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In what ways are you helping students to retain math concepts and skills they have been previously taught?

What additional opportunities for instruction are you providing your struggling learners?

I have been using Daily Math Review in my classroom for the past eight years, and I have to say that it has had the biggest impact on my math instruction by far. In developing the program I use, I was heavily influenced by the book Five Easy Steps to a Balanced Math Program for Upper Elementary Grades written by Larry Ainsworth and Jan Christinson.

Daily Math Review allows my struggling learners additional opportunities to learn a math skill, while all of my learners are able to keep those skills they have already learned in previous units.

I hope that you find this program as useful in your classroom as I have. I have provided instructions detailing how I use the program in my own classroom, but feel free to make adaptations as needed to support your students. I have provided you with editable versions of the sheet I use in case your students need additional support or challenge. I have also provided the busy teacher with a program that can be printed off and used on its own as well. Make this program fit your needs.

If you ever have any questions or concerns, please feel free to contact me at <u>kellys3ps@sbcglobal.net</u>. I welcome your feedback and would love to hear about both your successes and challenges!

Thank you!

Kelly Malloy

### Quick Overview

#### Teacher Preparation:

Print out copies of practice set (front to back Mon -Thurs) and quiz for the week for each of your students. Alternatively, students can copy problems from overhead or SmartBoard into a notebook.

### Set in Place the Daily Routine:

### Monday - Thursday

- 1. Each student independently solves the 5 problems for that day. (10 minutes)
- 2. Review answers with students including explanations as needed. (10 minutes)

### Friday

- 1. Each student independently solves the 10 problem quiz (10 20 minutes depending on student need).
- 2. Teacher analyzes test results. If more than 85% of students have missed a skill, that skill should be retaught the following week. If a small group of students have missed a skill, they should be placed in a group for remediation.



# Getting Started

At the beginning of each daily math block (Monday - Thursday), my students solve and process a set of five math problems that are review problems from previous lessons.

I have deliberately selected specific math problems that represent different math standards (typically place value, addition/subtraction, multiplication/division, fractions/decimals, and measurement/geometry). I then focus the review and practice for the week on variations of those same types of problems throughout the week. This allows students to have several opportunities to practice each skill throughout the week. While students practice solving these problems each day, they receive additional guidance and instruction as needed from both myself and their peers.

Fridays are our quiz days. Students are given ten problems to solve independently so that I can check for understanding. These 10 problems consist of 2 problems for each of the 5 types of problems that the students have practiced in the preceding 4 days. The purpose of this is diagnostic. If the student solves one of the problems correctly, but not the other, it is likely that they made a computational error. If they solve both problems incorrectly, I know that they need additional instruction for this particular skill.

In this product, I have provided an editable version if you would like to use the product in the way that I do, revising each week to fit your students' needs. I have also provided 36 weeks of ready made math review that you can print, copy, and use. I know that not all teachers have the luxury of time to create materials each week, so I have created this program based on several years of using reviews with my own students. I have included problems in the ready made versions that my students have really struggled with including: computational practice, elapsed time, word problems, and measurement. You can follow along with the program as is or use the editable version periodically when your students need additional practice in certain areas. Make the program work for you and your students!



### Implementation

#### Independent Work Time (10 minutes)

I give my students 10 minutes to work independently on that day's math problems. While students are working, I either circulate through the room helping and providing individual support, or pull a small informal group of students who may need extra assistance. This is a great time to pull students who need help with skills from the prior week as well.

When I pull a small group, I may designate a student helper who has finished their review correctly to offer help to peers who may be struggling.

Students need to hear encouraging words such as "Remember Math Review is a time for <u>practice</u>. We are all trying to improve, so let's help each other as much as possible!" The message in my classroom is that learning is a process, and as we practice, we help each other to all grow.

#### Whole Group Corrections and Processing (10 minutes)

When the 10 minutes of student work time is completed, we solve the problems together. This process should last no more than 10 minutes per day. It is a review, not new learning, so it shouldn't drag out. During this time, I don't simply give my students the correct answers, but we instead do error analysis and problem stretching as time allows (not always for all problems, it depends on what my students need at the time).

#### Error Analysis

We identify the part of their problem that was done correctly, and pinpoint the part of the problem where an error was made. For example, if a problem was:

319	and the student solved it like this	319
- 246		- 246
		133

we might say that they subtracted correctly in the ones column, but they didn't regroup in the tens column. I might also ask them how they could have self-checked this problem (using opposite operation).

### Implementation (Cont.)

#### Error Analysis (Cont.)

I would ask them, "Does 133 + 246 = 319? No! Then maybe I made an error. I need to go back and recheck my work."

#### <u>Stretch the Problems</u>

I will add on to what the problem already has. For example, if the problem is a place value problem that asks them to show expanded notation of 1,643 (1,000 + 600 + 40 + 3), I might add to the problem by asking them:

"What number is 10 more?" "What number is 100 more?" "What number is 100 less?"

We might also talk about using estimation to see if our answer is reasonable.

#### **Variations**

- Student Corrected Have students volunteer to share and explain the process they followed to solve a problem.
- **Pass the Pen** For multiple step problems have students take turns solving each part of the problem.
- **Speedy Review** Have students quickly write the answers to problems. Then, ask students to agree or disagree silently using a thumbs up or thumbs down response.
- Group Solve and Check Have students compare and discuss their answer in a small group.

### Math Review Quizzes

#### Math Review Quizzes

I give my students a daily math review quiz every Friday. Each quiz consists of 2 problems for each of the 5 kinds of problems the students practiced during the previous 4 days. Once the students have taken the test, I review to check for understanding.

My two goals are:

- 1. All students to master 80% of the material on the test.
- 2. 85% of the class to master each skill.

If the majority of the class (85% or better) doesn't pass the skill, that skill remains on the next week's daily math review for additional practice. If only a small group of students have not mastered a skill, I place them in a small group for instruction of that skill the next week. This practice really helps to inform my instruction.

Sometimes, I use the sheet provided on pages 10 and 11. Other times I use a quicker method, I tally incorrect responses on an extra copy of the quiz as you can see in the picture below.



Date: \_\_\_\_\_

Question	Tally Incorrect	Standard Tested		
1				
2				
3				
4				
5	JHF 1111	Division		
6		Division		
7				
8				
9				
10		Converting Fractions to Decimals		

Student Responses (to create Math groups with)

1	11	21
2 5, 10	12	221,5
3	13 5	23
4 5, 6, 10	14 1,5	24
5	15 <u>1, 5</u>	25
6 5,10	16	26
7	17	27
8 5,10	<b>18</b> <u>1, 5</u>	28
9	19	29
10 6	20	30

Groups for this week

Skill: Division	<b>Skill:</b> Converting Fractions to	Skill:	Skill:	Skill:	Skill:
Group 1	Decimals Group 1	Group 1	Group 1	Group 1	Group 1
2, 4, 6, 8, 10	2, 4, 6, 8				
Group 2	Group 2	Group 2	Group 2	Group 2	Group 2
13, 14, 15, 18, 22					