Curriculum and Instruction Committee Meeting

January 26, 2023

Promising Practices in Numeracy
CGI Math

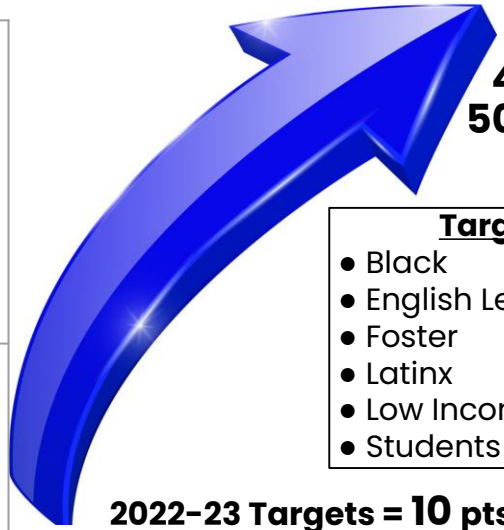
District Goal: NUMERACY

Pillar 1: Academic Excellence

Priority 1A: High Quality Instruction

District 2022-23 Target

2026 MEASURE OF SUCCESS ***(Numeracy District Goal)*:**	Move students in grades 3-5 and 6-8, on average, **40 points** closer to proficiency on SBA in math, using 2021-22 data as a baseline; move targeted groups **50 points** closer • Move all students in grade 11 closer to proficiency
2022-23 MEASURE OF SUCCESS ***(Numeracy District Goal)*:**	Move students in grades 3-5 and 6-8, on average, **10 points** closer to proficiency on SBA in math, using 2021-22 data as a baseline; move targeted groups **12.5 points** closer • Move all students in grade 11 closer to proficiency



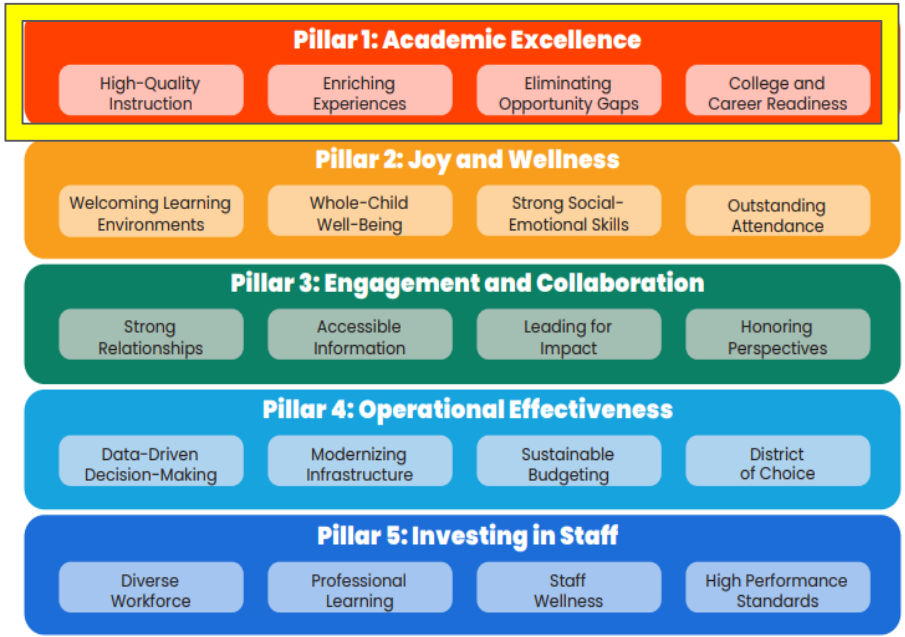
2026 Targets =

40 pts average
50 pts target grps

Target Groups
- Black
- English Learner
- Foster
- Latinx
- Low Income
- Students with Disabilities

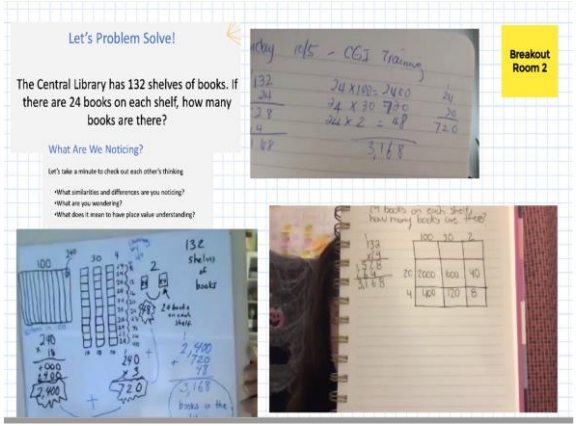
2022-23 Targets = 10 pts average
12.5 pts target grps

