**Lesson Plan for Ms.Pfobs Grade Six Math – Room 8 and 12**

**Date: April 7th, 2021**

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| **Grade, Subject Area, and Lesson Title:**  **Grade 6, Math, Clothesline Math Lesson 1** | **Lesson # 1 out of a Unit of 2 lessons.** |

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| **Learner Outcomes (Program of Studies)**  Number (1, 4, 6, 7)   1. Demonstrate an understanding of place value, including numbers that are: • greater than one million • less than one thousandth.   4. Relate improper fractions to mixed numbers and mixed numbers to improper fractions. [CN, ME, R, V]  6. Demonstrate an understanding of percent (limited to whole numbers), concretely, pictorially and symbolically. [C, CN, PS, R, V]  7. Demonstrate an understanding of integers, concretely, pictorially and symbolically. [C, CN, R, V] | **Plan for Diversity**  Use pen for student that has hearing impairment  Allow ELL student to use google translate on Ipad if needed  Students can do journaling process as a video or voice memo if needed or desired |
| **Prerequisite Knowledge, Skills, Strategies**  **and Attitudes**  Knowledge about fractions, percentages, picture representation, numbers with decimal values | **Preliminary Matters (Review, Announcements, etc.)** |

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| **Objective of Lesson (in own words describing student behavior and/or learning):**  -To learn order of numbers and spatial distance for fractions, percentages, and decimal numbers.  -Notice how different representation are the same (ex. ¼, 25%, and 0.25)  -have authentic discussion that allows students to explain their reasoning for agreeing or disagreeing (for placement or order) |
| **Materials, Resources, Technology Needs:**  Clothespin cards print out (fractions, decimal, percentage, measuring cup drawing, fraction pizza representation drawings), string, clothespins, tape, magnets  Cohorts will each be given a kit with positive integers and four groups (3 per) of tents (fractions, pizza and measuring cup (pictorially, including mixed numbers and improper fractions), decimals, percentages)  Clothesline Worksheet (Answer Document), one per student  Line paper |

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|  | **Time** | **Delivery**  **Method** | **Student Tasks** | **Ongoing Assessment** |
| **Introduction**  (Link to previous learning, introduction of new concepts) | 5 mins | Today we are going to learn about the order of numbers and spatial position for fractions, percentages, and decimal numbers  Introduce the clothesline   * Positive integers = whole numbers can be placed anywhere on the clothesline * It is your task to find where they should be placed on the clothesline, thinking about order and spatial distance | Students listen, follow along, and ask questions. |  |
| **Activity**  **Sequence** | 5 mins  5 mins  5 mins  5 mins  10mins  10 mins | Students get into small groups or cohorts (no more then five groups) and are given a string and tape to create their own clothesline (attached from desk to desk)  Once their clothesline is created, I will give them a kit and they will start placing the fraction numbers on the clothesline  (1/4, 1/3, ½)  Once all groups have determined a placement we will congregate as a class. I will call upon one group to place their fraction numbers on the clothesline on the board and explain their reasoning. I then will ask other groups if they agree or disagree with order and placement. Students will then write out the agreed-upon answer on their Clothesline worksheet.  Repeat process using pictorial representations = pizza and measuring cups. Additional ask students how they would write these pictures as a fraction (improper and/or mixed). Students will then write out the agreed-upon answer on their Clothesline worksheet.  Repeat process for decimal numbers (0.5, 0.75, 1.25) and percentages (25%, 50%, 75%)  Repeat process for more difficult decimals (hundredths) and mixed and improper fractions  The students will then have time to journal (formative assessment) on lined paper these questions:   * What did you notice about ordering each type of number? (fraction, pictorial fraction, decimal and percentage) * What did you notice about spatial placing each number? * Did you notice any similarities between each type of number? * What type of number do you find the most confusing?   This can also be done during the next morning task if we do not have time to complete it in class. | Students work in cohorts. Create clothesline (desk to desk). Discuss and determine order and placement. Follow along with groups discussion. |  |
| **Closure**  (Summary, wrap up, clean up, follow up tasks) |  | “When you have completed your journal, entry raise your hand and I will collect your sheet.”  Next class, we will place all tents on the number line together and notice if any tents overlap. Additionally, you will have the opportunity to create your own fraction, pictorial and decimal equation and determine where it belongs on the clothesline. |  |  |

