Curriculum tied to Common Core State Standards in mathematics**

##### ***Production and use of Core Curriculum Guide and next-generation assessments for mathematics:***

- How many units are being field-tested at each grade-level, and in how many classrooms and school sites? How does participation in the curriculum development and field-testing process impact teacher innovation and purposeful experimentation with instruction? How are student artifacts informing this work?

*Evidence Source:* Teacher notes from field-testing of new curriculum; professional development sign-in/attendance rosters.

*Metrics:* Count of teachers using new curriculum & materials; teacher participation in professional development; completed unit guides for new curriculum.

- Benchmark assessment development: How are district benchmark assessments continuing to develop towards alignment with the CCSS-M and CPLF-M? In what ways

are the four claims from SMARTER Balanced Assessment Consortium informing assessment design and performance analysis? What changes are there to the content standards being assessed for each course?

*Evidence Source:* P-5 Math Benchmarks; RAD/SERP notes and observations from professional development.

*Metrics:* Full implementation of performance task items across schools and classrooms; consistency and calibration across teacher scorers for performance task (developmental level) items on benchmarks.

***Program Goal 5: Extend the learning day for students, and integrate full-service, community partnerships and socio-emotional learning into mathematics program development, and pursue all of these goals to include full school-readiness and a protected instructional pathway from PreK through 5th grade.***

***– Planning, design, partnership development, and early indication of full integration of these programmatic components: LCI Mathematics; Early Childhood Education, Caring School Communities; and After-School Programs.***

- What evidence do we see of planning, design, partnership development, and early indication of partial or full integration of these programmatic components: LCI Mathematics; Early Childhood Education; Caring School Communities; and After-School Programs – and what indication do we have of the impact of this integration on adult and student outcomes?

Evidence Source:

- Partnership meeting notes; additional funding proposals for subsequent phases of work
- Video clips of principal conversations, debriefs after instructional rounds; LCI Math specialists' & RAD/SERP observation notes.
- Professional development rosters 2012-13.
- Cohort/TeamMath Collaborative feedback forms (self-reported learning from professional development sessions).
- RAD/SERP notes and observations from professional learning activities.
- Teacher notes from field-testing of new P-1 curriculum, P-1 scope and sequence, and CPLF-M and CCSS-M

Metrics:

- Triangulation (corroboration) with observational notes from classrooms. Quantify and summarize/evaluate responses from Cohort/TeamMath Collaborative feedback forms district-wide.
- Consistency and calibration across teacher scorers for performance task (developmental level) items on benchmarks.
- Count of teachers using new curriculum & materials; teacher participation in professional development; completed unit guides for new curriculum.



## FINANCIAL INFORMATION

### *P-5 Elementary Mathematics Inquiry Cohort Budget*

The OUSD mathematics department requests a total of \$250,000 for one year of programming, predominantly staffing. This estimation does not include the former request of \$100,000 to allow for immediate personnel hiring in April 2012.

A preliminary 1-year budget for the *P-5 Elementary Mathematics Inquiry Cohort*, showing in-kind contributions from OUSD and other sources (some in development, or pending) can be found on the following page.

**P-5 Elementary Mathematics Inquiry Cohort Budget (Preliminary Comprehensive Version)**

Funding Area	Days	Ppl	Rate	Units	Total	OUSD / Other	Bechtel Foundation
<b>Program Goal 1: Instructional Leadership</b>							
National Fellows: Bringing Common Core to the Classroom (Palm Desert)	4	18	\$1,000	1	\$18,000	\$18,000	
Summer Leadership Institute (5-day institute and follow-up for Cohort teams and Math Teacher Leaders from non-Cohort schools)							
Cohort Schools Teachers	5	50	\$26	6	\$39,658	\$39,658	
Cohort Principals	2	6	\$40	6	\$2,880	\$2,880	
LCI Staff Presenters	5	10	\$35	6	\$10,401	\$10,401	
University Graduate Faculty Presenters	5	2	\$155	6	\$9,300	\$9,300	
Materials - participants, \$25	1	65	\$25	1	\$1,625	\$1,625	
Consultants 10 days 1000 per day 2 consultants	5	2	\$1,000	1	\$10,000	\$10,000	
Mileage	5	66	\$0.55	50	\$9,075	\$9,075	
Food \$13 per day	5	65	\$13	1	\$4,225	\$4,225	
Stipends for Math Teacher Leaders (yearlong responsibilities at Cohort / non-Cohort schools)	-	40	\$1,500	1	\$60,000	\$60,000	
<i>Subtotal</i>					\$165,164	\$165,164	\$0
<b>Program Goal 2: Communities of Practice</b>							
Elementary Mathematics Content and Curriculum Institute (SVMII-sponsored summer insitute)	5	60	\$1,200	1	\$72,000	\$72,000	
"Buy Back" Professional Learning Days: August, September, January (Cohort sessions)	3	100	in-kind	1	in-kind	<i>in-kind</i>	
OUSD/Mills College Lesson Study Trip to Japan (10 OUSD participants, fully paid, seeking funding for 2 additional elementary participants)	14	12	\$6,000	1	\$72,000	\$60,550	\$11,450
Special Event: September Cohort Launch	1	100	\$10	1	\$1,000	\$1,000	

