Daily Math Puzzlers

Level C
Grades 4 - 6

Power Pack

Daily Math
Problem Solving

Created by Laura Candler

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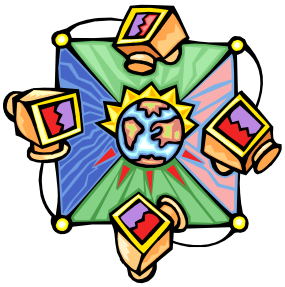

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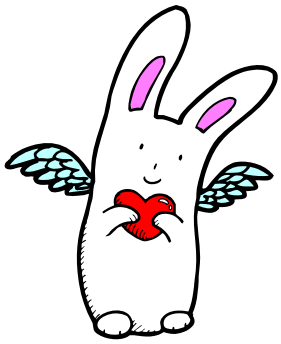
Acknowledgements

I would like to express my appreciation to all the students and teachers who helped field test the Daily Math Puzzler program. Because of you, I can say with confidence that this program works!



Daily Math Puzzlers

Contents and Introduction

Power Pack Contents

Program Overview ..... Page 4
Calculator Introduction..... Page 7
Problem Solving Steps and Strategies ..... Page 26
Daily Math Puzzler Program ..... Page 40
Daily Math Worksheets ..... Page 52
Daily Math Puzzler Review Pages ..... Page 78
Additional Resources ..... Page 81

What If Kids Actually Liked Solving Math Problems????

Problem solving is one of the most important, yet most neglected, areas of math instruction. Many math skills are relatively easy to teach, but teaching kids how to think through a problem in a logical manner is most definitely NOT easy! Yet why should we teach math at all if our students can't apply their knowledge to everyday life?

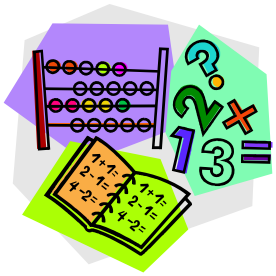
What if you could significantly improve your students' problem-solving abilities in just 15 minutes a day? A mere 15 minutes per day adds up to 45 hours of instruction on problem solving! Even 10 minutes a day would result in 30 hours of problem-solving instruction. What if you found a method that involved very little preparation yet provided a clear and sequential approach to problem-solving? And what if your students began to look forward to those 10 to 15 minutes of math instruction? What if they actually enjoyed the problems and asked you for MORE????

No need to wonder . . . Daily Math Puzzlers is that program! These math problems were field-tested by dozens of teachers all over the world, and their kids were actually asking for more! The program helped students develop confidence in their problem-solving abilities. As a teacher, you'll enjoy the step-by-step instructions for reviewing calculator skills, teaching problem-solving steps and strategies, and providing a variety of challenging and engaging math problems.

Puzzler Program Overview

Introduction Continued

Meeting NCTM Standards



When using Daily Math Puzzlers, you can feel confident you are meeting the National Council of Teachers of Mathematics (NCTM) standards for math instruction. In addition to addressing all of the content strands, this program targets the process standards such as problem solving, reasoning and proof, communication, and connections. One easy program meets all the standards!

Time Requirements

The Daily Math Puzzler program is designed to take 10 to 15 minutes per day. It's not necessary to adhere to the timeline below; some teachers may spread the introductory lessons out over 2 or 3 weeks, while others may skip them altogether. Not ready to start a daily problem-solving program? Check out the Alternative Strategies section on page 43 and you'll find many other uses for the Daily Math Puzzler worksheets. You can have students complete the activity pages in one lesson, use them for cooperative learning, or even send them home for homework.

Suggested Timeline

Week 1: Introduction to Calculator Skills
Weeks 2 & 3: Introduction to Problem Solving
Week 4: Start Daily Math Puzzler Program

Daily Math Puzzler Power Pack Levels

The Daily Math Puzzler program is leveled according to word problem difficulty rather than for specific grade levels. The entire series consists of materials suitable for students in 2nd grade through 7th grade, but the program has also been used with older students who have special needs. Across the levels, you'll find a wide variety of calculator lessons, enrichment games, problem-solving lessons, and student activity pages. For more information on how to utilize the various Daily Math Puzzler Power Pack levels, just turn the page and read on!

Daily Math Puzzler Program

Program Levels

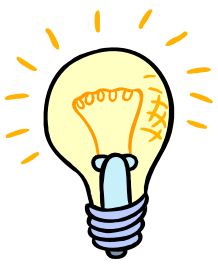
The Daily Math Puzzler program is currently available in four different levels (A - D). Using a system of letters instead of grade levels gives you great flexibility when implementing the program. Each student activity page is coded with a letter and a number, so you always know which worksheet set you are currently using. Each Power Pack also comes with different calculator lessons, quizzes, enrichment games, and a unique problem-solving introduction. You can mix and match the lessons, quizzes, and activities to meet the needs of your students.

Puzzler Pack	Grade Levels
Level A	2, 3 and 4
Level B	3, 4 and 5
Level C	**4, 5, and 6**
Level D	5, 6 and 7

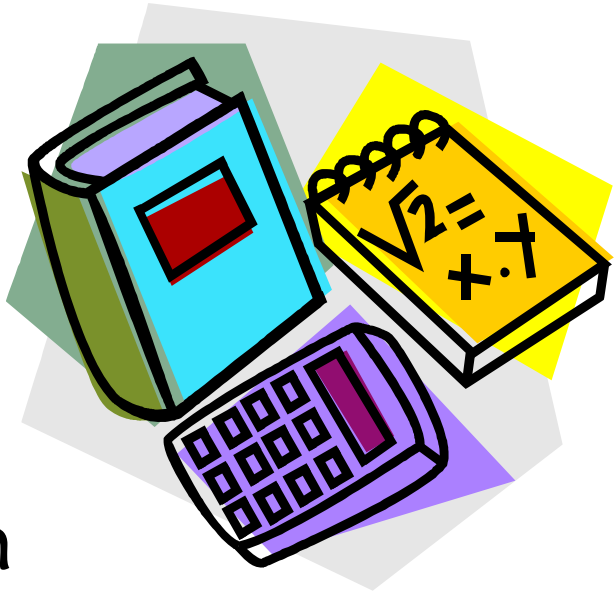
How can you use the different levels to your advantage?

1. **Gradual Implementation** - When you first introduce the program, start with the lowest level that's appropriate for your grade level. For example, a 4th grade teacher may want to start with Level A for the first few weeks to ensure that students are successful as they learn the basics. Then move them up to Level B and later to Level C.

2. **Differentiation** - Even though the Daily Math Puzzler program was designed for whole class instruction, it can be used in small groups or stations to differentiate instruction. One method is to group students performing at the same instructional level and use the Math Talk or Show 'N Tell cooperative learning strategies (pages 47 - 49). Within one class you might have several students on Level B, a few on Level D, and the majority on Level C. If your math class is structured around small group instruction and learning stations, you have even more options for using different levels. Have students complete the worksheets while at a station, and use small group instruction time to work with each level. See Math Stations for Middle Grades at www.lauracandler.com for more information on math stations.



Introduction to Calculator Skills



Activities to Teach or Review Basic Calculator Skills

Calculator Introduction

Rationale

Is Calculator Instruction Needed?

If your students will be allowed to use calculators with the Daily Math Puzzler program, it's worth taking time to instruct them in how to use this tool properly. Don't assume that your students already know how to use a calculator! At the very least, give the Basic Calculator Skills Quiz to make sure. You may be surprised at the results!

If you already know that your students will need a full introduction to their calculators, follow the lesson sequence on the next page. There are 2 lessons, but if you only spend 15 or 20 minutes a day on problem solving, it may take more than 2 days to teach the material and assess student progress.

Notes:

- The lessons below focus on basic calculator functions only. There are so many different versions of calculators that it would be impossible to address them all. These lessons do not address how to use a calculator to solve fraction problems since those directions are specific to certain calculators. You can certainly teach those functions if you wish.

