

Content Standards

Graduation Standard: Number and Quantity

Essential Learning Target: Is skilled at multiplying multi-digit whole numbers

Rigor: In Context

Student Population

19 students: 9 boys and 10 girls.

Of those 19 students:

1 receive ELL support

Push in math support 3x/week

5 receive RTI support

3 receive RTI Tier 3 support - pull out

2 are on RTI Tier 2 in classroom support

7 students receive special services

3 receive speech and language services

2 receive OT services

1 has a 504 support plan

3 receive special education academic support

1 receives his complete math program in the resource room, so will not be included in this cohort

Baseline Data

Students were given a background knowledge formative assessment in September on adding, subtracting, multiplying, and dividing in context. For the multiplication section, there were 2 problems - one 2x1 digit and one 2x2 digit.

Students' performance on related ELTs in previous years was reviewed as was their NWEA math scores for previous years and this fall.

Student Baseline Data Results

On the pre-assessment, 5% of students met the target and 21% of students partially met the target. Of these 5 students, 4 knew they should multiply but didn't multiply correctly. One demonstrated that he knew how to multiply, but multiplied on the wrong problem. A review of this groups NWEA scores and previous years' targets suggests that they have a strong foundation and will benefit from the instruction outlined in the curriculum materials.

The majority of the class, 68% of the students, did not meet the target. This group appears to not have developed a strong conceptual understanding of

operations and how numbers can be combined or taken apart based on the review of previous years' ELTs.

Instructional Strategies

ALL STUDENTS

Student goal setting and self-assessment. *(This will be done with all students as it is part of the culture of the class and benefits all students.)*

- Students will use margin symbols to depict what their next steps will be toward mastery (i.e. clock = I need more time to practice to be successful, two faces = I need to work with a peer to be successful, teacher face = I need time with a teach to be successful)
- Students will use bulls-eye targets to frequently self-assess understanding.

Descriptive Feedback

- I will use constant formative checks to see where students are making mistakes.

STUDENTS NOT MEETING OR PARTIALLY MEETING

Develop Metacognition *(This will be done with all students. However, the students not on target to meet will get more modeling and more work with strong and weak work to have examples to build their understanding from.)*

- I will have students share strategies outloud to the class, using thinking aloud protocol.
- I will use repeated modeling so students see accurate examples over and over.
- I will use examples of incorrect work so students practice finding errors.
- I will have students work in small groups to collaborate and share strategies. This encourages kids sharing their thinking and sharing math language.

Gradual Release *(This strategy will be used extensively with the 68% of the class that has the least solid foundation.)*

- I will build from using box method to partial product to standard algorithm to help kids gain conceptual knowledge of breaking the numbers apart.
- I will use manipulatives to help kids gain an understanding of how multiplying is really repeated addition.
- I will use graphic organizer paper to help students keep numbers aligned in place value columns. [Graphic Organizer Templates](#) [Graphic Organizer for Box Method](#)
- I will use sticky dots to help students cover numbers they have already multiplied.

STUDENTS ALREADY MEETING

Solving Authentic Problems

- I will use inquiry based extension projects for those that demonstrate mastery and need additional challenges. (i.e. The Once in a Blue Moon Project - In 1988, Earth, Jupiter, Saturn, and Uranus were all in alignment. This happens "once in a blue moon." Will these four planets ever align again? If so, when?