**P-5 Elementary Mathematics Inquiry Cohort Budget (Preliminary Comprehensive Version)**

<b>Funding Area</b>	<b>Days</b>	<b>Ppl</b>	<b>Rate</b>	<b>Units</b>	<b>Total</b>	<b>OUSD / Other</b>	<b>Bechtel Foundation</b>
SVMI-Sponsored Lesson Study, Fall Semester (2-3 teams of 4-6 teachers)	1	15	\$600	1	\$9,000	\$9,000	
OUSD-Sponsored Lesson Study , 10-month, (6 additional teams that don't have SVMI grant, plus Spring support for schools that do)	1	45	\$943	1	\$42,435	\$42,435	
SVMI Professional Development Institute (5 per year on regular school days; SVMI Membership does not include cost of subs)	1	40	\$160	1	\$6,400	\$6,400	
<i>Subtotal</i>					\$202,835	\$191,385	\$11,450
<b>Program Goal 3: Instruction</b>							
OUSD Summer Mathematics Academy (3 modules; 2 required)	10	70	\$3,100	1	\$217,000	\$217,000	
"Buy Back" Professional Learning Days: August, September, January (non-Cohort sessions)	2	50	in-kind	1	in-kind	in-kind	
<i>Subtotal</i>					\$217,000	\$217,000	\$0
<b>Program Goal 4: Curriculum</b>							
Elementary Mathematics Benchmark Review	4	30	\$180	1	\$21,600	\$21,600	
* Using the EnVision Math Materials (stipends, consultants)	1	150	\$150	3	\$73,500	\$73,500	
Mathematics Common Core Unit Development (by application only)	10	50	\$180	1	\$90,000	\$90,000	
SVMI MARS Lead Scorers' Training (1 full day: 1 lead scorer per grade 2nd-5th= 4 per school)	1	24	\$253	1	\$6,072	\$6,072	
Site-based MARS scoring and analyses: (4 hours per class, all schools' teachers grades 2-5th)	1	82	\$140	1	\$11,480	\$11,480	
<i>Subtotal</i>					\$202,652	\$202,652	\$0

**P-5 Elementary Mathematics Inquiry Cohort Budget (Preliminary Comprehensive Version)**

<b>Funding Area</b>	<b>Days</b>	<b>Ppl</b>	<b>Rate</b>	<b>Units</b>	<b>Total</b>	<b>OUSD / Other</b>	<b>Bechtel Foundation</b>
<b>Program Goal 5: Pre-school, After-school, Socio-Emotional Learning</b>							
Cohort Lead Team and Program development within ECE, ASP, CSC, and LCI					in-kind	<i>in-kind</i>	
After-School Program Math Collaborative					in-kind	<i>in-kind</i>	
Family Math Nights and After-School Program Fieldtrips					in-kind	<i>in-kind</i>	
<i>Subtotal</i>					\$0	\$0	\$0
<b>Program Goals 1-5:</b>							
<b>Program Staff</b>							
Mathematics Manager		0.25	\$130,000		\$32,500	\$32,500	
Mathematics Specialists		5	\$96,200		\$481,000	\$288,600	\$192,400
Mathematics Elementary Coordinator		1	\$129,433		\$129,433		\$129,433
<b>Other Staffing</b>							
Administrative Assistant		0.5	\$73,000		\$36,500	\$36,500	
RAD Data Analyst		0.4	\$101,250		\$40,500	\$40,500	
<b>Equipment</b>							
Computers, etc. for newly hired staff		3	\$1,000		\$3,000	\$3,000	
<b>Supplies</b>							
Supplies and other materials for new staff		3	\$500		\$1,500	\$1,500	
<i>Subtotal</i>					\$724,433	\$402,600	\$321,833
<b>Subtotal</b>					<b>\$1,512,084</b>	<b>\$1,178,801</b>	<b>\$333,283</b>
<i>Indirect (5%)</i>							\$16,664
<b>Total for Year</b>							<b>\$349,947</b>