- Many calculators come with teacher guides that contain an illustration of the calculator. Just do an online search for the specific calculator your class is using and you'll be surprised at the resources you'll find!

- Make a transparency of the calculator you are using or use an overhead projector version. Most calculator teacher guides come with an illustration that you can use to make this transparency. Better yet, check to see if your set of calculators comes with a teaching poster.

- Make a transparency of each page that you plan to use for student instruction. These visuals will help kids focus on your instruction.

Calculator Introduction

Lesson 1

Introduce the Basic Calculator Functions

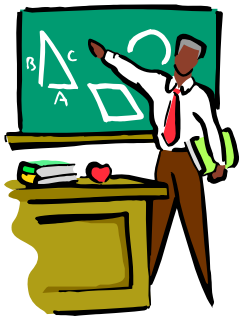
- Start by distributing the calculators and displaying your overhead calculator or transparency. Point out the various number and function keys you'll be using in the lesson. Don't bother to introduce advanced calculator functions at this time, or you will overwhelm your students with information they don't need for the basic problem-solving lessons.
- Place the **Calculator Confusion** page on the overhead and cover the Tricky Situation Hints so students can't see them. Ask them to try to solve the problems at the top of the page. Have them write their answers on individual dry erase boards or paper. Walk around and observe them as they try to solve the problems. Tell them not to worry if they get confused—they can just write a "?" for the ones they can't figure out. (Try these problems yourself and you'll see why students are confused! Stop the activity if your students get too frustrated and tell them that this activity is designed to show how tricky the calculator can be!)
- Reveal the hints at the bottom of the page and discuss the issues that are raised by each situation. Remind students that they need to work each problem at least 2 times to check for accuracy!
- Display a transparency of the **Calculator Practice Problems** and have the students do them one at a time. Have students display their answers on dry erase boards or paper so you can check for understanding. Provide additional practice problems as needed.

Basic Calculator Quiz

Administer the **Calculator Quiz** at the end of Lesson 1 or the next day. Use the Answer Key to score the results. You may want to grade this one quite strictly if you plan to retest those who have difficulty. I generally count off points for missing commas, decimal points, dollar signs, etc. You will be surprised at the number of students who need a retest! Note: A blank Calculator Quiz template has been provided so that you can create your own test to meet the needs of your class.

Calculator Introduction

Lesson 2



Feedback, Reteaching, and Enrichment*

- Return the quizzes and review the answers as a class.
- Divide the class into two groups based on mastery level.
- **Enrichment (see page 21)** - Students who scored 90% or higher can be given one of the Enrichment activities described on the page 21. Students who scored below 90% correct need additional instruction from you.
- **Reteaching** - Use the **Calculator Key Challenge** activity page to help reinforce correct use of the calculator. Some students just don't know what keys to press and in what order to press them. Duplicate a copy of the activity sheet and make a transparency for the overhead. Each problem shows exactly how many calculator keys will have to be pressed to solve the problem. Have students fill in the boxes with the individual keys they will press. Then allow them to enter those keys on their calculators to solve the problems. Provide additional problems as needed until students are comfortable with their calculators.

Administer Retest

Use the retest form of the Calculator quiz to give students an opportunity to improve their original test scores. Even if some kids still have a little trouble, you can proceed with the problem-solving lessons and they will generally improve their calculator skills naturally over time.

*** Mastery Learning Model** - The calculator lessons are based on the Mastery Learning model. Teach a lesson or unit quickly, then test your students to see who has mastered the content. Then divide the class into two groups and provide differentiated activities for each group. Give the students who have mastered the material an enrichment activity. While they are working independently or with a math buddy, gather the other students together in a small group and reteach the content using a different method of instruction. When you retest this group, you'll see significant improvement in their knowledge and understanding. For more information on Mastery Learning, visit www.lauracandler.com.

Calculator Confusion

Tricky Situations

Can you solve these with your calculator?

1) 878,415 – 297,123 = ?
2) $32.57 + $45.13 = ?
3) $15.45 + 23¢ = ?
4) 8 x (7– 5) = ?
5) 565 ÷ 28 = ?

Tricky Situation Hints

1. **Comma Use** – Commas are placed in long numbers to help us read them more easily. The calculator doesn't have a comma key, so when you write your answer, you'll have to add the commas where needed.
   Ex: 878,415 – 297,123 = 581292 or 581,292
2. **Displaying Money Answers** – The calculator doesn't have a key for the dollar or cent sign, but you still need to write these symbols in your answers when you record them. Also, the calculator won't display any zeros to the far right of the decimal point, but money answers are generally written by displaying two places after the decimal point.
   Ex: 77.7 = $77.70
3. **Adding Dollars and Cents** – Since calculators don't use the cent sign, we have to use decimal place value to enter cent amounts.
   Ex: $15.45 + 23¢ → 15.45 + 0.23 or 15.45 + .23
4. **Parentheses** – Be sure to use the left and right parentheses keys as they appear in the problem! They are important!
5. **Division** – In real life, division problems frequently have remainders or decimal answers. You have to learn to round the solution depending on how you need to use the answer.
   Ex: 256 ÷ 9 = 28.44444444444 Rounds to: 28.4

Name _____

Calculator Practice Problems

1. 92,481 - 3,729 = _____	6. 783 219 + 874
2. 785 x 438	7. 7 x (5 - 3) = _____
3. 24.8 – 2.245 = _____	8. $30 - $4.39 = _____
4. $12.00 – $6.70 = _____	9. 5) 460
5. 42 ÷ 8 = _____	10. $7.49 + 37¢ = _____

C

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Name _____

Answers: Calculator Practice

1. 92,481 - 3,729 = **88,752**	6. 783 219 + 874 **1,876**
2. 785 x 438 **343,830**	7. 7 x (5 - 3) = **14**
3. 24.8 – 2.245 = **22.555**	8. $30 - $4.39 = **$25.61**
4. $12.00 – $6.70 = **$5.30**	9. **92** 5) 460
5. 42 ÷ 8 = **5.25**	10. $7.49 + 37¢ = **$7.86**

C

Name _____

Calculator Skills Quiz

1. 9,285 + 728 = _____	6. 893 448 + 712
2. 537 x 24	7. 5 x (8 - 3) = _____
3. 17.2 – 2.893 = _____	8. $20 - $1.59 = _____
4. $54.00 – $26.40 = _____	9. 5) 385
5. 38 ÷ 4 = _____	10. $5.43 + 27¢ = _____

C

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Name _____

Answers: Calculator Skills Quiz

1. 9,285 + 728 = **10,013**	6. 893 448 + 712 **2,053**
2. 537 x 24 **12,888**	7. 5 x (8 - 3) = **25**
3. 17.2 – 2.893 = **14.307**	8. $20 - $1.59 = **$18.41**
4. $54.00 – $26.40 = **$27.60**	9. **77** 5) 385
5. 38 ÷ 4 = **9.5**	10. $5.43 + 27¢ = **$5.70**

C

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Calculator Key Challenge

For each problem, try to figure out how many keys you will have to press, and what symbol you should use for each part of the problem. Fill in the blocks with the numbers and symbols needed. Then try your ideas with a real calculator to see if it works!

Example: 89 + 57 = | 8 | 9 | + | 5 | 7 | = |

1) 7,562 - 45 =

2) 9.7 x 632 =

3) 6.8 + 1.92 =

4) $15 - $8.68 =

5) $3\overline{)489}$

C

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Calculator Key Challenge Answers

For each problem, try to figure out how many keys you will have to press, and what symbol you should use for each part of the problem. Fill in the blocks with the numbers and symbols needed. Then try your ideas with a real calculator to see if it works!

