Lesson Research Proposal for Chicago Lesson Study Conference, 5th Grade:

For the lesson on May 11, 2017
Helen C. Peirce School of International Studies, Vivian Leventis' class
Instructor: Lori Zaimi
Lesson Research Proposal developed by: Lisa Lambro, Vivian Leventis, Haneefa Muhammad, Katherine Nigh, Michael Richie and Lori Zaimi

1 . Title of the Lesson: Measuring & Expressing Capacity with Liters and Milliliters.

2. Brief description of the lesson

Students will measure a predetermined amount of water using Liter and Milliliter graduated cylinders, and express the amount in just liters. Students may use a proportional number line (also known as double number line) to determine how to express the amount of water in just liters. Students will use the base ten decimal system to express the amount to 3 decimal places.

3. Research Theme

As a Primary Years Programme (PYP) International Baccalaureate (IB) Candidate school, Peirce teachers are investigating best practices and strategies to implement inquiry-based learning in the mathematics program. We are at the very beginning stages of implementing the teaching through problem solving process to help increase student inquiry in the math classroom – we want students to discover mathematics without a direct instruction/top down approach. In this particular unit, we want students to explore unit conversions without directly telling students to use a conversion chart.

4. Goals of the Unit

a) Students will understand how to choose an appropriate measurement tool (graduated cylinder, yard or meter stick, ruler, etc) when working in different measurement contexts (weight, capacity, distance).

b) Students will determine when larger/smaller measurement units are appropriate to use when expressing values for measurement (gram vs kilogram, milliliter vs liter, meter vs kilometer, etc).

c) Students will understand the proportional relationship between units (ex: 1L=1,000mL) and be able to work within conversion systems using proportional reasoning.

5. Goal of the Lesson

1. Students understand that a quantity measured in L and a quantity measured in mL can be combined by considering mL as thousandths of a L and expressing the mL quantity as a decimal. E.g. 1L and 138 mL = 1L + 0.138L = 1.138L

6. Relationship of the Unit to the Standards

Related prior learning standards	Learning standards for this unit	Related later learning standards
4.MD.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with representative denominators 10 and 100. (e.g. express 3/10 as 30/100 and add 3/10 + 4/100 = 34/100 4.MD.6 Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.	5.MD.1: Convert like measurement units within a given measurement system. Convert among different-sized standard measurement units within a given measurement system (e.g. convert 5 cm to 0.05 m) and use these conversions in solving multi-step, real world problems. 5.NBT.3a: Read, write, and compare decimals to thousandths.	6.NS.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fractions models and equations to represent the problem. *For example, create a story context for (⅔ divided by ¾) and use a visual fraction model to show the quotient.*

7. Background and Rationale

The 5th grade classroom has 31 students; 2 students have a 504 plan which addresses allergies and extra time on tests. There are no students with an IEP, no English Language Learners as identified by state identification, 3 students score below the 21st percentile, 3 between 21st and 40th percentile, 4 students are between 41st and 60th percentile, 13 students between the 61st and 80th percentile and 8 students above the 80th percentile. This classroom is an example of a "high scoring" classroom on standardized tests; however, students still have difficulty with understanding unit conversions in both the Metric and US Customary systems of measurement. We originally discussed a lack of knowing how to convert within the customary and metric systems appropriately. Through further discussion and research, we determined that many of the U.S. curricula (at Peirce we use *Go Math* but we also looked at *EngageNY* and the Japanese series published by Tokyo Shoseki) use conversion tables as the place to begin teaching about measurement, and standardized tests typically provide a conversion table that students are able to use. This led us to determine that there was a greater underlying issue rather than the lack of basic recall knowledge of the customary system. For this reason, we decided to focus our unit on a hands-on, inquiry based approach to develop student understanding of the values of measures and how they relate proportionally.

