Math + Social Emotional Learning = An Interactive Afterschool Lab

Facilitated By:
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Be the CHANGE consulting

AGENDA : Math + Social Emotional Learning

WELCOME

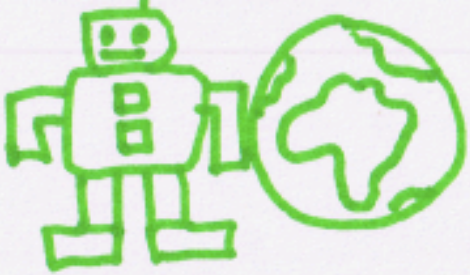
Sums of Me

M + E = ME

Our Beliefs about Math in After School

Beliefs!

Build a Robot, Save the World



Prime Time Rhymes!

Closing: Q & A

?

Sums of Us

Challenge

- Work together in a group of 4 to find 4 things you can describe about yourselves as a group using math
- Share your findings with a picture

Materials:

Poster Board
Markers

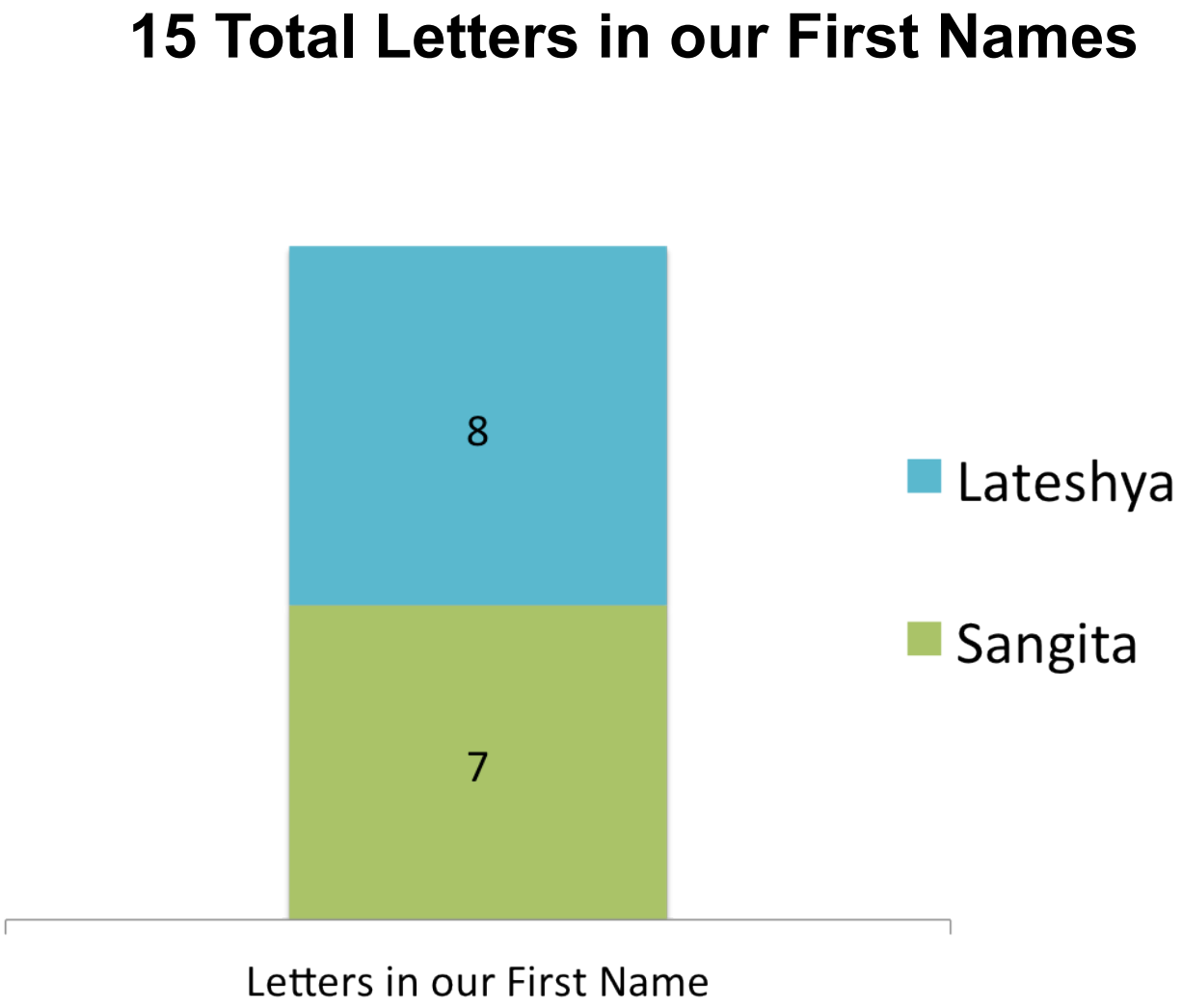
Sums of Us: Sangita + Lateysha

My name is Sangita. My name is Kasey. There are a total of 12 letters when we combine our two first names.

We have been moms for a total of 9 + 34 months, which equals 43 months total, which is 5 months less than 4 years.

We have each worked in the field of youth development for 16 years, which doubles to 32.

Step 2: Turn your Ideas into Pictures



Think-Pair-Share

- How did this activity support math skill or practice?
- How about math common core?
- How did this activity support social and emotional skills and competencies?

Common Core: Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

The 5 X 8 Card: Student Vital Actions

Principle	Student Vital Action 5x8 Evidence-Gathering Card
Logic connects sentences	Students *say a second sentence* (spontaneously or prompted by the teacher or another student) to explain their thinking and connect it to their first sentence. *Practices 1 | 2 | 3 | 6*
Reasoning develops when students develop viable arguments	Students *talk about each other's thinking* (not just their own). *Practices 1 | 2 | 3 | 6 | 7 | 8*
Academic success depends on academic language	Students use general and discipline-specific *academic language* in their oral and written explanations and discussions (spontaneously and/or prompted by the teacher or other students). *Practices 3 | 6*
Equity	*Which students are participating?* (e.g. boys more than girls, the same few students, ELL and special ed students?) Are they volunteering? Called on to do math? Talking about math in their group? Off task? All students ask math questions.
ELLs develop language through content	*English learners produce language* that communicates ideas and reasoning, even when that language is imperfect. They take advantage of available language supports and resources: peer support, sentence frames, multiple choice oral responses, visual representation, graphic organizers, home language, cognates, etc. *Practices 1 | 2 | 3 | 6*
Students write explanations	Students revise their thinking, and their written work includes *revised explanations* and justifications. *Practices 1 | 2 | 3 | 4*
A growth mindset matters	*Do students believe that they can learn to be good at math* by learning more math, by working hard, and by persevering to make sense of problems? Or do students think they cannot change how good at math they are?
Productive struggle, persistence	Students *engage and persevere* at points of difficulty, challenge, or error.