## Attachment A

### A Rationale and Context for the District Cohort Model

Traditional models of professional development in education tend to fall into one of two categories. In the first category, there are districts that allow teachers and principals to choose professional development based on their personal interests and licensing needs, regardless of the larger district goals and mostly unrelated to teachers' and principals' annual evaluations. In the second category, there are districts that aim to make specific improvements and mandate that all teachers and principals participate in professional development designed to achieve such improvements, regardless of teachers' and principals' unique interests and unique needs for improvement.

In contrast to these traditional models of professional development, OUSD has chosen to become a district-wide professional learning community (DuFour & DuFour). To become a professional learning community, the Deputy Superintendent, with her staff of RExOs and department managers, has launched an ambitious and compelling professional learning plan to begin in the summer before the 2012-13 school year. There are multiple important aspects of OUSD's professional learning plan that set it apart from traditional models.

- Using the Strategic Plan as a guide, the Deputy Superintendent and her staff have identified six areas of district-wide learning that are needed to achieve District goals; African-American Male Achievement, Balanced Literacy, Dual Language, P-5 Elementary Math, Elementary Science, and Middle-grades Math.
- Members of the LCI staff have taken ownership of each of the learning areas and designed a program of **learning, planning, doing, reflecting, and refining** activities to promote deep learning within, and eventually across each area.
- Based on their own self-assessment and support from RExOs, schools have submitted applications to participate in at least two years of professional learning within a single area.
- District leaders have reviewed applications to ensure optimal match between learning area foci and school needs.
- Multiple schools participating in a single area of learning will form an inquiry cohort.
- Inquiry cohorts will engage in deep learning within a single area and will share their learning with members of other cohorts to foster comprehensive learning across the district.
- Site-based leadership teams will be established in each school to foster implementation of cohort learning school-wide to improve classroom practice.

This model of professional learning is especially compelling because it affords schools the opportunity to choose learning opportunities most relevant to their interests and their needs while simultaneously building district capacity to achieve the goals listed in the Strategic Plan.

**Attachment B**

**2012-2013 Learning Structure Calendar for *the P-5 Elementary Mathematics Inquiry Cohort***

Dates	Institute/Coaching	Institute/Coaching Description	Target Audience	Targeted Program Goal and Notes
Summer 2012: Jun 19-22; Jul 30-Aug 3  Fall/Spring series dates: TBD	*Assessment for Learning: Introduction to the Common Core in Mathematics	An introduction to the Common Core State Standards; focus on academic language, student voice, discussion, and argumentation. Participants will leave this training with a comprehensive understanding of the instructional strategies that are aligned and essential for the shift to the Common Core.	Open to all teachers; A pre-requisite for schools fast-tracking to the Common Core	PG#3 Summer Math Academy Offering**  4-5 days plus follow-up opportunities during the school year
June 19-22	Elementary Mathematics Benchmarks Review	Teachers will work collaboratively to review current district benchmark exams to improve alignment with existing pacing guides and to enhance assessment of student thinking and learning. Note: These assessments will not be used at schools fast-tracking to the Common Core next year.	20-30 K-5 Teacher Leaders	PG#4 4 days
June 20 or August 1 & on-going	* Using the EnVision Math Materials	Teachers will learn how to use district-adopted EnVision materials as a starting foundation for the transition to the Common Core On-going 1-day sessions: Oct, Jan, Mar, May	20-30 K/1 teachers; 20-30 2/3 teachers; 20-30 4/5 teachers	PG#4 1 day, June 20 1 day, August 1
June 25-29	Mathematics Common Core Unit Development	Teacher Leaders will develop Mathematics units based on newly created OUSD Scope and Sequences, aligned to Common Core State Standards.	50 K-12 Teacher Leaders (applications due: May 22)	PG#4 5 days together, plus 5 additional days scheduled at participants' discretion