It is our belief that students have not had enough experiences to ensure a conceptual understanding of the various attributes of measuring – using a scale to measure mass, a graduated cylinder to measure capacity and other real applications of measurement – learning by doing, not just by reading about conversions and trying to apply. Because of the lack of a familiar context in measuring, students have difficulty choosing the appropriate unit of measure in addition to finding the actual measure. Throughout this unit, we will provide students with a hands-on approach with the goal of creating memorable real world connections which we hope will lead to stronger retention and application of the proportional relationships between measurements as opposed to a memorization-based approach, *i.e*. conversion tables.

When developing the unit, we ran into many questions which pushed us in thinking about the units that we teach leading up to this unit. The Japanese texts do not teach measurement in isolation, measurement is embedded in multiple content areas, which is vastly different than the Go Math Curriculum. In planning, we were faced with the challenges of students needing to understand decimals, base 10, proportional

reasoning, choosing measurement tools and using them to measure and write numbers. Given that this research lesson is taking place during the later half of the final quarter of school, we struggled with how much do we go back and review before moving forward in this unit. Do we review proportional reasoning, decimal writing, base 10, etc? We know that there will still be gaps in students understanding even after this unit - we are aware that we need to revisit the order of topics that are taught and the depth of knowledge that students gain as we work to restructure our math program.

During our planning process, we decided to focus on two Standards for Math Practice: "Reason Abstractly and Quantitatively" and "Look for and express regularity in repeated reasoning". We want students to have a stronger understanding of the proportional relationships in measurement units.

8. Research and *Kyozaikenkyu*

Our current mathematics series, Go Math (Houghton Mifflin Harcourt, 2012) uses a very direct table approach to teaching measurement, focusing on conversions without context.

From Van De Walle, Karp and Bay-Williams, we deemed the following findings relevant:

- Attributes (weight, volume, length, area) should be understood first
- Needs based measurement is helpful to understand
- Measurement should be integrated as opposed to teaching in isolation
- Front load the teaching of the concepts to applied throughout the math curriculum
- Connecting measurement processes through the use of tools
- Measurement is a number that indicates a comparison between the attribute of an object and the same attribute of a given unit.
- Knowing basic conversions is typically only useful when standardized testing.

The Sansu Math Curriculum integrates the teaching of measurement throughout the curriculum and measurement is not taught in isolation nor are conversion tables used as a primary source of teaching.

9. Unit Plan

Lesson	Learning Goals and Tasks
Pre-Unit	Several lessons with double number lines, focus on proportional reasoning, see page 26 in 4th grade PDF Japanese Text
1 2 days	Goal: Students are able to identify which unit would be the most appropriate to measure various objects (liquid in a bottle, length of a board, weight of a chromebook) Students are able to read measurements on objects (ex: bubbles = 118mL, 1.25L bottle of pop) Familiarize students with measuring using graduated cylinders and reading/writing the measurement. Understand that 1L=1,000mL
2 Research Lesson	Students understand that a quantity measured in L and a quantity measured in mL can be combined by considering mL as thousandths of a L and expressing the mL quantity as a decimal. E.g. 1L and 138 mL = 1L + 0.138L = 1.138L Task: Express the amount in the pitcher using L as the unit (1.138 L)
3	Goal: Students will learn how to read and write decimal numbers up to the 1/1000s place, and they will understand how to express decimal numbers. Task: Let's investigate the number 1.435.
4	Goal: Students understand the relationship between 1, 0.1, 0.01, and 0.001, as well as the structure of decimal numbers. Task: What fraction of 1 is 0.1? Also, what fractions of 1 are 0.01 and 0.001?
5	Goal: Students understand the mechanism of determining the place values of decimal numbers. Task: Let's investigate the structure of 2.345?