revised 11/01/12

SERP Strategi i

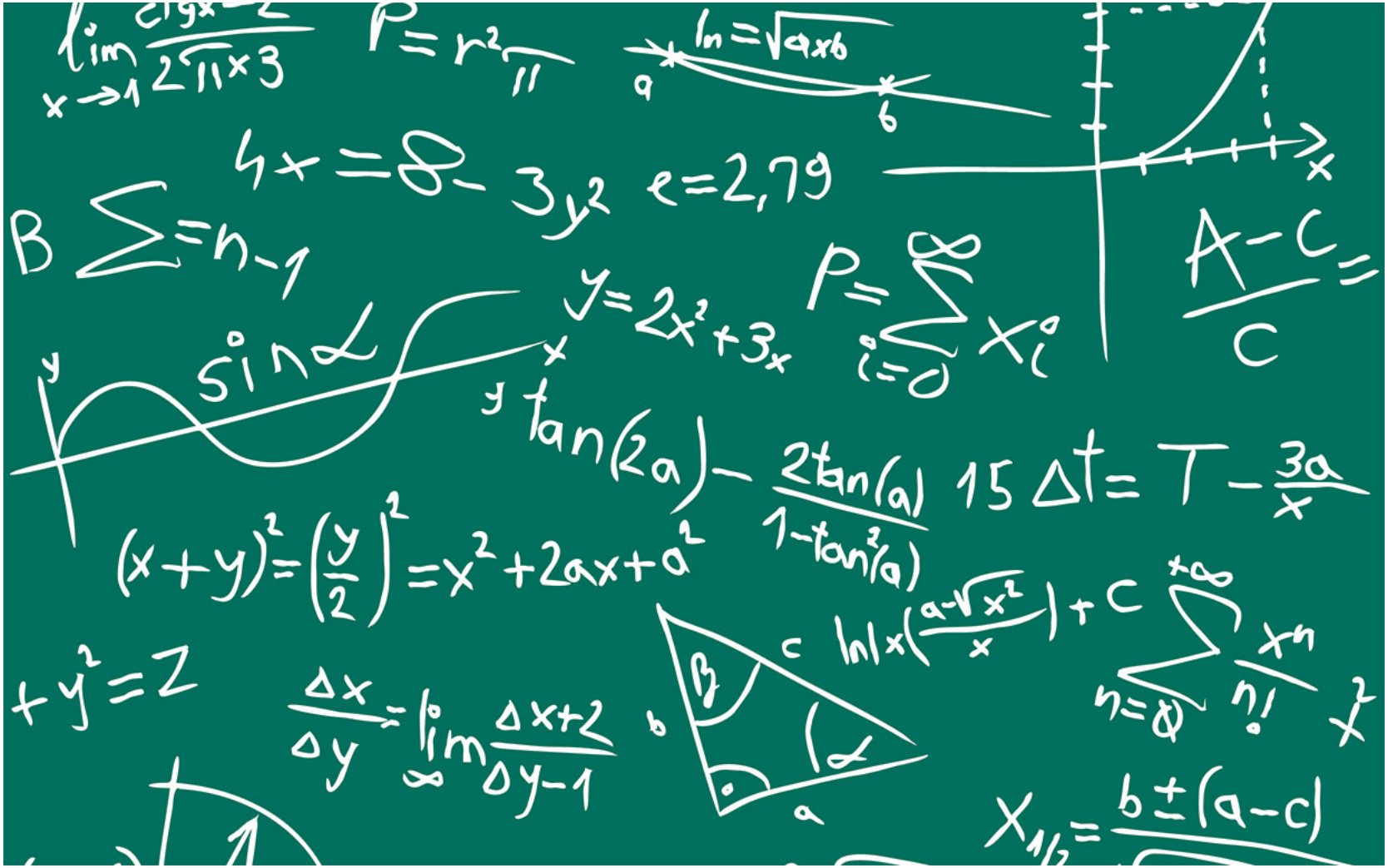
SFUSD SAN FRANCISCO PUBLIC SCHOOLS

Social Emotional Learning

OUSD Social and Emotional Learning Standards

Anchor Standard	Learning Standard	
Self---Awareness *Develop and demonstrate self awareness skills to:* • Identify personal, cultural and linguistic assets • Identify prejudices and biases towards people different than oneself. • Understand the connections between one's emotions, social contexts and identity • Demonstrate an accurate self---concept based on one's strengths and challenges • Identify when help is needed and who can provide it	**1A**	Individual demonstrates an understanding of one's emotions.
	1B	Individual demonstrates knowledge of personal strengths, challenges, cultural and linguistic assets, and aspirations.
	1C	Individual demonstrates awareness of personal rights and responsibilities.
	1D	Individual demonstrates an awareness of when help is needed and who can provide it.
Self---Management *Develop and demonstrate self---management skills to:* • Regulate one's emotions and behaviors in contexts with people different than oneself • Motivate oneself to set and achieve goals	**2A**	Individual demonstrates the skills to manage and express their (one's) emotions, thoughts, impulses and stress in constructive ways.
	2B	Individual demonstrates the skills to set, monitor, adapt, achieve and evaluate goals.
Social Awareness *Develop and demonstrate social awareness skills to:* • Establish and maintain healthy interactions and relationships across diverse communities • Embrace diversity and take the perspectives of people different from oneself • Demonstrate empathy for people similar to and different from oneself	**3A**	Individual demonstrates empathy for other people's emotions, perspectives, cultures, and histories.
	3B	Individual contributes productively to his/her (one's) school, workplace, and community.
	3C	Individual demonstrates an awareness and respect for his/her (one's) similarities and differences with others.
	3D	Individual recognizes leadership capacity in themselves and others.
Relationship Skills *Develop and demonstrate relationship skills to:* • Relate to people similar to and different than oneself • Communicate clearly and effectively • Build, establish and maintain healthy relationships	**4A**	Individual uses a range of communication skills to interact effectively with individuals of diverse backgrounds, abilities, languages, and lifestyles.
	4B	Individual cultivates constructive relationships with individuals of diverse backgrounds, abilities and lifestyles.
	4C	Individual demonstrates the skills to engage in and resolve interpersonal conflicts in various contexts.
Responsible Decision Making *Develop and demonstrate responsible decision making skills to:* • Problem solve effectively while being respectful of people similar to and different from oneself • Behave responsibly in personal, professional, and community contexts • Make constructive and respectful choices that consider the well---being of self and others	**5A**	Individual considers the well---being of self and others when making decisions.
	5B	Individual uses a systematic approach to decision making in a variety of situations.
	5C	Individual applies problem---solving skills to engage responsibly in a variety of situations.