Strategic Plan Connections



In CGI Classrooms

- Students have power and choice to solve problems in ways that make sense to them
- Teachers create opportunities for students to consistently share the details of their mathematical ideas
- Students engage in solving contextually rich and meaningful problems
- Students' mathematical thinking drives instructional decision making
- Students consistently engage in the details of others' mathematical ideas
- Student-generated strategies and partial understandings are seen as mathematically consequential and important



CGI Instructional Shifts

Implementation:

- 220 participating schools
- 100+ LA Unified Teacher Leaders

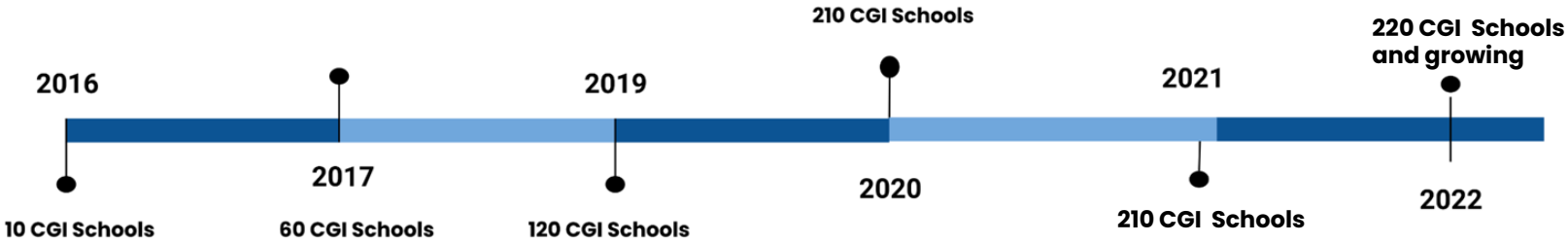
Instructional Shifts:

- Teachers listen to and understand students mathematical thinking to inform instruction
- Students explore multiple solution paths to solve problems
- Students engaged in discourse to share mathematical ideas with each other

Los Angeles Unified CGI Timeline

CGI UCLA Math Project Initiative

Supports meaningful and equitable Mathematical experiences in urban schools. The project provides collaborative professional learning, teacher coaching, and school site and local district administrative support.



CGI Professional Learning Support

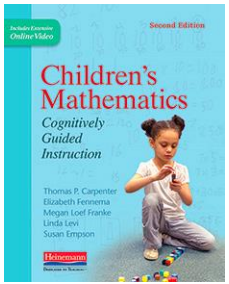
- Banked Tuesday Teacher Professional Development
- New/Continuing Teacher Saturday Workshops
- Shared Learning Opportunities
- Leadership Professional Developments
- Local District Leadership Meetings
- Spring Mini-Conference
- Summer Conference

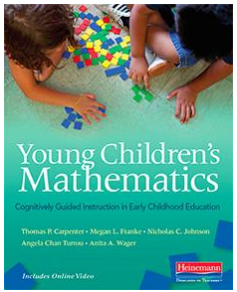
Megan Franke, Ph.D.

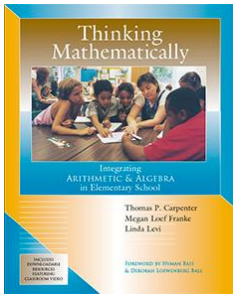
Dr. Franke is a professor in the Graduate Department of Education at UCLA supporting teacher learning, diversity in mathematics education, and leadership in urban low performing schools.

Megan is known for her work on Cognitively Guided Instruction (CGI) and her leadership in UCLA's Center X.

Dr. Franke has written books used widely to promote the teaching of mathematics in ways that leverage what students know to advance their mathematical thinking and problem solving strategies.