Example: 89 + 57 = 146

8	9	+	5	7	=

1) 7,562 - 45 = 7,517

7	5	6	2	-	4	5	=

2) 9.7 x 632 = 6,130.4

9	.	7	x	6	3	2	=

3) 6.8 + 1.92 = 8.72

6	.	8	+	1	.	9	2	=

4) $15 - $8.68 = $6.32

1	5	-	8	.	6	8	=

5) $3\overline{)489}$ = 163

4	8	9	÷	3	=

C

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Name _____

Calculator Skills Quiz

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

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Name _____

Calculator Skills Retest

1. 8,296 + 489 = _____	6. 273 567 + 912
2. 863 x 52	7. 15 - (7 + 2) = _____
3. 25.3 – 7.542 = _____	8. $10 - $2.18 = _____
4. $48.00 – $32.30 = _____	9. $3\overline{)285}$
5. 30 ÷ 4 = _____	10. $6.52 + 39¢ = _____

C

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Name _____

Answers: Calculator Skills Retest

1. 8,296 + 489 = **8,785**	6. 273 567 + 912 **1,752**
2. 863 x 52 **44,876**	7. 15 - (7 + 2) = **6**
3. 25.3 – 7.542 = **17.758**	8. $10 - $2.18 = **$7.82**
4. $48.00 – $32.30 = **$15.70**	9. **95** 3) 285
5. 30 ÷ 4 = **7.5**	10. $6.52 + 39¢ = **$6.91**

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Calculator Introduction

Enrichment Activities

Benefits of Using Enrichment Activities:

- Students who have attained mastery of basic calculator skills can extend their understanding through higher level thinking and reasoning. It also keeps them from getting bored and disruptive!
- Providing enrichment activities motivates students to do their best on the first test so that they may participate in the activity.
- Dividing the class this way reduces the number of students in your "reteaching" group, allowing you more individual contact with them.

Enrichment Ideas:

1. Blast Off Calculator Game - Prior to the lesson, duplicate the materials on pages 23 - 25. Use card stock or construction paper if possible.
2. Independent Enrichment Assignments - Use your textbook or the Internet to locate a quiet independent activity for students to do
3. Computer Software - Permit students to practice skills by using software or by going to a favorite math website.
4. Math Stations - Set up math activities in "stations" or centers. See Math Stations for Middle Grades (www.lauracandler.com) for more ideas!

Classroom Management

When you allow students to work independently on Enrichment Activities, you need to establish ground rules. See the Golden Rules mini poster on the next page for ideas. Assign each person a Math Buddy or partner so they have someone they can ask for help if they need it. To avoid chaos and confusion, avoid activities that require more than 2 or 3 students to work together. If they are going to play a game, make sure they have full directions or have been introduced to the game previously so they can work without assistance. Have a back-up independent seatwork plan in the event the game doesn't work out!

Note: If you allow the Enrichment students to play a math game, make the game available later at a Math Station so the others can play, too!

Golden Rules for Enrichment Activities

- Stay on task at all times.
- Don't bother anyone or call attention to yourself.
- Don't talk to the teacher while he or she is working with another group.
- Quietly ask someone if you need help. If that person can't help you, signal the teacher and do something else until help arrives.

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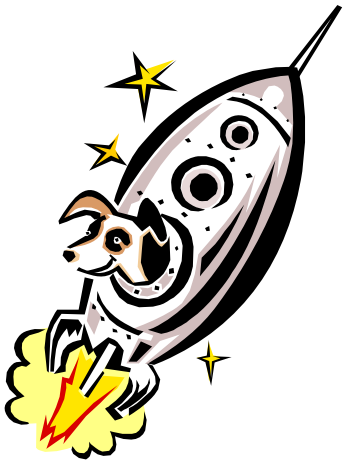
Blast Off

Calculator Game



Number of Players: 2

Materials:

- 1 calculator
- Scrap paper or dry erase board/marker
- Blast Off Target Number Cards
- Blast Off Fuel Cell Game Board

Objective: To hit the target number without going over

Directions:

1. Cut out the Target Number cards and stack face down.
2. Draw a Target Number Card from the deck to decide who goes first. High number is Player 1. Replace cards.
3. Player 1 draws a new Target Number. Before picking up the calculator, he or she writes down 2 Fuel Cell numbers and either + or x to form a number sentence. Player 1 then uses the calculator to solve the problem and shows his or her answer to Player 2.
4. If Player 1 did not hit the target, Player 2 chooses 2 different numbers to add or multiply. He or she creates a number sentence and solves it.
5. The player whose result is closest to the Target Number without going over wins the card.
6. Player 2 draws the next card. Repeat remaining steps as time allows, taking turns for each round.

Blast Off Fuel Cells

8 44 3 28

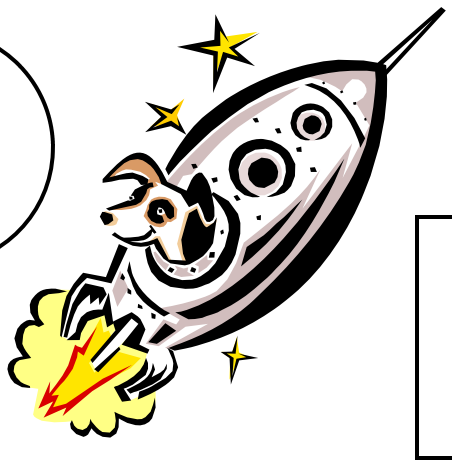
17 4 19 51 2

5 63 98 7

12 75 82 21 15

33 9 11 6

39 67 48



+	x

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Blast Off

Target Number Cards

Target Number 146 Target Number	Target Number 106 Target Number	Target Number 150 Target Number
Target Number 132 Target Number	Target Number 126 Target Number	Target Number 112 Target Number
Target Number 153 Target Number	Target Number 180 Target Number	Target Number 136 Target Number

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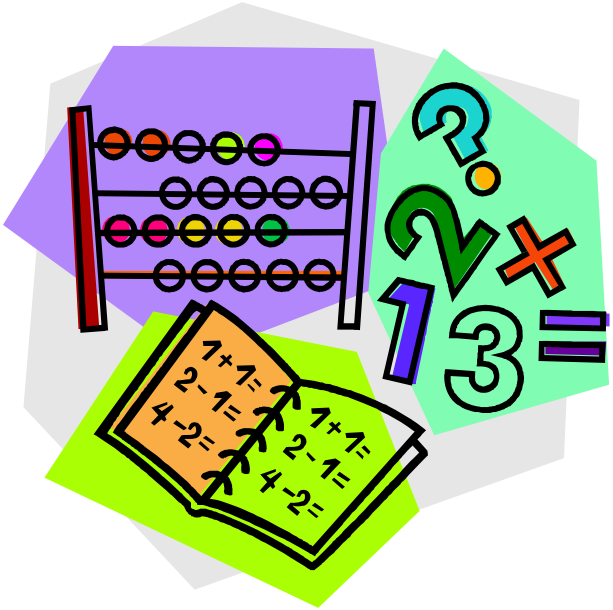
Introduction to Problem Solving



Optional Activities to Teach Problem Solving Steps and Strategies

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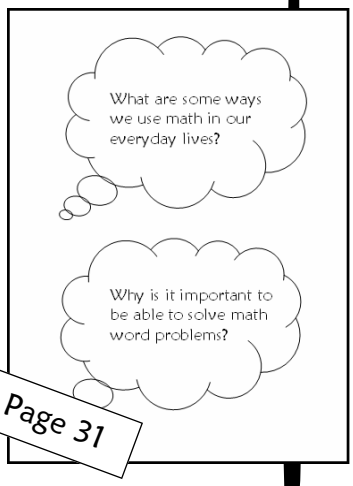
Steps and Strategies Intro

Teaching Strategies

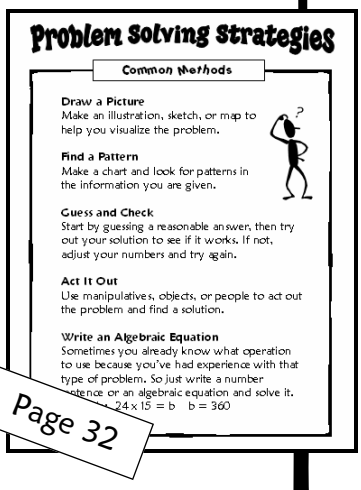
If your students aren't experienced problem-solvers, you'll find it helpful to begin by focusing on a different problem-solving strategy each day. There are probably a dozen strategies you could teach, but to keep things simple we'll focus on just 5 different methods. Each one has a blackline master with two problems that can be solved using that strategy. Make a transparency of each blackline master and let your students work the problems on individual dry erase boards or scrap paper.