6	Goal: Students understand the relative sizes of decimal numbers as well as their size relationship. Task: How many 0.01s together make 2.45?
7	Goal: By viewing decimal numbers in a variety of ways, students acquire a rich sense of decimal numbers. Task: Let's investigate the number 2.45
8	Goal: Students understand numbers that are 10 times a decimal number and 1/10 of a decimal number. Task: There is 1.75 L of water in a water bottle and 2.64 L in a kettle. How much water is there altogether?
9	Goal: Students understand how to do subtraction calculations of decimal numbers involving the 1/100s place and 1/1000s place using the algorithm, and they can carry out such calculations. Task: There was 3.64 L of water in a container. We used 2.76 L of it. How much water is left?
10	Goal: Students check and reinforce their understanding of the math content in this unit. Task: Mastery Problems

10. Design of the Unit and Lesson

Students coming into this unit have struggled with multiplying and dividing by powers of 10, even though it is addressed at the beginning of every Go Math Chapter. Prior knowledge needed includes decimal place value (tenth, hundredth, thousandth). Students also need to work with different sizes of graduated cylinders so that they are familiar with the materials before the research lesson. Before this unit, teachers have introduced proportional number line diagrams (double number lines), and students have practiced working with those diagrams.

The beginning of the unit focuses on real world experiences - measuring smaller amounts of liquids in mL and then measuring amounts greater than a L. It moves into other measurement systems - grams, meters, etc.

11. Research lesson

Steps, Learning Activities Teacher's Questions and Expected Student Reactions	Teacher Support	Assessment
Introduction What did we do in our last lesson together?	● Have an anchor chart from the lesson before and reference them there. ● Have the bottle of water that was used to measure the day before. ● Reference the responses from Altin and Piper: Decimals help with less than 1L (Piper) and 245mL is .245L (Altin)	Do students remember that we used a graduated cylinder to measure the amount of liquid in mL in a small bottle? Do students recall use of the proportional number line? Do students remember that 1L=1,000mL? Do students remember that 245mL was also written as .245L?

Posing the Task Here is a different container of water - do you think that there will be more than or less than 1 Liter of water? Let's find out how much water is in the container.	Students will have 1 pre-measured container of 1,138 mL of water with the amount to be discovered by students. There will be a table of graduated cylinders in varying sizes available for students to choose from when measuring. Students will be given a container of water, extra containers will be on hand in case of major spills.	Do students understand the task? Do students know how to choose and use the appropriate tools for measuring? Are students able to accurately read the scale on the graduated cylinder? Are students able to write the answer in Liters?
Anticipated Responses There will be multiple variations of reading the numbers due to water loss, container holds 1.138mL of water, but we anticipate that some students may read numbers above/below that. St1: uses incorrect units to describe the amount measured	If a student spills the water, give them a back up container	

St2: fills the graduated cylinder to the top and says that it is about 1000 mL or some variation of the unit St3: Measures 1 liter and then measures the remaining amount in the mL graduated cylinder, says that it is 1 liter and 138 mL St4: Measures correctly and is able to express in liters only - 1.138L St5: Measures correctly and is able to express in mL only - 1,138ML St6: Measures correctly and writes the measure as 1 and 138/1000 mL or L St7: water levels are off when pouring water in, some students come up with a number slightly above or below 1.138L (ex: 1.134, 1.131, etc) St8: measures accurately and writes 1L and .138L and then combines to write 1.138L		
Comparing and Discussing	What are the ideas to focus on during the discussion?	Are students able to read

Ask each group what their answer is and write it on a post-it then place it on the board. Which answer is correct? How do you know? What did our question ask us to do when writing the number? **Focus on these responses if class is unable to debate:** St3: Measures 1 liter and then measures the remaining amount in the mL graduated cylinder, says that it is 1 liter and 138 mL St3/St5: Can we write that number using liters only? What part of a liter is 138 mL?	 ● Why would we measure using L vs mL? Measuring in small amounts mL is appropriate but measuring in larger amounts L is more appropriate. ● Focus on the difference of how they got from 1,138 mL to 1.138 L - proportional number line. St1: Have student re-read the question and look at the container for the unit of measurement that is being used. St2: How can we measure accurately, what tools do we have available to help us? St4: How did you get your answer? St6: Can we write that another way using decimals?	the measurement tools correctly and defend why their answer is correct by using Liters or mL in their answer? Do students connect that they are dividing by powers of 10 moving from mL to L. Do students see the equivalency between 1.138L and 1,138mL?
Summing up Sum up based on students discussion. Focus on how we expressed the amount of water that was 1L and a little more.		Does the summary accurately represent the students' view of the lesson? Do students understand that when we have small amounts of

		liquid, measuring in mL is appropriate but when we have larger amounts of liquid, L is appropriate.
Student Reflection/Exit Slip What did you learn from today's lesson? What is a question that you have after today's lesson? Write 3,586mL using only liters Write 2.586L using only milliliters		