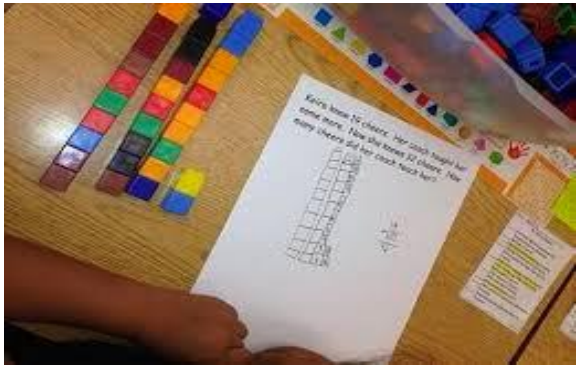
Janene Ward

Co-Director
Cognitively Guided Instruction Partnership
UCLA Mathematics Project

Janene Ward has served as the Co-Director of the UCLAMP/LAUSD CGI Partnership with Megan Franke for the past 7 years and is also a PhD student in the Urban Schooling Division at UCLA.

More About CGI in LAUSD

- Grounded in research
- Builds on students assets
- Promotes positive math identity
- Develops teacher leaders



Progression of Math Problem Solving Strategies - Overview

Addition/Subtraction Strategies	Multiplication/Division Strategies
Direct Modeling	Direct Modeling
Counting Strategies	Counting/Adding strategies
Derived Fact Strategies	Number Fact/Derived Fact Strategies
Recall	Invented Algorithms
Invented Algorithms	Standard Algorithms
Standard Algorithms	

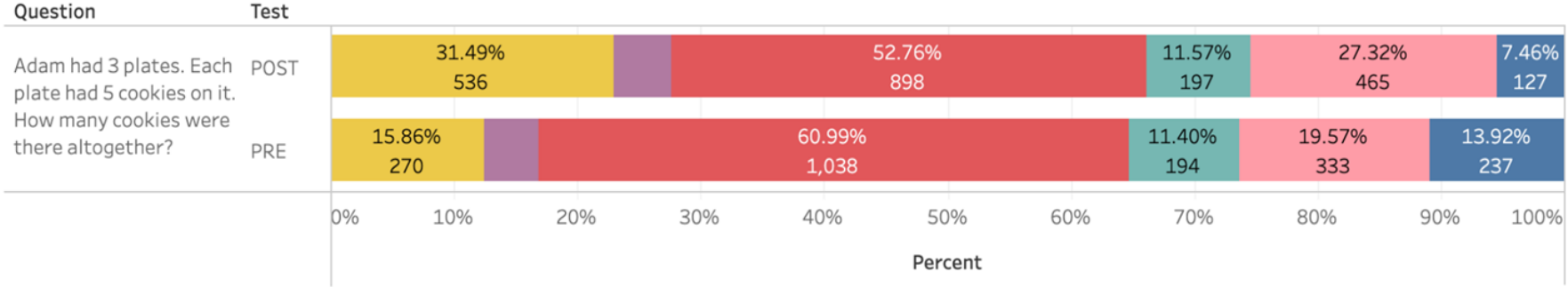
Grade 1 Multiplication Strategies

Grade: Grade 1 | Operation: multiplication

Label
- Skip Counting
- Recall
- Direct Modeling by 1's
- Derived Fact Strategy
- Counting Strategy
- Can Not Tell

Type(s) of Strategy used.