Day 1 - Introduction



Display or ask the first question shown on the blackline master: "What are some ways that we use math in our everyday lives?" Ask students to think about their own responses, and then give them 3 minutes to work with a partner and list their ideas. Then ask volunteers to share their ideas and create a class list on chart paper. Examples include time, money, measurement, etc.

Next discuss the related question, "Why is it important to be able to solve math word problems?" Students usually mention reasons like being on time, being able to figure out how much change you'll receive, knowing how much food to buy for a party, and so on.

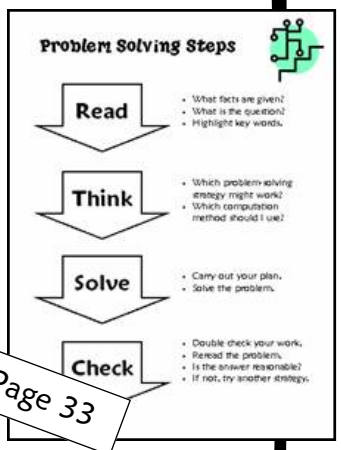


Then explain that even though many students find word problems to be tricky, they can be fun if you think of them as puzzles or brainteasers. Tell them that you are going to share 5 different methods commonly used to tackle word problems. Display a transparency or chart showing the Problem Solving Strategies and briefly mention each method. (Hint: You might want to duplicate this page for your students or create a poster of the strategies since it's difficult to show them on the overhead when you are using the projector to work out math problems!)

Steps and Strategies Intro

Teaching Strategies

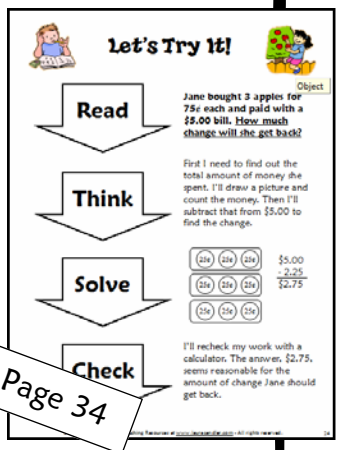
Finally, tell them that you are going to share four basic steps for solving almost any word problem. Display a poster or transparency of the steps (Read, Think, Solve, and Check). Read the steps and briefly explain the strategies for each step. Tell them that tomorrow they will learn to use those steps to solve some math puzzles.



Page 33

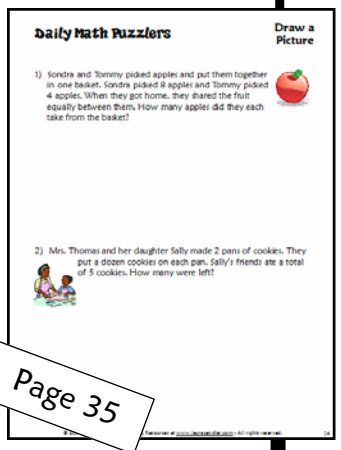
Day 2 - Draw a Picture

The next day, begin by reviewing the Strategies and the Steps. Give the students a copy of the steps or have students draw the 4 arrows and write the 4 key words on paper or in a journal. Display a transparency of the "Let's Try It" page and explain how that problem was solved using the steps.



Page 34

Now your students are ready to tackle their first problems! Display a transparency of the Draw a Picture problem page. Cover the bottom problem so they can focus on the top one. Read the problem aloud and model the 4 steps as you begin to solve it. For example, highlight key words and underline the question. Ask students to draw their solutions, and let them know that you are not looking for artistic illustrations—you are looking for simple ways to picture the important elements of the problem. Walk around and observe students as they work. Let them show their strategies to a partner and compare their solutions. Model the "checking" step by asking them if their solutions are reasonable. Make sure everyone knows how to picture the solution.



Page 35

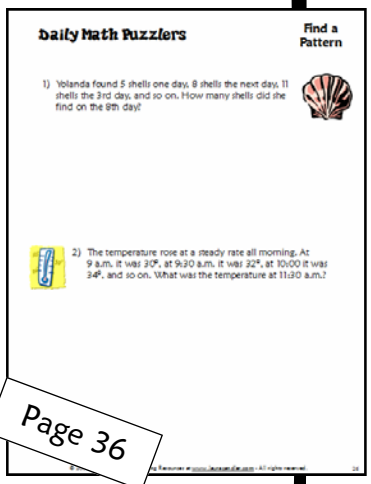
Repeat this procedure for the second problem, modeling the correct use of each problem-solving step.

Practice Problem Answers: #1 - 6 apples #2 - 19 cookies

Steps and Strategies Intro

Teaching Strategies

Day 3 - Find a Pattern


Daily Math Puzzlers — Find a Pattern

1) Yolanda found 5 shells one day, 8 shells the next day, 11 shells the 3rd day, and so on. How many shells did she find on the 8th day?

2) The temperature rose at a steady rate all morning. At 9 a.m. it was 30°, at 9:30 a.m. it was 32°, at 10:00 it was 34°, and so on. What was the temperature at 11:30 a.m.?

Page 36

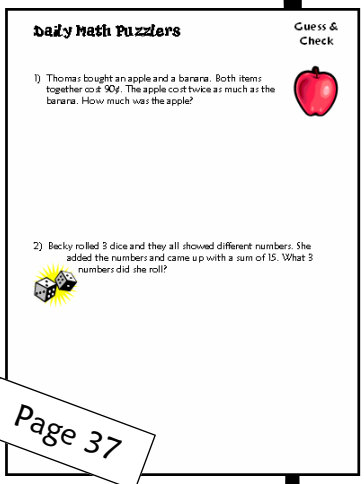
Begin by displaying the Strategies and Steps again. Tell students that they are going to practice a few problems that involve discovering patterns. After they read the first problem, teach them how to make a chart to organize their facts. One way to chart this information is as follows:

Day	1	2	3	4	5	6	7	8
Shells	5	8	11	14	17	21	24	26

Repeat with the second problem, but this time let the students create their own charts. Check to make sure everyone has the correct answer.

Practice Problem Answers: #1 - 26 shells #2 - 40°

Day 4 - Guess and Check


Daily Math Puzzlers — Guess & Check

1) Thomas bought an apple and a banana. Both items together cost 90¢. The apple cost twice as much as the banana. How much was the apple?

2) Becky rolled 3 dice and they all showed different numbers. She added the numbers and came up with a sum of 15. What 3 numbers did she roll?

Page 37

The key to solving Guess and Check problems is to make an organized list of your guesses and results. For example, in the first problem, you need to guess the cost of the banana and multiply by 2 to get the cost of the apple. Then you have to add both numbers to get a sum of 90 cents. A chart with 4 columns works well for this problem:

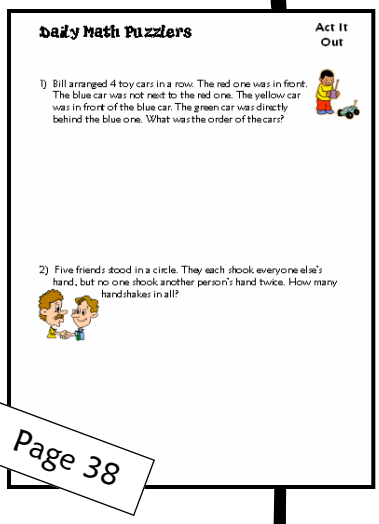
Cost of Banana B	Cost of Apple A = B x 2	Total B + A	Result
45¢	90¢	$1.35	High
20¢	40¢	80¢	Low
30¢	60¢	90¢	Correct

Practice Problem Answers: #1 B = 30¢ A = 60¢ #2 4, 5, and 6

Steps and Strategies Intro

Teaching Strategies

Day 5 - Act It Out Strategy

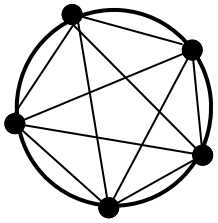

Daily Math Puzzlers — Act It Out

1) Bill arranged 4 toy cars in a row. The red one was in front. The blue car was not next to the red one. The yellow car was in front of the blue car. The green car was directly behind the blue one. What was the order of the cars?

