

Really Good Stuff® Activity Guide

Writing in the Math Content Area Kit

Congratulations on your purchase of the Really Good Stuff® **Writing in the Math Content Area Kit**—the perfect collection of classroom resources to get your students thinking and writing about math every day.

Inside this Really Good Stuff® set you'll find:

- **Show and Tell About Math Poster**, 19" x 24"
- 24 student journals
- 24 Math Journal stickers
- This Really Good Stuff® Activity Guide

Introducing the Writing in the Math Content Area Kit

Make a copy of each page of this Really Good Stuff® Activity Guide, then place the poster in an accessible area in your classroom. Gather students together and explain that being able to write about what they do in math will help them as they solve mathematical problems. Begin by having students brainstorm some things they might need to think about when they write about math. After listening to several ideas, point to the **Show and Tell About Math** poster and have a student read the title out loud. Explain that they will need to “show” some things in their writing like graphs or tables to make their writing clear. Other things they will need to “tell,” like the steps they took to solve the problem or why they chose a certain math operation. Read each item on the poster and have students discuss why each would be important for good writing about math. To reinforce each item on the poster, use the activities below, and then remind students to refer to the poster to help them with their math writing activities.

Math Journals

Give your students a venue for writing about math by creating math journals. Supply each student with a **Student Journal** included in this kit and a **Math Journal sticker** to adhere to the front. Have them record their names on the fronts. Students can write stories about daily math activities or things they are interested in learning; to record information or draw charts, graphs, and tables; to define math words, phrases, and symbols; to record steps in mathematical

problems; or to record math shortcuts. Have students use their journals as inspiration and reference when writing pieces about math and their math studies.

Math Words, Phrases, and Symbols

As you work through your math curriculum, be sure to have students record new math words, number words, and phrases in their **Math Journals**. Have students designate a few pages at the back of their journals as a Math Dictionary. Each time a new word or phrase arises in their studies, have them write the word or phrase and its definition on their dictionary pages. Encourage students to refer to their Math Dictionaries when writing in order to use the appropriate words for describing mathematical processes and concepts. Remind students that as they use these words, they may need to define some of them in their writing so the reader will be able to understand the meaning. Have students choose a page in their journals to label with the title Math Symbols. Each time they come across a symbol in their Math studies, have them record and define it in their journals and then use the symbols in their writing.

Drawings, Charts, Graphs, Tables, and Models

Encourage students to use their journals for drawing illustrations of math problems or to create graphs and tables to compile information. If desired, designate a section of their journals for drawings, charts, graphs, and tables. Have students refer to their journals to include drawings, tables, and charts in their writing to give the reader a better picture of the problem. You may wish to have students create models from their journal drawings and display them on a table near the poster.

Mathematical Organization

Explain to students that when writing about math, it is important to give an organized account from beginning to end so the reader can understand the problem and how it was solved. Make copies of the *Writing Mathematically Reproducible* found in this guide and three-hole

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punch the sheets. Give one to each student and read through the steps together. For practice, have students write in their journals about a classroom math problem and use the *Writing Mathematically* sheet to help them remember each step. If desired, choose a few students to share their writing with the class. Have students store the *Writing Mathematically* sheets in their math folders for easy reference.

Steps To Solving Word Problems

Provide your students a handy guide for solving word problems. Write the following steps to solving word problems on the board and review them with students.

Steps to Solving Word Problems

1. Read the problem twice from beginning to end.
2. Decide what question the problem asks.
3. Choose the correct math operation to solve the problem.
4. Pick out the information needed for the number problem.
5. Solve the number problem and check the answer.
6. Read the problem again to see if the answer makes sense.

Have students label pages near the fronts of their journals with the title *Steps To Solving Word Problems* and copy the above steps. Encourage students to refer to their journals as they solve word problems.

Operational Words

Give your students a heads up on words to look for in word problems that help identify the appropriate math operation. Have students create *Operational Words* pages in their journals by labeling a page with the title *Operational Words* and then dividing the page into fourths. At the top of each box, have students place an operation name: Addition,

Subtraction, Multiplication, and Division. Start with addition and have students brainstorm words they may read in a word problem that tell you to add, such as the examples below. As students give appropriate answers, have them record the words in their journals as you record them on the board. Have students fill in words for each operation as it is introduced. As new operational words come up in math problems, have students record them in their journals. Encourage students to refer to their *Operational Words* pages to help them choose the appropriate operations to solve their math problems.

Addition	Subtraction	Multiplication	Division
sum	difference	product	divide
total	remainder	total	quotient
together	less than	times	goes into
plus	fewer	twice	split equally
in all	minus	multiplied by	each

Assessing Writing In Math With A Rubric

In this guide, you'll find a 4-point rubric designed specifically for assessing student writing in the math content area. The rubric spans from Beginning to Strong and identifies criteria for scoring students' writing in math. Make a copy of the *Writing Mathematically Rubric* reproducible and place it in an assessment folder to use as you assess student writing progress. If desired, introduce your students to a simple rubric scoring system by explaining that having their writing scored a 4 is great and they have done a good job. Then continue to explain that receiving a 3 means they did good work and are working towards that higher score. Tell students that receiving a 2 means that they are trying hard and will improve everyday. Share with students that if they receive a 1, it means they are just getting started and have lots of things they are going to be learning about writing in math.

Writing Mathematically

#1 Write about the problem you wanted to solve

- tell what question you needed to answer
- tell why the question needed to be answered
- tell how you planned to find the answer

#2 Write about the steps you took to solve the problem

- tell which math operation you chose and why
- tell how you picked out the important information
- tell how you knew which numbers to use in your number problem

#3 Write about why you solved the problem the way you did

- tell what number problem you used to find the solution
- tell about the numbers, symbols, and words that helped you find the solution
- tell about how you checked your work

#4 Write about what you think of the solution

- tell why the solution made sense to you
- tell why you think finding the solution was helpful
- tell how you might use the solution in the future

Writing Mathematically Rubric

<p>4 Strong</p>	<ul style="list-style-type: none">• Understandably states the problem by explaining what the question is, why it needs to be answered, and how to solve it• Effectively organizes important information into steps for solving the problem• Accurately uses numbers, math words, and symbols when explaining the solution and check• Creatively explains the sensibility and usability of the solution
<p>3 Developing</p>	<ul style="list-style-type: none">• Usually states the problem by explaining what the question is, why it needs to be answered, and how to solve it• Often organizes important information into steps for solving the problem• Usually uses accurate numbers, math words, and symbols when explaining the solution and check• Often explains the sensibility and usability of the solution
<p>2 Emerging</p>	<ul style="list-style-type: none">• Beginning to state the problem by explaining what the question is, why it needs to be answered, and how to solve it• Sometimes organizes important information into steps for solving the problem• Starting to use accurate numbers, math words, and symbols when explaining the solution and check• Beginning to explain the sensibility and usability of the solution
<p>1 Beginning</p>	<ul style="list-style-type: none">• Difficulty stating the problem by explaining what the question is, why it needs to be answered, and how to solve it• Unable to organize important information into steps for solving the problem• Does not use accurate numbers, math words, and symbols when explaining the solution and check• Unable to explain the sensibility and usability of the solution