

MIDDLE SCHOOL - MATH REMEDIATION

CLASSROOM

Middle School

Rooted Facts Implementation Results

The Rooted Facts technique was utilized with middle school students at an alternative school in Arizona. The use of this technique began on 01/17/2017 and ended on 01/24/2017. The implementation consisted of 5 sessions, one session per day. Each session lasted approximately 30 minutes. This document details these results.

The primary goal of the Rooted Facts technique in an upper grade remedial setting is to provide a more efficient means in teaching multiplication and division facts to students who have been unable to become fluent in multiplication and division. The purpose of providing this information to student is to increase understanding of multiplication and division, thereby increasing the likelihood more advanced mathematical concepts can be learned.

Assessment and Implementation Information

To determine these scores each student was provided *RFM Pre-assessment Version 1*. *RFM Pre-assessment Version 1* is a 5 minute assessment consisting of 50 multiplication problems and 50 division problems from the 3x3, 3x4, 3x6, 3x7, 3x8, 4x4, 4x6, 4x7, 4x8, 6x6, 6x7, 6x8, 7x7, 7x8 and 8x8 fact families. These assessments were provided in a remedial setting in month six of the 2016/2017 school year.

Each student then took part in learning both multiplication and division facts using the Rooted Facts technique. The implementation consisted of 5 sessions, one session per day. Each session lasted approximately 30 minutes.

After implementation had been completed, each third grade student was provided *RFM Post-assessment Version 1*. This second assessment also consisted of 50 multiplication problems and 50 division problems from the 3x3, 3x4, 3x6, 3x7, 3x8, 4x4, 4x6, 4x7, 4x8, 6x6, 6x7, 6x8, 7x7, 7x8 and 8x8 fact families. This assessment was five minutes in length.

The results received from the second assessment were then compared to the first assessment using a bar graph. While growth was evident from each category, the highest growth occurred with scores from the lower 25%. The results are detailed below:

Class Average

Class Average: 01/12/2017 - 10.25 Facts per Minute

Class Average: 01/25/2017 - 20.80 Facts per Minute

Class Average increase by Facts per Minute - 10.55 additional Facts per Minute on Average

Class Average increase by percentage - Rise of 102.9%

Lower 25%

Lower 25% Average 01/12/2017 - 3.85 Facts per Minute

Lower 25% Average 01/25/2017 - 16.60 Facts per Minute

Lower 25% increase by Facts per Minute - 12.75 additional Facts per Minute on Average

Lower 25% increase by percentage - Rise of 331.2%

Upper 25%

Upper 25% Average 01/12/2017 - 18.21 Facts per Minute

Upper 25% Average 01/25/2017 - 26.08 Facts per Minute

Upper 25% increase by Facts per Minute - 7.87 additional Facts per Minute on Average

Upper 25% increase by percentage - Rise of 43.2%