2) Five friends stood in a circle. They each shook everyone else's hand, but no one shook another person's hand twice. How many handshakes in all?

Page 38

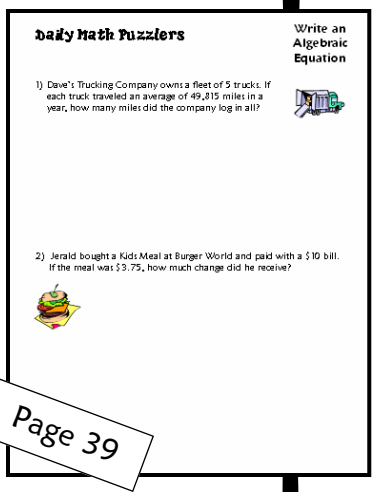
It's important for students to realize that "acting it out" doesn't necessarily mean that people have to get up and move. Ordinary objects can be used as manipulatives to help solve problems. For example, the first practice problem involves determining the correct order of 4 toy cars arranged in a row. To represent the cars, you can use colored cubes, colored squares of paper, or square plastic tiles.



The second problem, a classic "handshake" problem, can be demonstrated by 5 students, but you will also need to draw a diagram on the board to record the results of the handshake experiment.

Practice Problem Answers: #1 - (front) R, Y, B, G #2 - 10 handshakes

Day 6 - Write an Algebraic Equation


Daily Math Puzzlers — Write an Algebraic Equation

1) Dave's Trucking Company owns a fleet of 5 trucks. If each truck traveled an average of 49,815 miles in a year, how many miles did the company log in all?

2) Jerald bought a Kids Meal at Burger World and paid with a $10 bill. If the meal was $3.75, how much change did he receive?

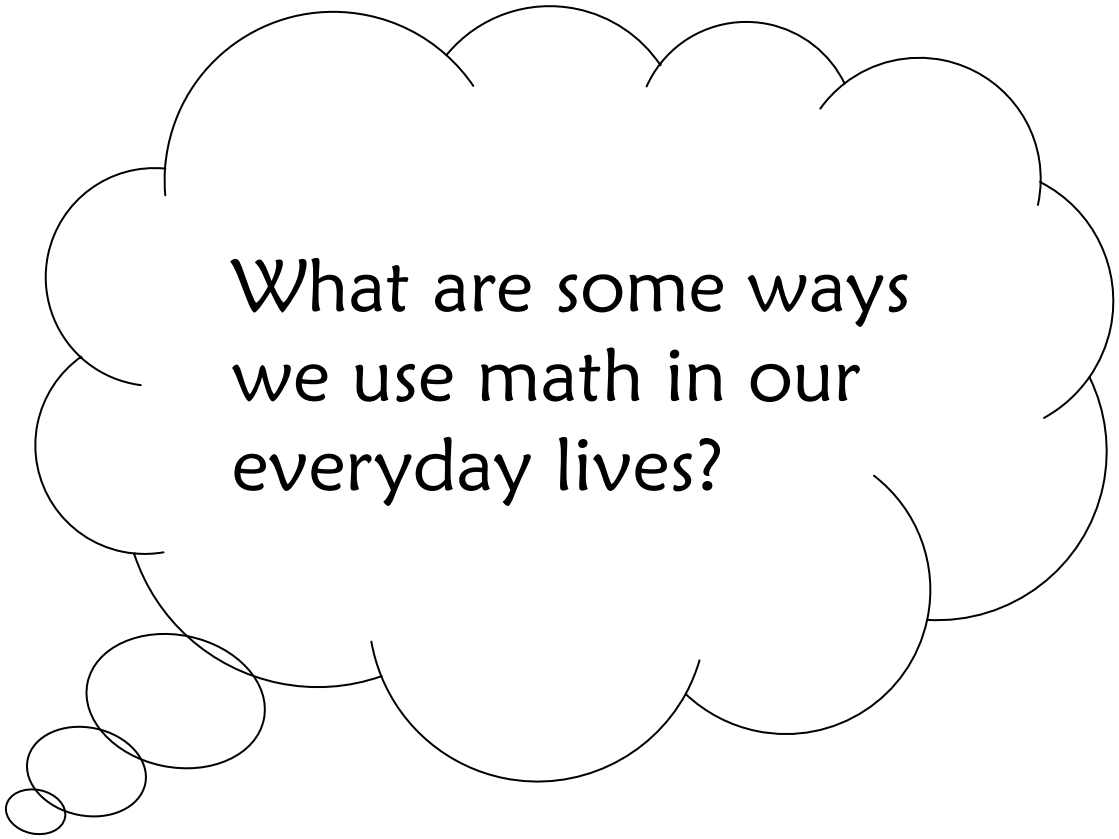
Page 39

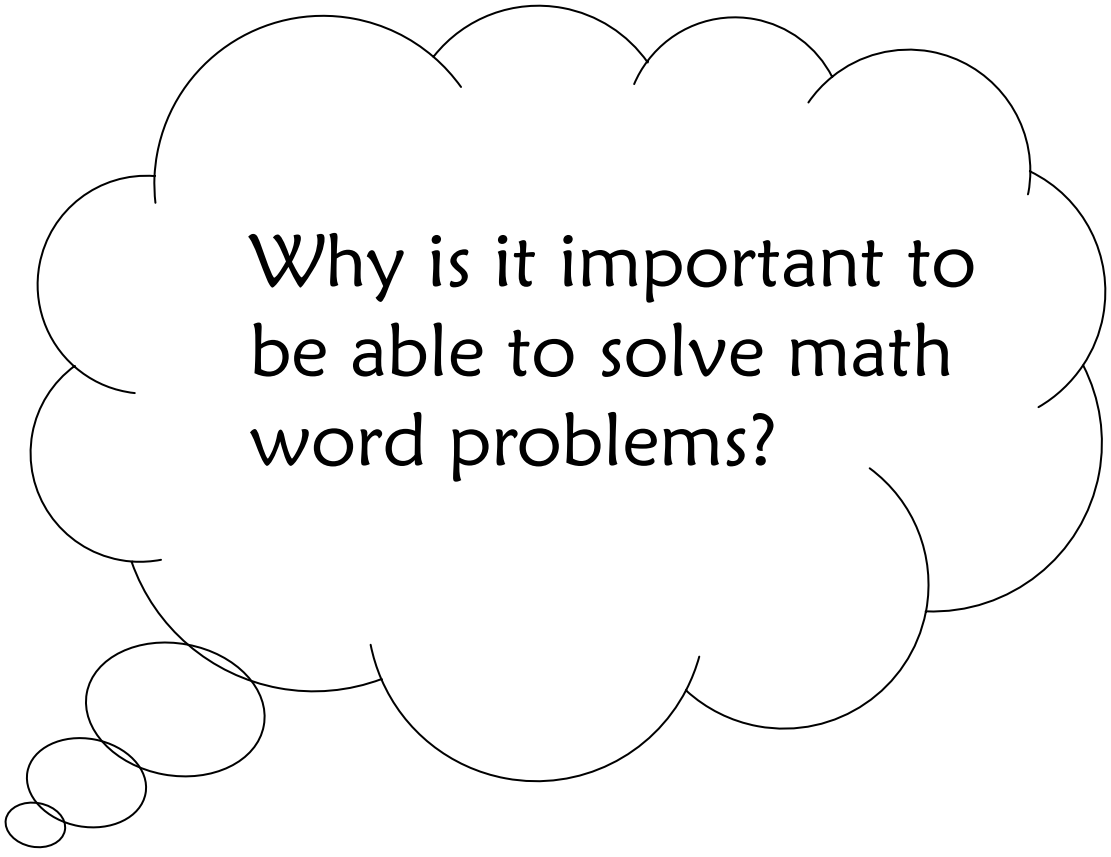
Writing an algebraic equation can be an option if you can quickly and easily determine what needs to be done to solve the problem. For example, in the first problem, many students quickly see that you just need to multiply 5 times 49,815. In the second problem, it's fairly obvious that you need to subtract the cost of the food from the money paid.