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| **Reflection and Next Steps** (Was the objective of the lesson met, what are your measures)   * **Reflect on the success of each lesson delivered. Considering the questions:** * **What do I want the students to know?**   I wanted the students to know how to order and place each number correctly on the number line and be able to explain their reasoning.   * **What will I accept as evidence?**   How students participated in the whole-class discussions and in small groups. The worksheet that was filled out. How students filled out the journal questions in their reflective journals.   * **Was this lesson successful?**   Yes, I believe the lesson was successful.   * **What is the evidence?**   Students were engaged and had great academic conversations when discussing placement and order.   * **What would I do differently next time?**   **-**Next time I would have started off with more difficult numbers. I felt like the numbers I used at the beginning might have been a little too easy and were not challenging enough for grade six. This lesson would have been more suitable for a grade 5 class.  -I would have been clear about my expectations on how the gather the room back up when anticipating noisy group work where they might have difficulties hearing my cues.  -The second time I taught this lesson I decided to put the numbers that we were going through at the time on the number line upfront to give the students a reference of which numbers we were going through.  -The second class I actually found more difficult to teach and I am unsure if they were just having an off-task day or if the material was not engaging enough. Overall the whole day they seemed slower going through all class material. I think it might have been a good idea to do something to snap the energy level, like do a body break or mindful moment. I also found the second classless eager to participate and there were only five students that wanted to be involved. Optimally I would have liked as many students as possible to participate so I am still reflecting on ways I can get more students to participate in group discussions.  -I think Tammy’s suggestion of having a max number of 3-4 students is a great recommendation. Next time I would make sure groups are a nice side to make sure everyone is involved and has time to share their opinions.  - |

**Reference:**

Alberta Education (2007). *Mathematics Kindergarten to Grade 9.* Edmonton: Government of Canada. <https://education.alberta.ca/media/160191/phys2000.pdf>.

**Room 8 - April 7, 2021 (Duration - 55 min)**

Great start to connect to prior knowledge with asking about clotheslines.

Students had many creative ways to problem solve and some groups also had good discussions about the math and where to place their benchmarks.

Sometimes, before beginning a potential noisy and/or engaging task, it might be a good idea to remind the students of how you will get their attention and what they should do when you want it. Or explain how a student can “challenge” someone’s choice.

How can you ensure that all students are involved in deciding where the numbers go and it’s not just being done by one student?

Over time, getting the students’ attention got better and more efficient. This was partly due to students becoming familiar with the process and stronger directions (i.e clear asking who needs more time and then a countdown to when they needed to be at their desks after the warning).

Perhaps put the next task on the board or on the smartboard so students have something to refer to if they miss the instructions. (I.e. use these numbers - .001, .06 etc.)

It would seem that stronger students seem to be willing to volunteer to come to the front to share their placement of the number cards on the clothesline after each task. How could we ensure the students who may not have complete understanding of the concepts participate or learn these concepts? This might be a great activity to do with (only) students who are still at the beginning development of these skills/concepts.

Overall, great moderating of the sharing on the front clothesline - allowing students to share their reasoning for agreeing or disagreeing with the placement of numbers.

**Room 12 - April 7, 2021 (Duration - 1 hour 20 min)**

Good circulation to check on students as they begin the activity to ensure everyone has the correct understanding of the task.

I would recommend having a maximum of 3-4 students within a group. This will help with keeping students on task and engaged by having something to do.

This lesson went a bit longer than expected. How can you make it go more efficiently?