July 16-21	Bringing Common Core to the Classroom	By special invitation only, participants will join exemplary teachers from across the country to learn more about the Common Core and help shape 25 digital courses (PK-12). <i>Teachers completing this institute will serve in OUSD as Common Core National Fellows.</i>	25 K-12 Leaders in ELA and Math	PG#1, 4 Institute will take place in Palm Desert, by invitation only
August 6-10	P-5 Mathematics Leadership Institute	Lead Math Teachers from each elementary school will engage in leadership development -- in the classroom, with a partner, in site teams, or across sites. Participants will be advocates for creating the right conditions for implementing the CCSS-M back at their respective schools, enhanced by Caring School Communities integration. This institute will be supported by partners at Lawrence Hall of Science, Mills College, and Caring School Communities (OUSD.)	Teacher leaders nominated by principals -- <ul style="list-style-type: none"> <li>• Non-Cohort: 1-2 per site</li> <li>• Cohort: 3 <u>or more</u></li> </ul>	PG#1, 5 Note: Cohort principals attend Thursday and Friday only.
August 13-17	Elementary Mathematics Content and Curriculum Institute	Site teams will learn mathematics content, instructional strategies and prepare for transition to the Common Core State Standards. OUSD will partner with SVMi to provide follow-up professional development sessions throughout the school year for participating teams. (3-5 release days, substitutes provided.)	6-10 site teams Cohort sites: teacher teams with at least 1 teacher per grade level	PG#2-4 Summer Math Academy Offering**
September	Cohort Launch	Launch 2-year community effort with special event (e.g. BBQ) for introductions, vision-building, celebration, goal clarification, strategy input, etc.	All Cohort schools and partners	PG#1-3
“Buy Back” Professional Learning Days: (Aug, Oct, Jan)	Fast-tracking to the Common Core in Mathematics	An intensive study of a single course or grade level by examining closely the mathematics content, skills, pedagogy, and assessments of instructional units. Emphasis on collaborative inquiry for equity and cross-site planning and learning. Integration with Caring School Communities.	PK-5 Teachers in Cohort schools	PG#1-5 A series of three 1-day sessions
“Buy Back” Professional Learning Days: (Aug, Oct, Jan)	Building capacity for the transition to CCSS-M	An introductory study of the P-5 elementary mathematics program outlined in the OUSD Core Curriculum Guide -- content, pedagogy, assessments from instructional units designed for CCSS-M	Non-Cohort sites: TBD	PG#3,4 A series of three 1-day sessions

Monthly	Lesson Study	<ul style="list-style-type: none"> <li>a. OUSD Study Tour to Japan</li> <li>b. SVMII-Sponsored Lesson Study: Fall Semester (2 teams of 4-6 teachers);</li> <li>c. OUSD-Sponsored Lesson Study, 10-month, (6 additional schools or cross-site grade-levels that don't have SVMII grant, plus Spring support for schools that do)</li> </ul>	(Japan Trip: 10 participants, fully paid, seeking funding for 2 additional elementary participants)	PG#2,3 a) 12-day Japan study tour b) 4 daylong SVMII Lesson Study sessions c) Monthly after-school sessions
Monthly (Sep-Jan)	SVMII Professional Development Institute	Midyear Follow-up from Content and Curriculum Institute held in summer. OUSD will partner with SVMII, hosting 5 daylong follow-up professional development sessions throughout the school year for Cohort and non-Cohort teams, as well as schools from other districts in Alameda County.	Teachers from schools participating in the Content and Curriculum Institute (held August 13-17)	PG#2-4 Participating schools may send the same or different delegation of teachers to each of 5 sessions (substitutes provided)
March	SVMII MARS Scoring Training	Full Day Training in Scoring MARS-- Training to score, analyze, and learn from math performance assessments (i.e. MARS exams.) Scoring leaders support colleagues in grade level teams.	1 lead scorer per grade 2nd-5th= 4 per school	PG#4 1-day with on-site follow-up scoring and analyses
Monthly	Classroom-based coaching	Classroom visits and coaching in the context of site- and grade-level PLC work: curriculum planning, and instructional development, with classroom inquiry cycles utilizing new curricular units and lessons.	Cohort PK-5 Teachers	PG#1-5 2 classroom visits per month
Monthly	Site-based math leadership team	Site-based mathematics program development as outlined in site planning documents. Horizontal and vertical alignment in mathematics, P-5. Integration with Caring School Communities.	Grade-level leaders with principal support	PG#1-5 Supported by LCI specialist
Monthly	Principal support	Instructional leadership support for principals: teacher inquiry cycle support; classroom visits using the 5x8 card; program planning and instructional improvement.	Principals	PG#1 Monthly