Algebraic equations are written in a horizontal, rather than vertical, format and students at this age frequently struggle with how to write number sentences correctly. And 2-step problems are particularly tricky! Examples of number sentences include:

$23 \times 48 = x$ $b + (3 \times 7) = 26$ $74 - 15 = d$ $60 \div 12 = r$

Practice Answers: #1 $5 \times 49{,}815 = 249{,}075$ #2 $\$10 - \$3.75 = \$6.25$

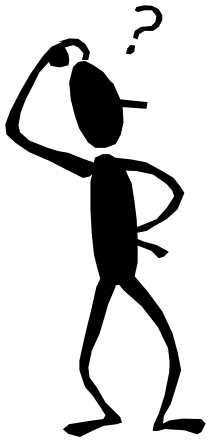

What are some ways we use math in our everyday lives?


Why is it important to be able to solve math word problems?

Problem Solving Strategies

Common Methods

Draw a Picture
Make an illustration, sketch, or map to help you visualize the problem.



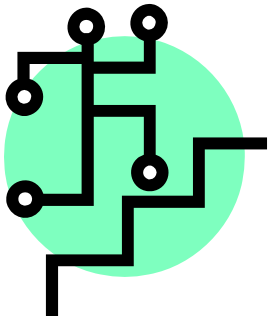
Find a Pattern
Make a chart and look for patterns in the information you are given.

Guess and Check
Start by guessing a reasonable answer, then try out your solution to see if it works. If not, adjust your numbers and try again.

Act It Out
Use manipulatives, objects, or people to act out the problem and find a solution.

Write an Algebraic Equation
Sometimes you already know what operation to use because you've had experience with that type of problem. So just write a number sentence or an algebraic equation and solve it.
Example: $24 \times 15 = b \quad b = 360$

Problem Solving Steps



Read

- What facts are given?
- What is the question?
- Highlight key words and data.

Think

- Which problem-solving strategy might work?
- Which computation method should I use?

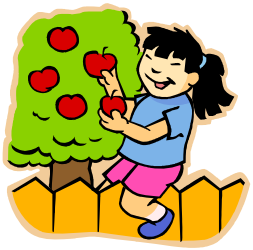
Solve

- Carry out your plan.
- Solve the problem.

Check

- Double check your work.
- Reread the problem.
- Is the answer reasonable?
- If not, try another strategy.

Let's Try It!



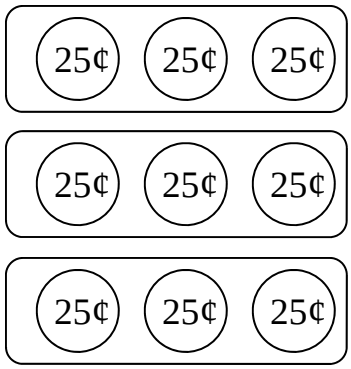
Read

Jane bought 3 apples for 75¢ each and paid with a $5.00 bill. How much change will she get back?

Think

First I need to find out the total amount of money she spent. I'll draw a picture and count the money. Then I'll subtract that from $5.00 to find the change.

Solve



$5.00
- 2.25
$2.75

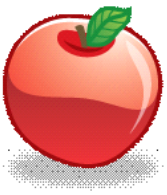
Check

I'll recheck my work with a calculator. The answer, $2.75, seems reasonable for the amount of change Jane should get back.

Daily Math Puzzlers

Draw a Picture

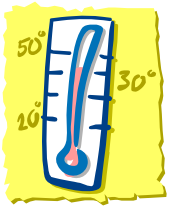
1) Sondra and Tommy picked apples and put them together in one basket. Sondra picked 8 apples and Tommy picked 4 apples. When they got home, they shared the fruit equally between them. How many apples did they each take from the basket?



2) Mrs. Thomas and her daughter Sally made 2 pans of cookies. They put a dozen cookies on each pan. Sally's friends ate a total of 5 cookies. How many were left?

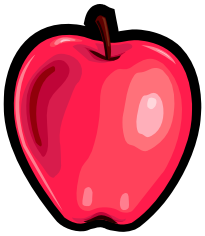
Find a Pattern

1) Yolanda found 5 shells one day, 8 shells the next day, 11 shells the 3rd day, and so on. How many shells did she find on the 8th day?



2) The temperature rose at a steady rate all morning. At 9 a.m. it was 30º, at 9:30 a.m. it was 32º, at 10:00 it was 34º, and so on. What was the temperature at 11:30 a.m.?

Guess & Check



1) Thomas bought an apple and a banana. Both items together cost 90¢. The apple cost twice as much as the banana. How much was the apple?

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Daily Math Puzzlers

Write an Algebraic Equation

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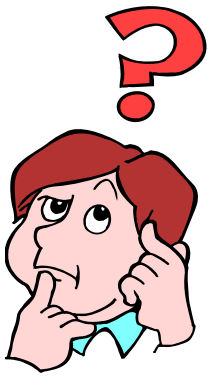
2) Jerald bought a Kids Meal at Burger World and paid with a $10 bill. If the meal was $3.75, how much change did he receive?

Daily Math Puzzler Program

Program Description and Strategies

Daily Math Puzzler Program

Teaching Suggestions



After several weeks of introductory activities, you are finally ready to get started with your Daily Math Puzzler Program! The following strategies are to be regarded as suggestions only. Feel free to modify the program to suit your own needs.

Problem-Solving Worksheets

This Power Pack includes 20 problem-solving worksheets that are coded according to level and page number. The code appears in the lower left corner of the activity page. Level C denotes the level of all problems in this packet, which are on a 4th or 5th grade level. The number refers to the numerical sequence of the worksheets, but they can be used in any order. For example, C-3 refers to Level C, worksheet #3. If you purchase more than one level, it will be helpful to know the worksheet level in the event they become mixed together.

Should you use the activity pages in order? Not necessarily. You're the best judge of what page to use each week. Review the problems to make sure your students are ready for them. The problems should be somewhat challenging, but they shouldn't be completely frustrating. To be successful, your students should have had some previous experience with those mathematical concepts. For example, if a worksheet contains problems that require students to calculate elapsed time, they will be lost, even after you explain the answer. In general, as the page number increases, the problems become progressively more difficult. However, the difficulty also depends on when you introduce concepts like fractions and measurement. If you don't use the activity pages in order, you'll want to use the Activity Page Tracking Chart on page 86 to keep track of when and how you use them.

Student Progress Charts

Several charts are included to help you track student progress. On Page 88, you'll find a Student Activity Page Record. Duplicate one per student and make notes after using each worksheet. Or use the Class Activity Page Record on page 89 to keep everyone's information together. To save time, write in your students' names before duplicating and make multiple copies.

Daily Math Puzzler Program

Program Sequence

Daily Math Puzzler Program Snapshot

1. Distribute weekly activity page on Monday.
2. Students solve Problem #1 independently.
3. Teacher checks problem #1 (optional).
4. Whole class instruction on Problem #1.
5. Individuals correct problem #1 independently.
6. Repeat with new problem each day.
7. Collect papers at end of week for final review and/or grading.

Strategies and Suggestions

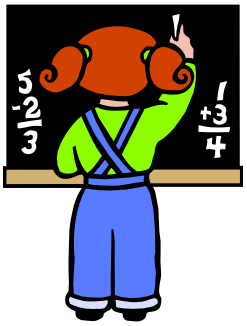
1. **Introduce Weekly Activity Page** - On Monday, give each student a copy of the worksheet and explain that they will work on one problem each day. You will discuss each day's problem the next day, after you have had a chance to review their work. Following this sequence, in a normal 5-day week, the final problem will be discussed on Friday.