Drilldown Cohort Type of Strategy



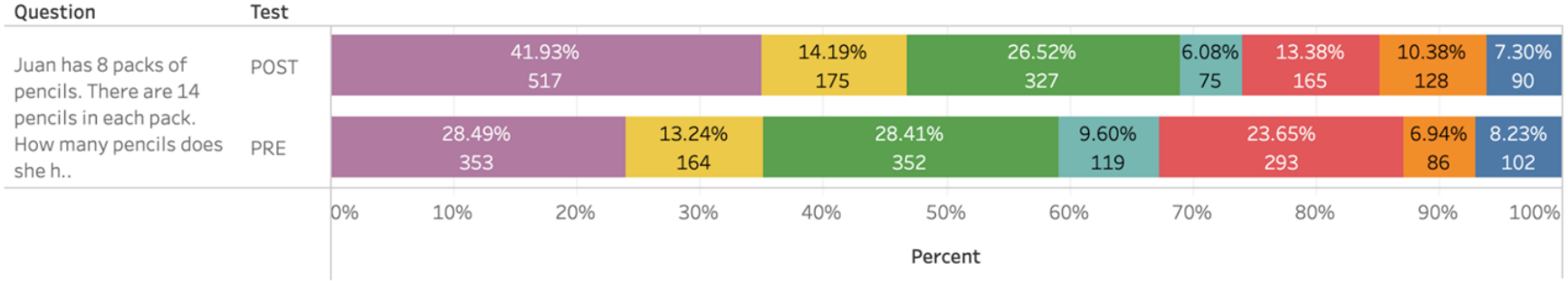
Grade 4 - Multiplication Strategies

Grade: Grade 4 | Operation: multiplication

Label
- Standard Algorithm
- Skip Count
- Invented Algorithm
- Direct Modeling by 10'...
- Direct Modeling by 1's
- Count on Strategy
- Can Not Tell

Type(s) of Strategy used.

Drilldown Cohort Type of Strategy



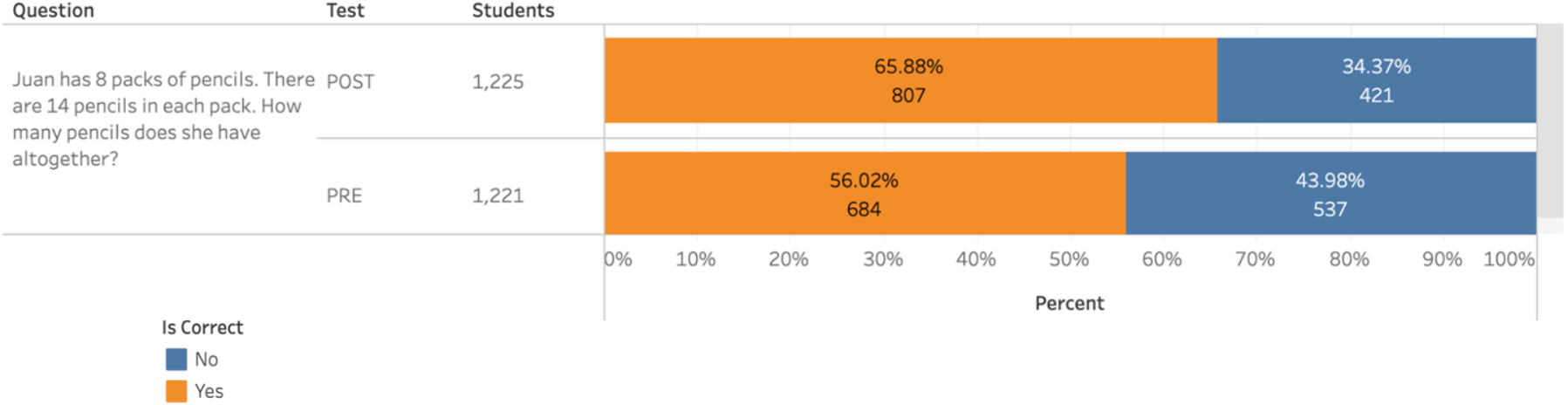
Grade 4 - Multiplication Correct Answers

Grade: Grade 4

Operation: multiplication

compare by: Local District

Only Students who took both the PRE and POST test are shown.