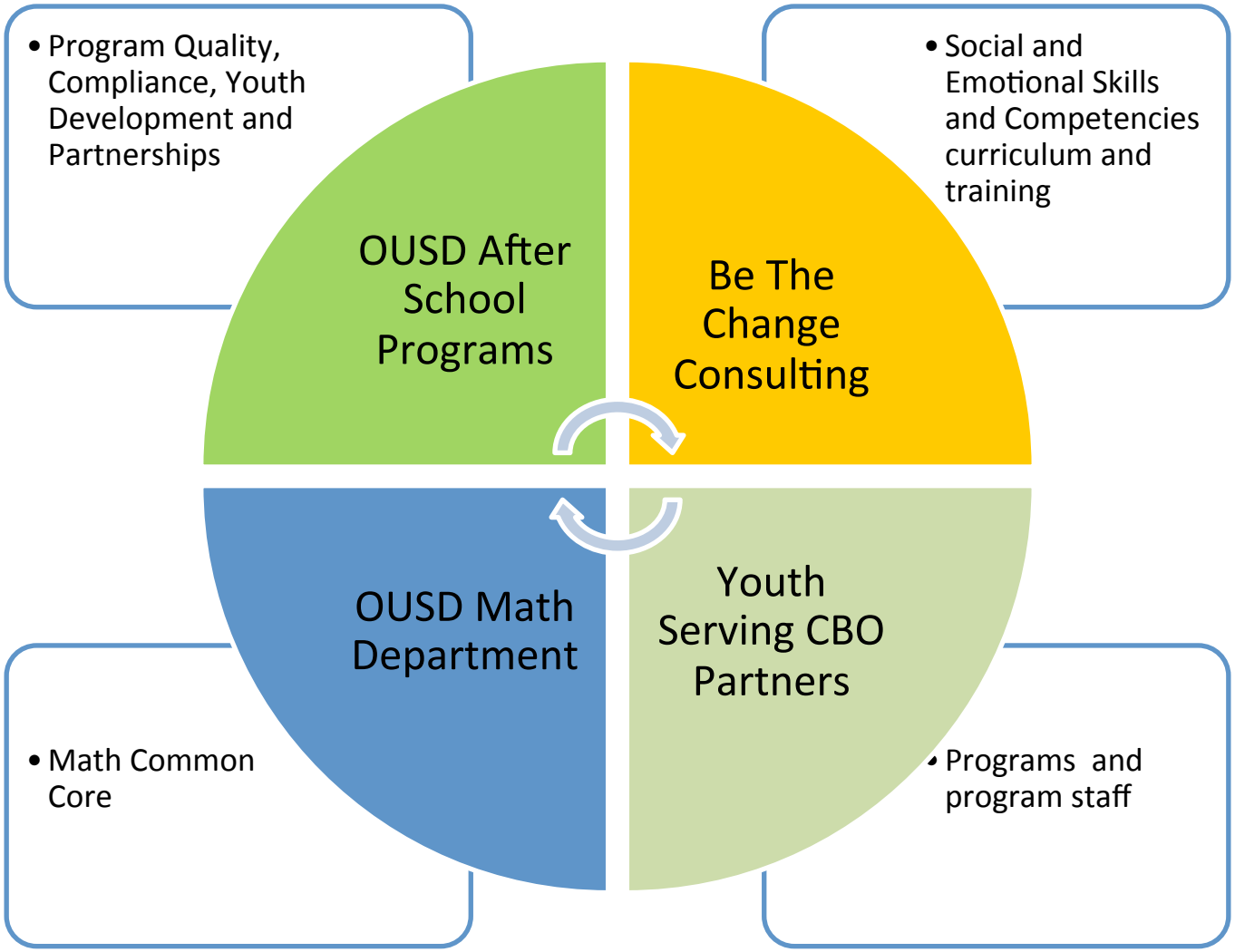
What does Math in Afterschool Look Like?