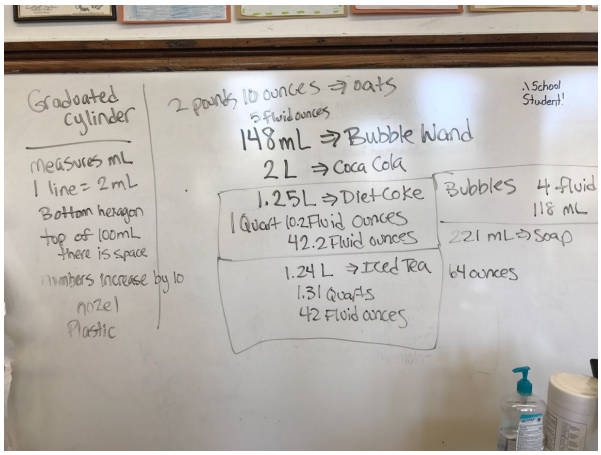
12. Evaluation

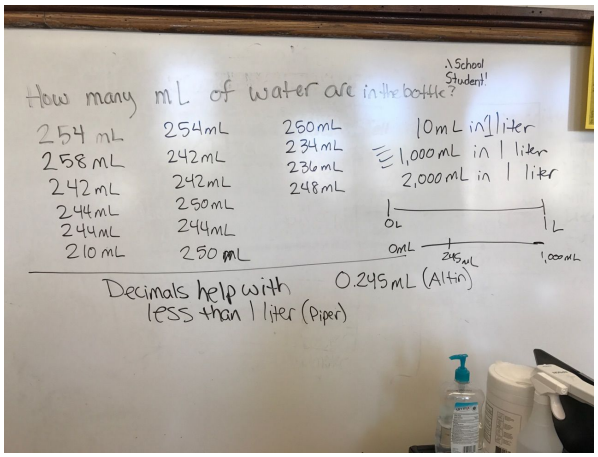
a) Did the lesson support student inquiry?
b) Did students understand the proportional relationship between numbers and that they can write measurements using different units, ex: 1,138mL is the same thing as 1.138L?
c) Was the proportional number line used by students? Was it needed?

13. Board Plan & Seating Chart (TO BE COMPLETED)

Chart from Prior Day	Problem Statement:	Student Post-It Notes
245mL 0L _____1L 0mL_____1,000L Altin said that we can write 245mL as .245L Piper said that decimals help us in understanding something that is less than 1.	Here is a different container of water - do you think that there will be more than or less than 1 Liter of water? Let's find out how much water is in the container.	Include all students Post-Its which record the amount of water that is in the container. **Focus:** 1,138mL 1.138L 1L and 138 mL
		Proportional Number Line with 0L to 2 L on top and 0mL to 2,000mL on bottom

14. Prior Lesson







14. Reflection

Nigh - During the lesson, I had hoped to observe student behavior, responses, and evidence of thinking. Usually, as a classroom teacher, I am teaching the lesson, observing students, and providing feedback and reteaching all at the same time. I found the opportunity of being solely an observer very valuable. During the lesson, I observed Ms. Zaimi asking initial questions and follow-up questions. This allowed students to arrive at their own conclusions instead of being told facts or taught processes through direct instruction. I observed student discussion at their table groups when they were asked how to find out exactly how much water was in the container. I saw some students fill the graduated cylinder over 1000 mL and then discuss what to do with the excess water: “This is more than 1 Liter. Do we fill it to the top? How do we pour it?” I observed students correctly reading the amount of water in graduated cylinder by leaning down to look at the cylinder sideways. Students continued to discuss with peers as they wrote