Unpacking CGI Practice

Voices from the Field: CGI Mathematics

Amancer Primary Center
Christina Garcia
Principal

King, Jr. ES
Chanelle Thomas
Principal

Coldwater Canyon ES
Cynthia Braley
Principal

Amanecer Primary Center

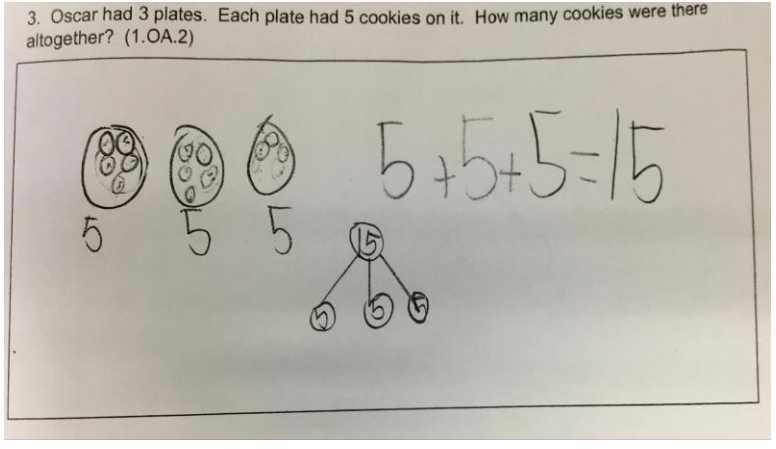
Summary by Program

	2022-2023	
	January	
Program Group	# of Students	% of Students
SPECIAL EDUCATION	18	14.5%
TITLE 1 PROGRAM	124	100.0%
TRAVEL PROGRAM	3	2.4%
Overall	**124**	**100.0%**

Dual Language/Bilingual Education	RFEP Enrollment	English Learner	LTEL	Number of RFEPS to Date
0	7	52	0	1
0 % to Enrollment	6 % to Enrollment	42 % to Enrollment	0 % to Enrollment	

- ★ Part of Region East nestled in East Los Angeles
- ★ Serve students in UTK-2nd grade and preschoolers in our PALS program
- ★ School-wide Title 1
- ★ Currently in our 4th year in this journey with our UCLA collaborators–pandemic did affect our roll out of our professional development plan and opportunities

Amanecer Primary Center



- ★ Using the principles of CGI, our students are given continuous opportunities to apply their intrinsic knowledge of math concepts while formalizing their math understanding in a way that makes sense to them>>confidence in applying math in their world
- ★ With the support of our UCLA partners, our math instruction has transitioned to an approach in which standards guide our planning to ensure that the instructional cycles address the components of rigor highlighted in the CA Math framework
- ★ With our UCLA coach, we are currently reflecting on how we can use our data to better develop support plans for our students
- ★ As an administrator, I continue to ensure that resources are earmarked for this work-time for content building, time for planning, resources for implementation, and time for data analysis to ensure we see student progress over time

Martin Luther King, Jr. Elementary "Home of the Doves!"

Total Enrollment	Student with Disability	Probable Standard English Learner	English Learner	GATE Enrollment
335	44 13 % to Enrollment	154 46 % to Enrollment	144 43 % to Enrollment	1 0 % to Enrollment

Dual Language/Bilingual Education	RFEP Enrollment	English Learner	LTEL	Number of RFEPS to Date
73 22 % to Enrollment	22 7 % to Enrollment	144 43 % to Enrollment	0 0 % to Enrollment	1

21-22 Smarter Balanced

2021-2022 SBA Data:

30% of our students meet or exceed standards in ELA. **(+7% Change)**

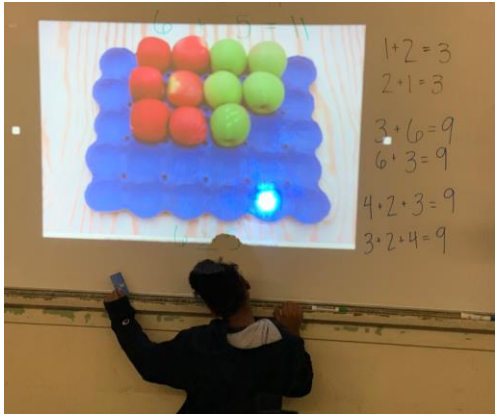
23% of our students meet or exceed standards in Math. **(+9% Change)**

2018-2019 SBA Comparison Data:

23% of our students meet or exceed standards in ELA.

14 % of our students meet or exceed standards in Math.

Martin Luther King, Jr. Elementary "Home of the Doves!"

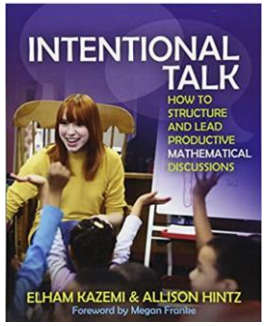


Coldwater Canyon Elementary - CGI Year 6

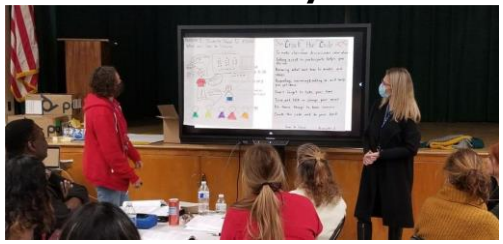
2017 & 18	2019	2022
Mathematics: Orange	Mathematics: Green	Mathematics: Low
	Chronic Absenteeism: Green	Chronic Absenteeism: Very High