Math in Afterschool

- We aim to create an interactive math lab
- Don't ask staff to teach math, but reinforce content they already learned in the school day
- Allow the standards to loop: often multiple grades are mixed in together, so we are presenting standards that may be processed/ understood at different levels
- Work with kids' immediate motivations, and draw them into the math using metaphor: Architects, engineers, detectives, problem-solving

Pilot Project: Oakland Unified School District



Pilot Project: Oakland Unified School District

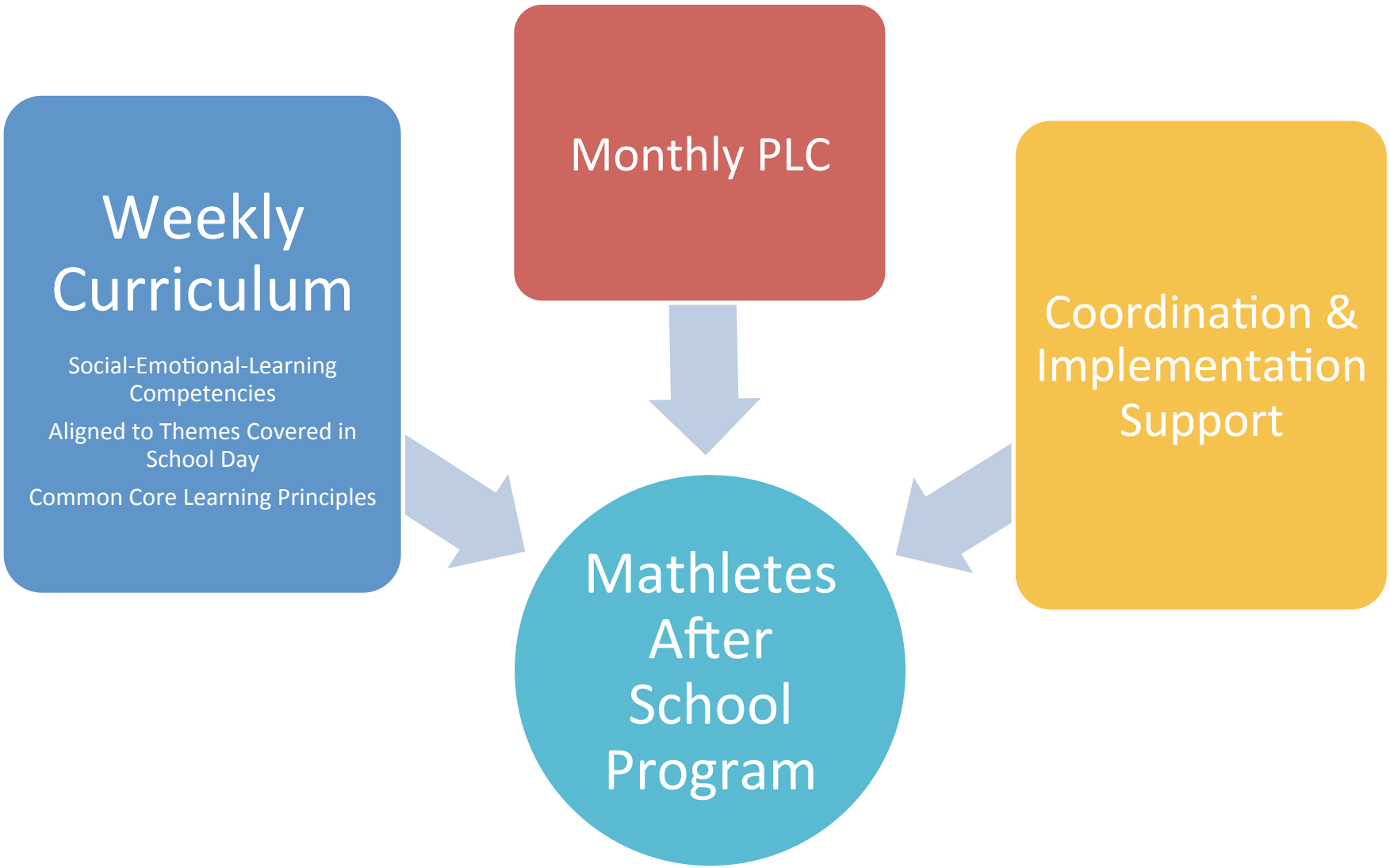
Vision:

By the fall 2014 50% of OUSD's elementary after school programs will be implementing weekly CCSS-Math activities which also support and provide youth opportunities to practice key SEL Character Building Competencies.

Year 1 Pilot

- ❑12 elementary after school programs
- ❑5 of the 12 participating schools were also in the OUSD school-day math cohort
- ❑1 youth development staff per school attended a monthly learning community training
- ❑Each afterschool program offered an hour long Mathletes class once a week.

Year 1 Pilot


Weekly Curriculum
Social-Emotional-Learning Competencies
Aligned to Themes Covered in School Day
Common Core Learning Principles
Monthly PLC
Coordination & Implementation Support
Mathletes After School Program

Curriculum Development

- A key unique aspect to our model is the paired development of curriculum to help after school staff connect common core principles to character building.
- Each unit of curriculum is paired to an exciting theme for young people:

  Athletics, Carnival Games, Card Sharks, Harry Potter Potions, Detective Diaries, etc.

  This allows afterschool staff to integrate math into experiential and physical games that reinforce math skills students learned in the school day.

Shape Musical Chairs

Activities to Practice Geometry

OBJECTIVE

- To have participants practice geometry through movement

MATERIALS

- Plastic tarp
- Blue Tape
- Music device: mp3 player, iPhone,

SETUP

•On a large plastic table-cloth or tarp use blue tape to make a big triangle, square, diamond, and trapezoid on the floor

INSTRUCTIONS

1. Explain to the participants that they will be playing a game similar to musical chairs. In this activity music will play and
6. After you have played this game a few times invite a few students to take over leading and facilitating

Build a Robot, Save the World

Activities to Practice Geometry

OBJECTIVE

- To have students practice geometry through art

MATERIALS

- 20 half-sheets of paper
- Sticker Dots
- Poster board for finished product
- 2 Jumbo dice
- **Robots Save the World Handout**