down an amount on a post-it. I observed one student making decimal addition mistakes that resulted in an incorrect amount. More than one student revised his/her answer after seeing all answers on the board. Later in the lesson, one student created a drawing on the board to try to convince classmates of the difference between the units of mL and L. While this wasn't part of our initial lesson plan or even our anticipated responses, I thought that it showed that she really conceptualized and was able to internalize the difference between these two units. There was also a debate about how to write a decimal number; the debate is the fruit of argument-centered education that we have implemented this year. At the end of the lesson, I observed more than one student write "I learned there is 1000 mL in 1L" on their exit slips.

During the post-lesson discussion, there were questions about whether or not the goal matched the task. This was something we struggled with as well during the planning of the unit. Students ended up expressing the amount of water measured in mL (1,138 mL) instead of 1L and 138 mL. I believe it was Dr. Watanabe who stated that this was at cross-purposes with our goal. Whether or not the water amount was appropriate was another question raised. One teacher suggested that we could have had students compose 1L and 138 mL out of a greater amount of water instead of decomposing 1,138 mL of pre-measured water. This perhaps would have aligned the task more closely with our goal, especially if we had used a 1L graduated cylinder and 100 mL graduated cylinders. I think the fact that a lot of the measuring tools we used were marked with 1000 mL instead of 1L led students to express the amount of liquid in the container entirely in mL instead of L and mL. Observers also wondered what other questions we could ask on the exit slip, noting that the two problems were similar to conversion charts that we had wanted to avoid in the first place. Another observer wondered about the students who did not participate verbally--how do we know what they did or did not understand? Of course, the exit slip is one way to assess understanding from those who did not participate verbally. We were also questioned about double number line use. We had included it in our plan and discussed it in depth during the planning stages. However, during the actual research lesson, the double number line just did not come up naturally.

Topics for further study are how to integrate teaching measurement and decimals instead of teaching each in isolation. Also, how will we use double number lines throughout the year's math instruction? How can we continue to use inquiry to teach math?

Richie -

Muhammad -

Lambro - I look forward to lesson study opportunities, and enjoy participating in the pre and post discussions as well as observing the lessons and hearing the discourse about the lesson feedback. This experience was my first in planning a research lesson. I cannot think of better way to develop what was gained from this process. The amount of time spent with my team has been spent during countless other meetings where curriculum and planning is discussed, but the detail that went into the decisions we made at every level of the process was a revelation in terms of our commitment to teaching, student learning, and professionalism. I felt honored to be

a part of our planning team and learned so much more about what each of my team members is able to bring to a planning discussion.

In our lesson, we hoped to observe that students would accurately measure the amount of water in the container provided, and that they would express the amount of water using the metric system, particularly one unit through the previously learned method of expressing rational amounts as a decreasing power of 10 as had been done countless times before in rote practice throughout the year as a part of the opening review of each chapter of Go Math.

What students did was measure the amount of water in the containers provided, and they reported the amounts in the units that were provided. We gave them one liter container and two graduated cylinders that each could hold 100 ml. Student responses were in the line of what we anticipated, some reporting in both mL and Liters, some in just ML, some in Liters but with the incorrect decimal notation, and a few reported the correct decimal notation of Liters for the given amount, which begged the question, “did these students learn how to do that from this experience, or did they already come to this lesson prepared with this knowledge, and this was simply an exercise in demonstrating something they already knew?”

During the discussion after the lesson, many people pointed out that some of these students who made the connection between use of the decimal notation and representing in one unit may have been prior knowledge. It was also stated that maybe we should have only given them the liter container to start and let them figure out how to measure the leftover amount using the green tub to pour the liter amount so that they could measure the remainder and possibly report the amount in liters alone without the ML label. Another suggestion was to provide a place value chart for them to view so that they could make the connection to the decimal notation.