2. **Independent Work** - After being given the activity page, students should try to solve the first problem without help. They should NOT take the worksheet home to get extra help because it's too easy for them to let someone else do all the work. Also, tell them not to work ahead and do all the problems - they need to focus their thoughts and energies on the first problem only. They should show all work and write the solution on the answer line.

3. **Quick Check** - If you want to review their work on a daily basis, there are two options you may want to consider:
   A. Collect their worksheets before they leave each day. Check over their answers and explanations before they return to class. If anyone has the correct answer and a logical explanation or illustration to show their work, circle the ✓+. If they don't have the right answer or don't show their work, don't circle anything.

Daily Math Puzzler Program

More Strategies



B. Or wait until students arrive in the classroom the next morning. Either collect the papers or walk around the room to do a quick check before you start the lesson. Circle the ✓+ if the problem is completely correct.

4. **Mini Lesson and Discussion** - After students have tried the problem on their own, ask them to put their pencils down while you teach a mini-lesson on one method of solving the problem. Demonstrate by drawing pictures, acting it out, using guess and check, etc. Involve them in the lesson, but don't let them blindly copy the answer from the overhead projector. Ask students if they can think of other ways to solve the problem. Use the Math Money coupons to reward students for creatively thinking of other methods for solving the problem. (Note: You may want to excuse those who earned a ✓+ from this portion of the lesson. However, they can be valuable contributors to the lesson if they have other strategies to share.)

5. **Students Revise Answers** - Now, turn off the overhead projector and have students use one of the methods to correct their work and write the answer. They need to do more than put a new answer on the line - they also need to show work that reflects the correct answer. Circle a ✓ for anyone who successfully solves the problem. As they finish this problem, they may begin working on the next one. You can use this time to circulate through the room and begin reviewing their work.

6. **Repeat and Review Work** - Repeat these steps for each problem, completing one per day. Collect the papers on Friday for a final review and/or grading. Any grade should be based on effort and participation as well as correctness of answers. If students aren't able to correct some of their answers, circle the ✓- to show that they made an attempt but never successfully reworked the problem.

Daily Math Puzzler Program

Alternative Strategies

Homework - Send one worksheet home each week for homework, then collect them to review and discuss at school.

Problem of the Week Challenges - Why not include one Daily Math Puzzler problem on your weekly newsletter? Students can work with their parents to solve the problem and submit their answers by a certain due date. Offer Math Money to students who get the problem correct!

Problem Solving Focus Days - Devote one day a week to solving all four problems. Use a cooperative learning strategy and spend one class period a week on problem solving rather than 15 minutes a day.

Paper Saver Option - To save paper, make a transparency or display the problems on an interactive whiteboard. Have students work the problems on dry erase boards or their own paper. Then choose a student to work the problem in front of the class on the overhead projector or whiteboard.

Written Explanations - Does your state require students to write out explanations when they solve word problems? If so, you will want to add that component to your problem-solving routine. You can use the Solve and Write blackline master on page 85 and duplicate it on the back of each worksheet. Or just have students write explanations on lined paper and staple their papers to the back of the activity page.

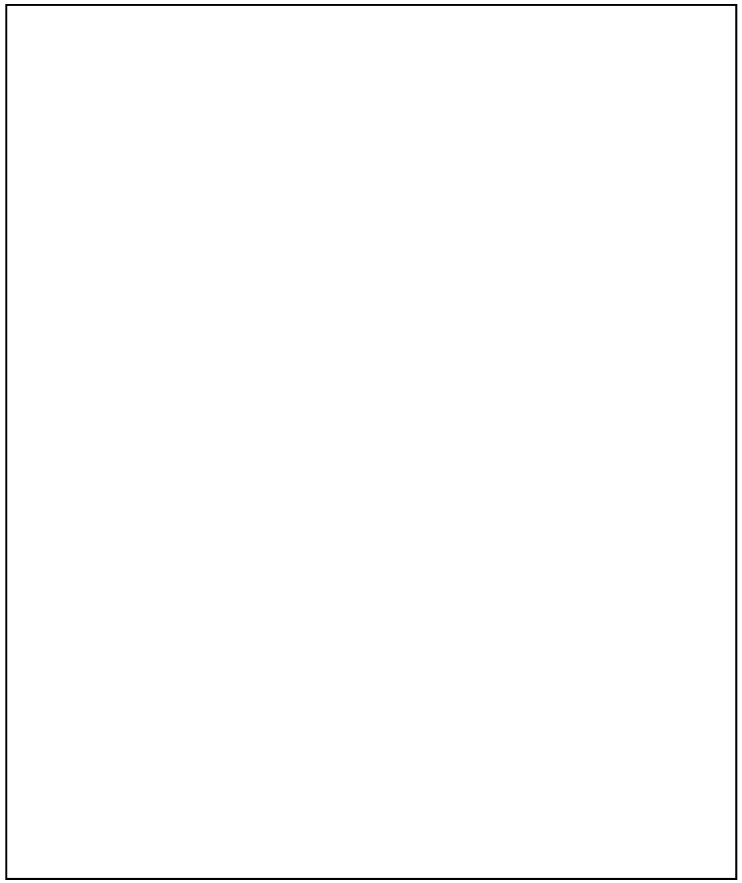
Modifications - If you are working with students with special needs, you may want present just one problem per day to students rather than overwhelming them with four on a page. If so, cut out and paste one problem on the single page template found on the next page and then duplicate it for students. This template provides more work space as well as a Checkpoint system for checking off each step of the problem-solving process. After students become comfortable with the system, you can use the regular worksheets with four problems per page and just use the Checkpoint slips on page 46 to reinforce the steps.

Daily Math Puzzler

Name _____

Date _____

Work Space:



Checkpoint

- ❑ I read the problem twice.
- ❑ I underlined key words.
- ❑ My work shows my thinking.
- ❑ I checked my answer.
- ❑ I wrote a complete answer.

Answer _____

✓- ✓ ✓+

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Problem Solving Checkpoint

- ❑ I read the problem twice.
- ❑ I underlined key words.
- ❑ My work shows my thinking.
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Problem Solving Checkpoint

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Problem Solving Checkpoint

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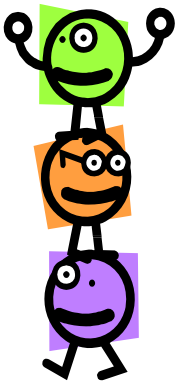
- ❑ My work shows my thinking.
- ❑ I checked my answer.
- ❑ I wrote a complete answer.

Daily Math Puzzler Program

Cooperative Learning

Stretch mathematical thinking by involving students in Cooperative Learning problem-solving tasks.



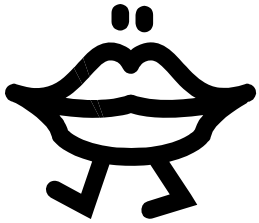
Math Buddies - Divide your class into Math Buddies and duplicate one worksheet per pair. Have them work the problems together and take turns recording their answers on the page. Form new Math Buddies each week. (This option is just for practice and does not lend itself to grading.)

Math Talk - Frequently when students work together in teams, one person does all the work and the others simply copy the answer. However, Math Talk offers a perfect remedy for this problem! It's designed to encourage discussion and discourage copying. To get started:

- Make a transparency of the Math Talk directions (page 48). Put a sturdy plastic cup in the center of each team, and give each person one copy of the same Daily Math Puzzler worksheet. They will complete this worksheet in one class period rather than over an entire week.
- At first, you'll need to model the Math Talk activity for students and guide them through it in a step-by-step manner. After that, they will want to progress through the worksheet at their own pace.
- Remind students that they may only talk when their pencils are in the cup. When they have their pencils in their hands, they must work on the problem on their own without talking! This step ensures individual accountability and discourages cheating.
- Since students have to explain every problem in their own words, this assignment does lend itself to individual grading or evaluation.