6 per year	Instructional Rounds	Principals and representatives from the Instructional Leadership Team at each school visit each Cohort site once during the year, utilizing the 5x8 Card and a protocol for supporting the school in deepening their understanding of an identified <i>problem of practice</i> .	Instructional Leadership Teams and on-site reps from ECE, ASP, CSC	PG#1,2 Facilitated by LCI Math Specialists; Cohort Lead Team participation
Monthly	After-School Program Math Collaborative	Program leadership support to focus on mathematics content and pedagogy useful for content integration in afterschool programs (e.g. 5x8 card, number talks, MARS tasks.) Begin finding opportunities for during-school and after-school alignment of math content experiences and student support.	After-School Program (ASP) coordinators and line staff reps	PG#5 1 morning per month, led by LCI Mathematics Specialist
Twice monthly	Cohort Lead Team	Leadership support infrastructure for the Cohort, including on-going program design, coordination amongst intra-OUSD partners, and development for on-going funding, partnership and support.	Elem. Math Coordinator, Math Specialist, ECE, CSC, ASP, RAD, REXO, SERP	PG#1,5 Cohort

\*Sessions offered multiple times during the summer.

\*\*Teachers from sites fast-tracking to the Common Core are expected to sign up for at least two weeks of the Summer Math Academy sessions.

## Rationale & Purpose

The Common Core State Standards and the assessments arriving in 2014 present the district with a unique opportunity to design a coherent, vertically-aligned Core Curriculum that supports all of our students in preparing for the demands of college and career.

Currently, fewer than 60% of OUSD students who enter ninth grade graduate. Indeed, as evidenced by “a-g” and the CSU’s Early Assessment Program data, many students who do graduate from high school are still not adequately prepared for college and career.\* The causes of these inequities in educational achievement are manifold and complex, and will not be elaborated upon in this document. What we do know is that all OUSD students have the right to receive a seamless and rigorous educational experience from Pre-K through 12th grade, regardless of which schools they attend, which teachers they have, their home languages, or their racial, ethnic, and cultural backgrounds. We believe that in order to support all students successfully in achieving college and career readiness, OUSD teachers require and deserve a rich, system-wide, articulated core curriculum and time to develop units and lessons collaboratively both across the district and at the site-level.

The **Core Curriculum Guide** represents our current, collective and best thinking about effective and rigorous curriculum: design specifications for development, selection and, most importantly, implementation aligned with Common Core State Standards and the OUSD Literacy Framework, in order to prepare our students for college and a meaningful career. It will include guidelines and tools to support schools and teachers in yearlong curriculum mapping, unit and lesson planning, selection of materials, and assessment design. It will establish clear outcomes and guidelines for common learning experiences while recognizing that those best positioned to make the day-to-day decisions about curriculum and instruction are those closest to students in the classroom, their teachers.

## What is a Core Curriculum?

A Core Curriculum is:

- A coherent set of learning experiences that develops in students particular knowledge, skills, dispositions and capacities;
- The course of study (aligned to standards and dependent on instructional practice) that guides teachers as they design, teach, and assess instruction for students.

