



The STEM4Real + Anna Newman LLC

Science Professional Learning Series for Ravenswood MS

SCOPE OF WORK AND SERVICES

The STEM4Real Professional Learning Series

NGSS MS Pilot: With a focus on Universal Design for Learning (UDL), Common Core Math (CCSS) Next Generation Science Standards (NGSS) and STEM LAB Implementation for **Ravenswood City School District**.

A. Background

Our Promise: We believe that the principles of STEM Education can be used in any subject area to promote design thinking, collaboration, and academic discourse. Our promise is to make education socially just #4Real through instructional planning, professional learning, action planning and leadership development. We will do this by recognizing and dismantling inequitable systems and rebuilding your education system #4Real with all students first.

B. Description of Services

1. Sessions to review the pilot process for each of your trimesters
2. Monthly Lab days to go over and practice the labs for each grade level (6-7-8)
3. Ongoing weekly coaching on Mondays from 4-5pm to support the teachers with any questions
4. Monthly NGSS-specific virtual and recorded workshops on lesson planning through a social justice lens

MS Pilot Schedule:

	Trimester 1	Trimester 2	Trimester 3
6th Grade	Green Ninja (Energy and climate)(Home Energy)	Inspire (Cells and Life, Body System, Reproduction of Organisms)	TCl: Integrated Segment 1 - Systems and Subsystems in Earth and Life Science (Atmosphere and energy, Minimizing and Maximizing the Rate of Heat Transfer, Cells)
7th Grade	Green Ninja (Minerals and Petroleum) (food)	Inspire (Classification and States of Matter, Properties and Changes, Natural Hazards)	TCl: Bio aspect Integrated Segment 1: Organisms and Nonliving Things are Made of Atoms (Composition of Matter, Energy and Matter in Ecosystems,



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			Earth Processes through Geologic Time)
8th Grade	Green Ninja (exploring Early Earth) (Evolving)	Inspire (forces and motion) (mechanical energy)	TCI: Integrated Segment 2 - Modeling Light in the Solar System (The Earth-Sun-Moon system, Light Waves)

NGSS TIME (Toolkit for Instructional Materials Evaluation) Modified by STEM4Real + Anna Newman LLC

- Virtual sessions at the end of each trimester (3 total) to evaluate the rubrics based on instructional materials, case study student analysis and student work.
- Tailor-Made virtual sessions to adapt to trimester scheduling, pre-screen materials, and curricular professional development.
- NGSS+Equity sessions to incorporate socially just STEM pedagogy to ensure cultural responsiveness in instruction.

Monthly Lab Days provided by Anna Newman, LLC

- On-Site Professional Development with Curricular Labs:
 - Meet with teachers to preview the materials for science instruction that will occur in the month immediately following the meeting. This will include examining and discussing both the formative and summative assessment tools included in the pilot materials. Assessment discussion will follow where we will examine equity and access issues for students in RCSD. In addition, teachers will participate in the hands on activities listed in the pilot materials from the eyes of their students followed up with a debrief discussion of possible challenges (for both teachers and students) that this activity may present and how teachers can mitigate the challenges.
- Real-Time Coaching and Support:
 - Continuous support via Zoom for pre- and post lab implementation.
 - Classroom management support plans

STEM4Real Network Collaborative is a year-long network to collaborate nationally and internationally with fellow like-minded educators committed to STEM standards + justice. Our community has access to the following:

- **Collaboration and Lesson Study** within the STEM4Real Network of educators - engage in “Lesson Study #4Real”, an online professional learning series focused on the Lesson Study using the Next Generation Science Standards, Culturally



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Responsive Phenomena, Case Study Students, Teacher Observation, and Analysis of Student Work.

