



December 2018

Muir Lesson Study News!

Math Talk Moves in Mr. Tamsky's Class!

Congrats to the 4/5 Cross Site Lesson Study Team!

Our 5th grade teachers engaged in a cross site lesson study team with teachers at Hillcrest Elementary. They planned a unit and public lesson with the Muir Research Theory of Action at the forefront. They planned and reflected about how to get our scholars engaged in mathematical discourse around one of the toughest math topics: Long Division! A few key learnings from the team: **First, wait time is key!** Give students at least 8 seconds of wait time before interjecting or calling on a student. **Second, question frames for students provide access!** Mr. Joe and Ms Carter created high level question frames for students and glued them on their notebooks. They also used these same questions to push students thinking and model the kind of questions they wanted students to begin to ask each other. We saw a huge increase in student to student questioning. **Finally, students need to speak up!** The team pushed their students to consider what role they played in the discussion. Students decided, yes-it is important for me to speak loud enough for everyone to hear my important ideas!

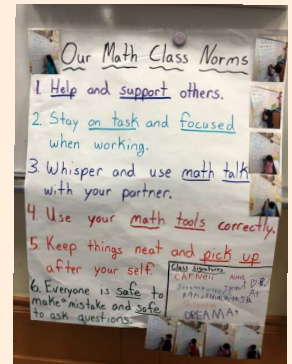
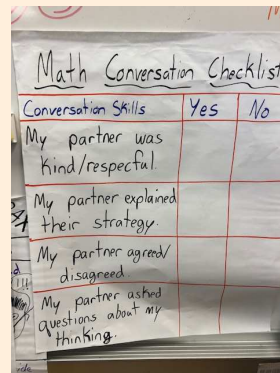
Please consider trying out one of the three strategies the team found success in!

What convinced you that was the right answer?	Can you explain your idea, step by step?
How can you prove that?	What do others think about what he/she said?
What does _____ represent in the problem?	_____ is similar to _____'s strategy because _____.

5th grade question frames glued to each students math notebook

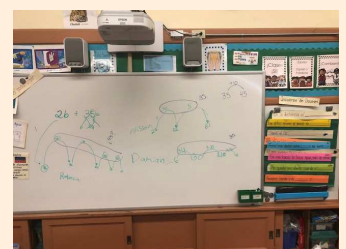
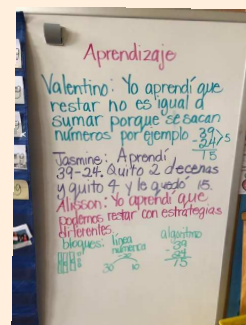
Around Muir

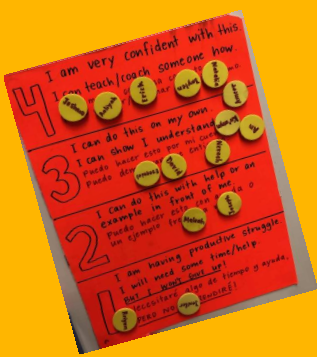
The K/1 team is working on setting up classroom math discussion norms and working towards Step 2 of Productive Talk: **Students orienting to the thinking of other's**. Think: "Hey kid, did you catch that great idea?" Seems easy, unless you're 5! Check out some anchor charts they've been using as they develop this key listening skill with their scholars.



If you are interested in seeing some of their scholars in action, [check out this link!](#)

Our 2nd Grade Team is working on using students ideas and strategies to make student thinking visible during their problem solving lessons! They anticipate what students will do and are interested in the different kinds of questions that will help to support students' ability to explain their thinking and reasoning. Check out Ms. Alley' student created board work and their learning reflections!





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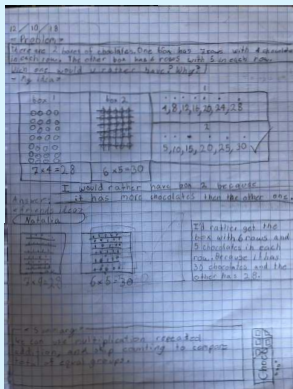
Ms. Casey's students self assess their learning at the end of each math class!

Our Third Grade Team is deep in the study portion of the lesson study process. They have decided to engage in a learning module created by Mills College to help them better understand the progression of fractional reasoning in third grade. At the same time, they are focused on Step 3 in the Steps towards Productive Talk and Questioning: **Helping students deepen their own reasoning.** They also created sentence stems for students to provide language access to our scholars. Check out their sentence stems!

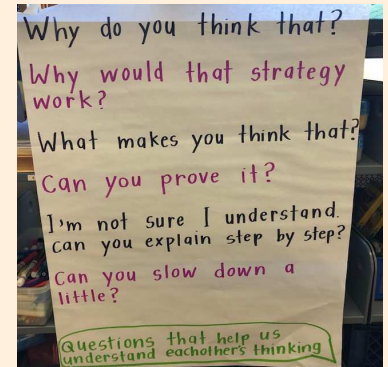
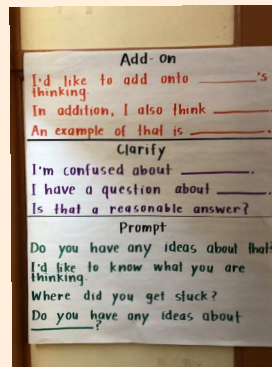
Agree	I agree with _____ because _____. I agree, but I also think _____.
Disagree	I disagree with _____ because _____. I'm not sure I agree with what _____ said because _____. I see it differently because _____.

Add-on	Clarify	Prompt
I'd like to add on to _____'s thinking.	I'm confused about _____.	Do you have any ideas about that?
In addition, I also think _____.	I have a question about _____.	I'd like to know what you're thinking.
		Where did you get stuck?

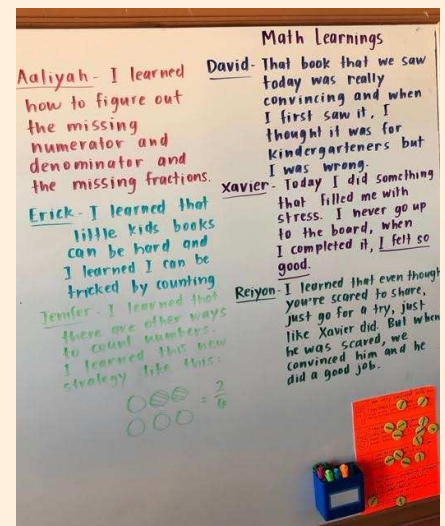
They are also working on developing the use of notebooks and board work to make student thinking visible in their classrooms. Take a look at this Math notebook from Mr. S's class and some students deep in thought around board work in Mr. Tamsky's class!



Our 4/5 Team is also thinking deeply about what kinds of questions we are asking our students. They are working on Step 3: **Helping students deepen their own reasoning** and Step 4: **Helping students engage in the reasoning of others.** The team has decided to focus on using specific questions with students that they believe will best support students ability to construct viable arguments and critique the reasoning of others. Ms. Cowles, our Literacy "only" member, has been applying the same questioning stems to her Reader's Workshop lessons. She's found them particularly useful in her students study of non-fiction text!



The 4/5 Team uses Questioning Anchor Charts like these.



The 4/5 team posts student math reflections daily as one way to make student thinking visible in their classrooms.