## Contents

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- Guiding Principles for Curriculum
- Course Description for elementary and Syllabus for secondary
- Suggested Scope and Sequence (K-12)

### SECTION II: Instructional Tools and Strategies

- Instructional Planning Tools
- Instructional Strategies that meet the unique and diverse needs of OUSD students

### SECTION III: Sample Units and Lessons

- Grade-level units and lessons with implementation support for diverse student populations (e.g. EL’s, GATE, African-American Males, SpEd students)
- Sample performance-tasks, assessments, student work exemplars

### SECTION IV: Assessment Guide

#### APPENDIX:

Complete OUSD Literacy Framework (for ELA)  
Curriculum Framework (K-12)



## Curriculum Guide Glossary

**Syllabus:** a detailed outline of what students will learn and produce; an agreement – among teacher, student, school and district – of expectations. The syllabus includes a course description and template that teachers complete to communicate key dates, routine assignments, major assessments (including district-level), policies (grading, homework, late work, discipline etc), and teacher contact information. Some syllabi will include common assignments for a particular course or grade-level.

Audience : Students, families, teachers, and community

**Course Description:** a short narrative that broadly describes to all stakeholders (teachers, students, families and community) what students will know and be able to do by the end of the course based on grade-level standards. Literacy descriptions may include expectations of the writing genres, minimum number of writing assignments and research projects students will complete, as well as the number of full-length texts and genres studied\*. Course descriptions may include pre-requisites and exit requirements. Note: This is the same as the “course purpose” in the UC-Approved Course Description.

Audience: Students, families, teachers, and community

**Vertical Articulation of Common Learning Experiences:** Outlines minimum requirements and learning experiences that we propose are common for all OUSD students.

Audience: Students, families, teachers, and community

**Abbreviated Scope and Sequence:** Guides the teacher on the required learning experiences, sequencing and suggested pacing, and assessments.

**Expanded Scope:** Provides teachers with suggested tasks, activities, instructional strategies, resources, and specifications that will guide teachers in adapting their own curriculum and meeting the tailored and specific needs of students.

Audience: Individual and teams of teachers

### Instructional Unit Terms for ELA/ Literacy:

Performance Task or Performance Assessment	An authentic task (real world scenario or scenario-based problem) which requires students to demonstrate that they have mastered specific skills and competencies
Summative Task	<ul style="list-style-type: none"> <li>• A culminating performance task at the end of a unit</li> <li>• Creates a “need-to-know” and requires students to apply standards-based skills and knowledge in a meaningful way</li> <li>• Should be introduced to students along with the assessment criteria (i.e. rubric) at the beginning of a unit</li> </ul>
Pre-assessment task	A task completed by students before the formative learning experiences. Provides teachers with formative assessment data to both inform practice and differentiation
Formative Learning Experiences	The tasks, activities, and differentiation strategies that support students in developing the skills necessary to successfully meet the expected outcomes and perform the summative task. Student performance of each task provides formative assessment data
Close Reading Tasks	Tasks that require analysis and multiple readings of complex text (poems, short articles or essays, excerpts of longer texts), each with a new set of questions often increasing in difficulty
Extended Reading Tasks	Tasks that require students to apply skills to full-length texts (novels, drama, non-fiction books, lengthy essays)

### Instructional Unit Terms for Mathematics:

Big Ideas	A mathematically true statement that communicates what understanding students should have as a result of completing a unit of study.
Essential Questions	Anchors the unit with a question that students should be able to answer, justify, explain, and/or prove by the end of the unit.
Sample Assessment Problem	An example problem for each unit that will represent problems included in the summative unit assessment, midyear exam and end of year exam.
Prevailing Misconceptions	Statements that describe the common student over generalizations, beliefs, and misapplications of the content in the unit.
Entry Task	An open-ended individual or group task that uncovers what students understand about the BIG idea in the unit and in what areas the students need more instruction on the supporting mathematics.
Formative Task	Open-ended group tasks that will deepen students’ conceptual understanding of the math of the unit and provide important feedback about what students know.
Expert Task	An investigation or project that includes an individual product which provides students the opportunity to write (or talk) to construct viable arguments about the essential math using explanations of their findings and justifications. (Problem of the Month, Problem of the Week, etc.)
Summative Task	An individual assessment that gives information about what students know about the BIG idea (concepts and grade/course level strategies) at the end of the unit.

Atch C:43

## **Attachment D: Description for Current After-School Programs**

The Cohort work will extend the learning day by building on the existing capacity of the after-school programs to promote learning[i]. The after-school programs located at Cohort Schools serve 700 students primarily from economically disadvantaged backgrounds[ii]. A majority of the students are from racial and ethnic minorities, and 47% are English Language Learners.