Dr. Watanabe immediately complimented our school and the students’ ability to discuss in an argument base formati about their findings, and to build off of one another’s comments during the teacher led discussion of the lesson findings. He also stated that the real world application was a useful tool to provide U.S. student with an opportunity to use metric measures in a meaningful way. He did wonder whether or not our lesson goal was achieved through the activity however.

I think we can expand upon this measurement and metrics using multiplication and division of powers of ten through regular and varied experiences so that the student will have more opportunities to conceptualize the relation of the proportions within the units of measure.

Leventis - I truly enjoyed the lesson study experience on many levels. First and foremost I found it rewarding to be able to share ideas with a team of professionals to help find the best way to present a math lesson. Working together on a single lesson truly made me realize how much I have been working in isolation prior to this. Even though I meet with my grade level team regularly to plan units, etc. we never really dissect a lesson. We never really get to the meat of the lessons that we include in our planning. We discuss lessons in generalities. We discuss lessons as if one lesson is the same

for all students. We don't stop and think how students will react or respond to the lesson so that we can have all of the aspects of the concept covered. Anticipating student responses helped us dive deeper into the lesson. I found this process an important part of lesson study. This is something that, as a veteran teacher, I do in isolation and although I share many math lessons with my team, I don't share how I teach the lesson and why I teach it a certain way. It was refreshing to get other perspectives and ideas around teaching a particular lesson and how others approach teaching mathematical concepts.

The discussions during planning about the various aspects of this lesson truly helped us keep our goal in mind at all times. Although the goal of the lesson was most important, and in the forefront of our discussions at all times, another goal was constantly surfacing, this was the goal of student learning. This goal was constantly surfacing throughout the process. We placed great focus on student learning and not so much on teacher performance as we have been used to doing in the past. This was an important difference to our usual planning sessions, We knew that there would be no perfect lesson and that we would have critique on this lesson at the conference. Going into the process knowing this, that we will be critiqued, helped us try to dissect every aspect of the lesson.

We analyzed every part of the lesson which really slowed down the planning process. I found that some of our discussions would come full circle, literally 360 degrees, where we would find ourselves at the beginning again. I found that this repetitive process is necessary. The process of going over the lesson several times and in many different ways helps the teacher gain a deeper understanding of the concept and a deeper understanding of how the students might interpret what they are presented. When the teacher can internalize the concept and anticipate student responses then the lesson becomes richer.

While the lesson was being taught I felt that the focus was now on the students. People were leaning in, listening to responses, taking notes, and so engrossed with the class. I was happy that the students performed well and that some of them acted the way that they would act in class. I noticed that many of them became shyer than normal, but in general I thought that there performance was impressive.

The post lesson discussion at the conference was my most rewarding experience. Sitting on a panel and being able to discuss this lesson with 150 or so other professionals made me feel that I belonged to a community of educators that truly care about student learning. During this panel discussion many suggestions were offered and many questions were asked that helped me. Someone asked why the exit slip was a combination of open ended questions and some problems to solve and I really hadn't thought about this before that moment. I am so used to giving open ended questions in exit slips so that students can write about what they learned that I realized here that I was not very thoughtful about what kind of questions to ask that support the goal of the lesson.

As a team we chose this lesson because students have shown to have problems moving within the base ten system in the past. Our hopes were that through a hands-on real world lesson approach students would be able to internalize what these numbers look like and what they mean in a real world setting. This post discussion reinforced the fact that this was a good lesson choice to reinforce this concept. Many comments were made about how students do not have enough real world experience with this system. We felt that this lesson would help students identify what a unit number

looks like in real life. Many other professionals seemed to agree with us here. There was also a discussion around Piper's (one of the students) visual representation which also confirmed that this was a much needed lesson.

The final comments of Dr. Watanabe were very insightful. He found the real world application of the lesson extremely useful. He noticed that many students did not label their unit of measure and he noted that on the exit slip, because the unit of measure was given, that students were not required to think about it and express it. He noted the importance of students labeling the unit of measure. I agree that this is something that students should include in their answers and that we should not supply the information for them with a 'fill in the blank' question where the unit of measure is labeled for them. He also spoke about how the metric system is not a natural fit to students in the United States and how this activity helped students with the concrete application of the concept. Dr. Watanabe seemed to think that our lesson and goal were not as clearly tied to each other as they could be. All in all, his comments were very useful and insightful.