Demographics

Total Enrollment	Probable Standard English Learner	English Learner
665	251 (38 % to Enrollment)	286 (43 % to Enrollment)



Book Study

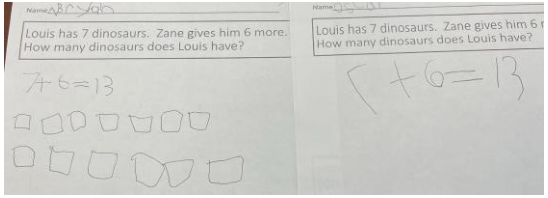


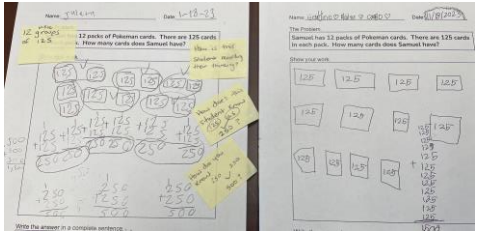
Lab day / Lesson study

CGI Implementation

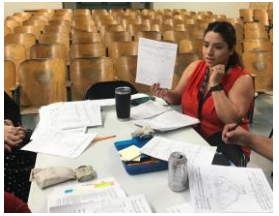
Students will engage in the details of each other's thinking.

-4 Banked Time Book Study Days.
- 3 Lab Days -UCLAMP.
- Sharing student work across grade levels (3X).
-4 Saturdays of CGI workshops hosted by Coldwater.
-CGI -pre and -post tests





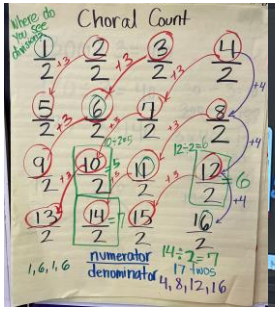
Analyzing student work

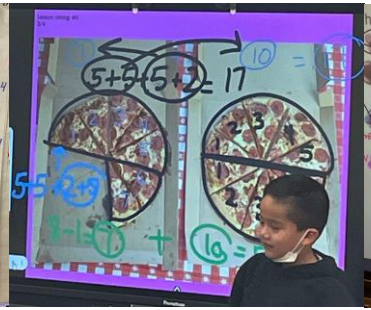


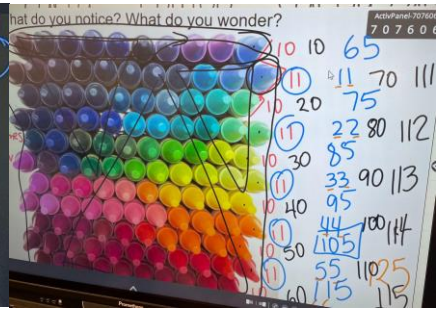
K - 6.25/9 69%	Cardinality 1:1?	JRU / Multiplication	Valid strategy?	Which strategy?
2nd - 6.69/9 75%	JRU / JCU	Multiplication	Valid strategy?	Which strategy?
4th - 8.5/10 85%	SRU / JCU	Multiplication	Valid / which?	Dist/Assoc prop?

Coldwater Canyon Elementary

Number Sense Routines

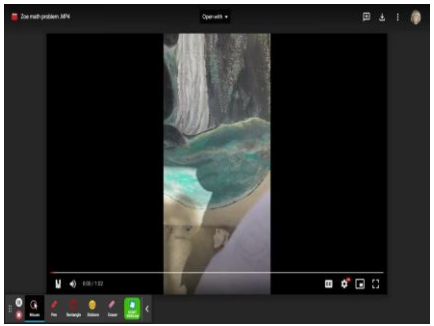






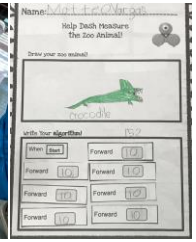
Discussion Techniques

Problem of the Week



Dylan and Briana are helping the teacher make homework packets. They have 18 packets and they are distributing them evenly on 3 tables. How many packets will go on each table?

Counting Collections



Math Tools