Currently the after-school programs are designed to extend the learning day by providing services to a portion of students at the host school every day that school is in session, beginning at the end of the school day and operating until 6pm. After school programs offer a range of enrichment activities include Academic Support (tutoring, homework help, exploratory field trips), Recreation/ Sports (physical recreation, sports, fitness), Arts/Cultural (cultural appreciation, music, dance), College and Career (job training, entrepreneurial education, technology and media programs), Health/Nutrition (drug/violence prevention, gardening, counseling), Youth Leadership/Service (community service, leadership development, peer mentorship), Family Involvement/Support (family literacy, parent consultation, family workshops), and Other/Multiple (gender specific programs, mentoring, outreach to 5<sup>th</sup> and 8<sup>th</sup> graders)[iii].

Our program model for math in after school will align with the four components of CSC: class meetings; cross grade mentoring, home-side activities and school-wide activities. The formative assessment lessons and number talks designed by the math department will build on the math skills learned in the school day and explicitly make and reinforce connections through hands-on experiential learning math activities that engage students as leaders, problem-solvers, architects and engineers. These lessons will be embedded with key social and emotional skills and competencies which will be explicitly modeled and practice in activities.

The lessons and number talks will be facilitated by after school staff who are known in the field as youth development workers. They are responsible for leading a majority of the after school activities as well as assuring that students are safe and supervised during program hours. Oakland after school workforce is predominately made up of college students (they need to meet the District's instructional aide requirement which translates into jr. standing).

Participating after school staff will receive professional development through an After School Math professional learning community, which will be designed and facilitated by LCI Math Specialist, Robin Lovell and After-school Program Coordinator, Kasey Blackburn. The monthly learning community will provide the participating staff an opportunity to engage with the common core standards and social and emotional skills and competencies in meaningful ways to support their practice as well as preview and practice facilitating upcoming lessons and number talks. After school staff will also receive periodic on-site coaching from LCI math specialists in their

Region, as well as participating in site level meetings to support the alignment of their work with that of their core day program, including discussions and case management of focal students.

[i] Oakland's after school programs have direct influences on youth, which in turn contribute to other outcomes. Examples of these direct outcomes include students' safety, exposure to new experiences, improved social skills and peer relations, and stronger connections with school and the work world. After school program participants were more likely to meet OUSD's 95% school day attendance goal than their peers, and were less likely to be chronically absent. After school program participants came to school 35,343 additional days in 2010-11.

[ii] Of the children and youth in the 2010-11 program year, 41% are African American, 39% are Latino/a, 13% are Asian/Pacific Islander, and 3% are White. Will request from evaluators the demographic information from participating cohort after school programs.

[iii] From [Oakland After School Final Evaluation Report 2010-2011](#)

## PROJECT STAFF INFORMATION

### **Mathematics**

- P-5 Elementary Mathematics Team Staffing
  1. Elementary Mathematics Coordinator
  2. Two additional Elementary Mathematics Specialists (to make a total of five specialists)
  3. 0.5 FTE Administrative Assistant (Previously funded)
- In-kind contribution from Phil Tucher, Manager, Mathematics
- In-kind contribution from Michelle Grant-Groves, Early Childhood, 0-8 Coordinator
- In-kind contributions from Dr. Kasey Blackburn, After-school Programs Coordinator
- In-kind contributions from Mary Hurley, Caring School Communities Coordinator

### **Research, Assessment, and Data (RAD)**

- In-kind contribution from Jean Wing, Executive Director, RAD (resume in appendices)
- 0.4 FTE Research, Assessment, and Data Analyst (Previously funded)

## **APPENDICES**

(Not required for this proposal submission)

- A. Resumes (Phil Tucher, Cheryl Wilson, Kasey Blackburn, Mary Hurley, Michelle Grant-Groves, Jean Wing)
- B. Organizational Documents - Board of Directors
- C. Organizational Documents - Org Chart
- D. Organizational Documents - Organization Adopted Budget FY2011-12
- E. Organizational Documents - Audited Financial Report FY2006-07
- F. Organizational Documents - Strategic Plan with Appendices
- G. Non-Profit Documentation



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<http://www.k12.wa.us/SMARTER/ContentSpecs/MathContentSpecifications.pdf>

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