SETUP

- Make copies of the Robots Save the World Handout

INSTRUCTIONS

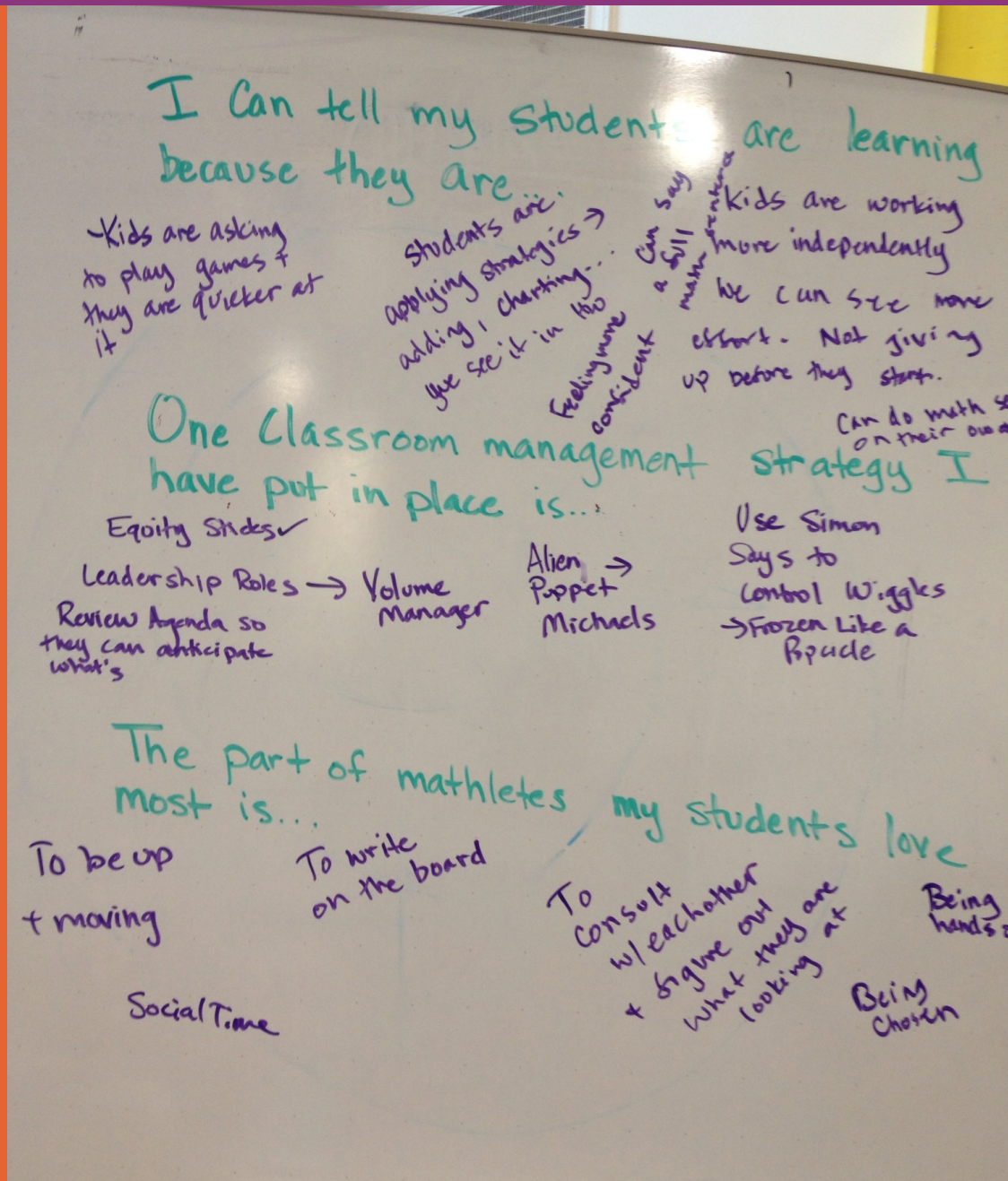
1. Tell participants that in this activity they will be world-saving engineers whose job is to design a robot that will solve a real problem in their school and community
2. Ask participants: What are some problems we have in our school and community?
3. Write each of their ideas on a half-sheet of paper and place on the floor in the middle of the room
4. Tell participants that they will now take a vote as the engineering department to decide which problem the group will solve. They will work on the top 3 choices.
5. Give each student a strip of 3 sticker-dots
6. Explain that these dots will represent the engineers' choices
7. The engineers should think about which problems they want to solve. They will then place their stickers on the problems they want the whole group to work on.
8. Note: They can place 3 stickers on one idea, or 1 sticker each on 3 different ideas.
9. Have participants get up from their seats and place their stickers on the ideas they that they are most excited to work on
10. Ask a few volunteers to count the total number of stickers on each paper, and write that number on the paper and circle it, so it is easy to see.
11. Ask 3 volunteers to help you rank the ideas from the ones that got the most stickers to the ones that got the least
12. Explain to the participants that the engineers have spoken! Each engineer can choose from the top 3 ideas to build a robot that will solve this problem.
13. Stick the top 3 ideas on the board with a piece of tape
14. Now explain that the engineers will develop their robot using a scientific process
15. The robots will be made of a variety of shapes. Draw an outline of the following shapes on the board with space to write inside each one: *Circle, Square, Triangle, Rectangle.*