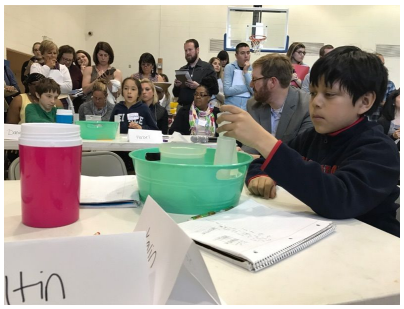
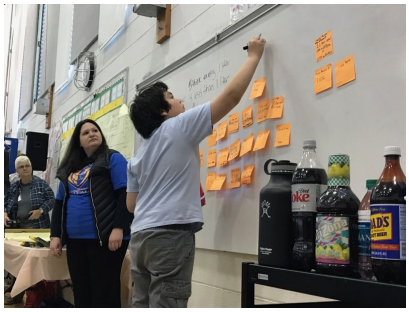
The rich discussions that took place at the conference were extremely valuable. I truly enjoyed this experience and would welcome similar experiences in the future. This lesson study left its impression on me and I'm sure that it left a lifelong impression on my students.

Zaimi - I have always been a believer in Lesson Study being one of the most powerful forms of professional development and have always had a great appreciation for the process. This time around, I found myself truly enjoying working with the 5th grade team and being a part of a very collaborative group of professionals. Each member of the team brought a particular strength to the table, between math content knowledge to keeping the group on track to thinking about ways to differentiate instruction - all members contributions were valued and appreciated. Being a principal and part of a planning team led to many challenges personally - making sure that I maintained my commitments to the team and the process while also managing a few immediate concerns that arose during planning was difficult at times and sometimes overwhelming, but because of my trust in the team we were able to move forward. I enjoyed working with students, remembering the challenges of teaching and learning along with supporting all students in the classroom. The support from Tom McDougal was greatly appreciated as each conversation led to new things to think about in planning.

Pictures from Research Lesson






202 Observations:

Students had a general idea of conversion values for metric system (1,000m=1km, 100cm=1m, 10mm=1cm,

Q: What do you know about liters and meters?
A: You measure with them
A: A ml measures a smaller amount than a L
Q: What else do you know?
A: They can measure volume and capacity

Materials distribution was quick and easy.

T: Take a look at the graduate cylinder. What do you notice about the properties? Turn and talk.
Table in the back: I notice it goes to 100mL. Child 2: It can go over 100mL.

Whole Class: it can measure from 10mL to 100mL

The bottom is like a hexagon

You can measure water in it

It equals to 1 meter. Because 100mL is equal to 1 meter

I think the little lines are ounces because it's adding up to make a mL

It is 6 and half inches tall.

The numbers a counting by ten.

Table in the back: Each line is 2mL because there are five spaces between each 10 and 10 divided by 5 is 2.

T: How many lines are between 10 and 20. Hold your fingers up to show us how many lines you count. What does each line represent numerically?

S: I know it represents 2.
S2, S3, S4: 2
S5:21
S6: 21
S7: 22
S8: 22
S9: 26
S10: 28

T: Teacher which of these answers is correct?
S: We thought you said what does the line represent.
T: Ok, I was a little confusing when asking the question, but what does the line represent?
S: Each line represent 2, but it will be 22 on the line after 20.
T: We are now going to practice measuring in mL.
S: Yeaaaa! I got my ruler.
T: No we're not using rulers we are going to use the graduated cylinders.

Table in front: Measured 200mL, then filled on cylinder to the very top, using the other graduated cylinder to measure the amount over 200mL.

T: How much water was in the original bottle of water?
S1: To much water so couldn't measure

Lots of students continue to say millimeters and meters, instead of milliliters and liters.

Do we need the SAME materials for everyone? In the case a questions such as, “What do you notice?” comes up…