- **Teacher-Curated Lesson Bank** and instructional resources: Using the Lesson Study #4Real process, teachers create 3-dimensional (practices, core ideas, and cross cutting concepts) and 5E (engage, explore, explain, elaborate, evaluate) instructional sequences grounded in culturally responsive pedagogy.
- **Monthly Live Professional Learning Via the Un-Speaker Series (Offered Virtually)**
- Live workshops focused on current issues in STEM education including assessment, instructional practices, English Language Learner instruction, Social-Emotional Learning, Trauma-Informed Practices.
- **Make a Change Monday Mindset Calls** - Equity work takes work. It is an ongoing practice that we as educators must continually fine tune in order to address STEM + Social Justice educational issues. In these sessions, we Collaborate, Problem-solve and Action-plan (CPA) on specific hot seat issues that we can learn from together.
- **Weekly Follow-Up Coaching Sessions** - sometimes we just need allocated time in the week to focus on getting work done and having a community to support you as you check off those tasks.
- **Yearly Events with Guest Speakers** - We kick off each year with our goals and end each year with our culminating event, sharing best practices and of course, our 3D5E instructional sequences that combine STEM + Social Justice + Joy
- Optional Continuing Education Units with Cal State University, East Bay

C. Deliverables

- 3D5E Teacher Curated Lesson Plans
- Peer-Peer Teacher Observations
- Case-Study Student Analyses
- Analyses of Student Work
- Research-Based Summary Report of Findings and Next Steps to submit for RCSD Board Approval

D. Payment Terms & Invoicing

Service	Date/Time	Objective	Total Cost
RCSD MS Team Administrative Onboarding (Virtually)	3-4 Sessions TBD	Maintain communication with administration to ensure goals and objectives are met	Included
STEM4Real Tailor-Made Intensive NGSS TIME Pilot Sessions	2 Workshops We recommend 1	We create a tailor-made series of professional learning based on current initiatives and school	\$4500 per workshop 3 Workshops



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	in the Fall and 1 in the Spring	<p>vision. Each comes with a comprehensive training on the NGSS and 3D5E Learning.</p> <ul style="list-style-type: none"> ● NGSS TIME Pilot - Green Ninja ● NGSS TIME Pilot - TCI ● NGSS TIME Pilot - Inspire 	= \$13,500
STEM4Real Network - Year Long Professional Learning Network for Teachers	Lead instructional coaches and teachers in math and science departments	<ul style="list-style-type: none"> ● Weekly EQUITY Coaching ● Monthly UnSpeaker Workshops ● 3D53 Lesson Bank ● Access to online and self-paced courses <p>Danielle Perry Gerardo Garcia Nelly Robillo</p>	<p>\$1295 per teacher</p> <p>3 Teachers = \$3,885</p>
Total for the Year			\$17,385

Payment Schedules

Due November 1 STEM4Real Network - Payable to STEM4Real	\$3,885
Due December 1 NGSS TIME Pilot - Payable to STEM4Real	\$4,500
Due January 1 NGSS TIME Pilot - Payable to STEM4Real	\$4,500
Due May 1 NGSS TIME Pilot - Payable to STEM4Real	\$4,500
TOTAL	\$17,385

E. Period of Performance

21-22 School Year: Comprehensive year-long support

F. Key Performance Indicators

- **Teacher Observation Data**



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Discuss teacher virtual recordings with the team to discuss teaching goals and performance indicators. Analyze strengths and areas for growth. Monitor progress for both teachers and students.

- **Student, Teacher and Administrator Surveys**

Our research team will collect pre-and post- surveys to understand the implementation of teacher practices and the shifts in teacher pedagogy over time. We will use the SIPS (Science Instructional Practices Survey), a research based survey to assess classroom implementation and teacher efficacy.

- **Exit Interviews**

Our research team will conduct and code exit interviews with select participants to assess validity and reliability of professional learning for educators. We will provide the districts with a full report and recommendations for a STEM action plan, budget planning, and next steps.

- **Artifact Evaluation**

We will analyze NGSS TIME rubrics, lesson plans, analysis of student work, case studies, and teacher observation notes to discuss the process and assess next steps.