Professional Development for After School Staff

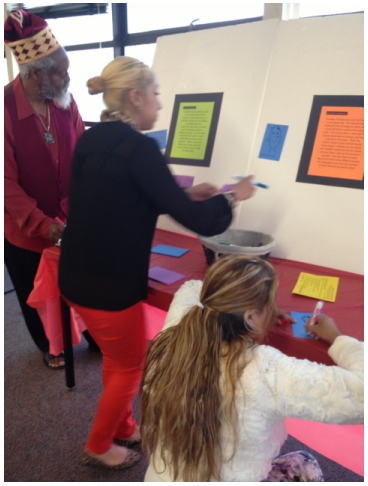
Learning Community Goals	Mathlete Class Goals
Introduce afterschool staff to the common core	Give students an opportunity to experience math through games, challenges, and leadership activities
Teach instructors strategies to create an inclusive, intentional learning environment that places the learning PROCESS at the center	Connect mathematical thinking to things they enjoy (sports, crafts, games)
Navigate common learning challenges young people encounter to understand the math content	Connect the school-day to afterschool by reinforcing standards through hands-on learning

First Year Impacts

- Youth want to lead the games themselves
- Youth apply the strategies and learning tips from the classes at homework time (ways to add, subtract, keep information in their mind, visualize a story problem)
- Youth work independently for longer amounts of time
- Youth can describe how they got to the answer, not just what the right answer is
- Youth are eager to consult with each other, rather than just asking the instructor
- Youth feel math is relevant, and start to see it's use in everyday contexts



Culminating Event



Detective Stories:
To practice graphs in story problems

Calculated Snack:
To practice measuring ¼, ½, and 1 cup

Athletes Warm-Up:
To do exercises while counting

Place Value Bean Toss:
To practice adding 1's and 10's to make the highest number

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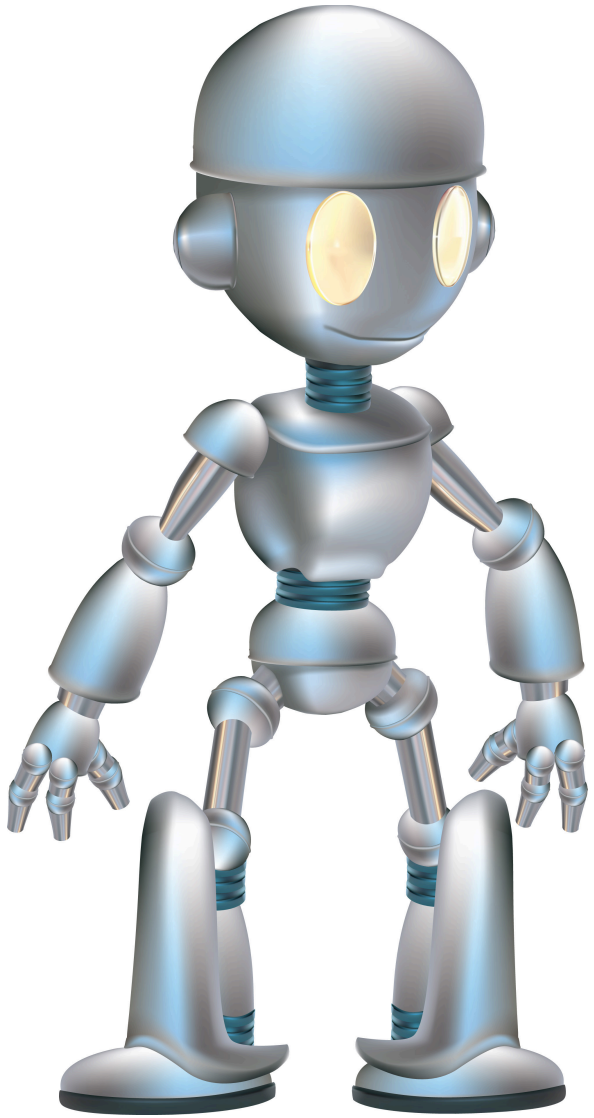

Come chat with us at our Exhibitor Table!

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