Show 'N Tell - For a new twist on teamwork, cut out the 4 problems to make a set of problem "cards." Give each team one set of word problem cards, and put a transparency of the Show 'N Tell directions (page 49) on the overhead projector. Everyone will need an individual dry erase board or chalkboard for this activity. Lead students through the process in a step-by-step manner until they are comfortable with this activity.

Math Talk



Directions

1. Team members have identical worksheets.
2. Each person places his or her pencil in the cup.
3. Person #1 is the first Leader. The Leader reads the first problem only and everyone discusses strategies for finding a solution. Do not actually solve the problem at this time, and don't reveal the answer!
4. The Leader asks, "Is everyone ready to start working on the problem?"
5. If the answer is "No," continue the discussion.
6. When ready, everyone picks up their pencils.
7. ***Without talking***, everyone solves the first problem and writes their answer on the line. Everyone must show how the problem was solved.
8. Pencils are placed back in the cup.
9. Person #2 becomes the new Leader. Continue rotating Leaders for each question.

Pencils In = Talking
Pencils Out = No Talking

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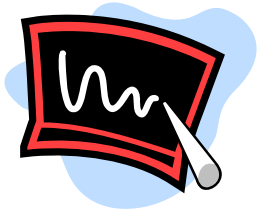
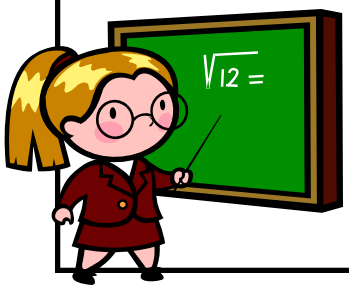
Show 'N Tell



Directions

1. One set of problem cards is needed per team. Stack the problem cards face down in the middle of the team.
2. Person #1 is the first Leader. The Leader reads the first problem aloud and places the card in the middle of the team where everyone can see it. (It's okay for team members to pick up the card and read it again.)
3. Everyone tries to solve the problem on their own. They work out their solutions on individual chalkboards or dry erase boards. If they can't finish the problem, they should try their best and do as much as they can.
4. When everyone has solved the problem or tried their best to solve it, they place their dry erase boards face down in front of them.
5. The Leader says "Show 'N Tell!" and everyone flips their boards over to show their work. They take turns explaining how they solved the problem.
6. The team agrees on one correct answer. The Leader writes the team answer on the card. (Drawings and explanations are not needed on the team answer card).
7. A new person becomes the Leader for each round. Steps 2 - 6 are followed for each problem card.



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Math Money

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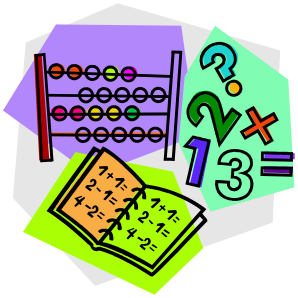
Daily Math Puzzler Program

Dear Parents,

Math problem solving is challenging for most students, but it's also extremely important. Knowing how to add, subtract, multiply and divide is meaningless if you can't solve problems in everyday life. That's why I'm excited to introduce Daily Math Puzzlers, a new weekly math program that will take just a few minutes a day but will help your child build a solid foundation in math.



Here's how the program works. Every Monday I will give my students a worksheet containing four math word problems. One problem will be completed each day, Monday through Thursday. Each day before they do another problem, we will discuss the problem from the previous day. We've been learning a variety of problem-solving steps and strategies, and now it's time to apply what we've learned.

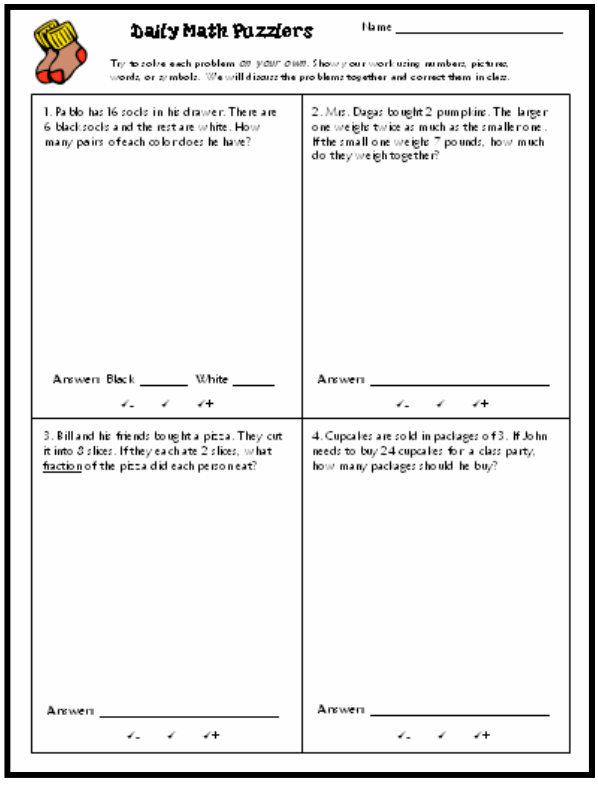
Daily Math Puzzler Guidelines:

- Students solve one problem per day, and they must show their work with numbers, pictures, symbols, or words.
- Students should attempt to work each problem on their own first without receiving outside help. Each day we will discuss the previous day's problem as a class, and your child can make corrections at this time.
- Your child may use a calculator if he or she knows how to solve the problem but is not comfortable with the computation needed for the solution.
- The Daily Math Puzzler activity sheet will be graded on effort and participation as well as work quality. Students might not have all the problems correct at first, but they can still do well if they ask questions, share ideas, and correct their answers in class.

Even though I'm requesting that you do not assist your child at home with this assignment, I wanted you to be aware of this program and how I will evaluate your child's performance. If you have any questions, please feel free to contact me and I'll explain the program in more detail. Thanks for your support!

Sincerely,

Daily Math Puzzler Activity Pages


Daily Math Puzzlers

Name _____

Try to solve each problem on your own. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Pablo has 16 socks in his drawer. There are 6 black socks and the rest are white. How many pairs of each color does he have?

Answer: Black _____ White _____

✓- ✓ ✓+

2. Mrs. Dagas bought 2 pumpkins. The larger one weighs twice as much as the smaller one. If the small one weighs 7 pounds, how much do they weigh together?

Answer: _____

✓- ✓ ✓+

3. Bill and his friends bought a pizza. They cut it into 8 slices. If they each ate 2 slices, what fraction of the pizza did each person eat?

Answer: _____

✓- ✓ ✓+

4. Cupcakes are sold in packages of 3. If John needs to buy 24 cupcakes for a class party, how many packages should he buy?

Answer: _____

✓- ✓ ✓+

20 Activity Pages for Daily Problem Solving

Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Pablo has 16 socks in his drawer. There are 6 black socks and the rest are white. How many **pairs** of each color does he have?

Answer: Black _____ White _____

✓- ✓ ✓+

2. Mrs. Dagas bought 2 pumpkins. The larger one weighs twice as much as the smaller one. If the small one weighs 7 pounds, how much do they weigh together?

Answer: _____

✓- ✓ ✓+

3. Bill and his friends bought a pizza. They cut it into 8 slices. If they each ate 2 slices, what fraction of the pizza did each person eat?

Answer: _____

✓- ✓ ✓+

4. Cupcakes are sold in packages of 3. If John needs to buy 24 cupcakes for a class party, how many packages should he buy?

Answer: _____

✓- ✓ ✓+

C-1

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. The Thompson family drove 384 miles on Saturday, 289 miles on Sunday, and 423 miles on Monday. How far did they drive on the weekend?

Answer: _____

✓- ✓ ✓+

2. Chris planted a garden. Each row had 3 roses and 5 daisies. He planted four rows of flowers. How many flowers in all?

Answer: _____

✓- ✓ ✓+

3. Tammy collected some colorful leaves. She gave half of them to Mary and had 12 leaves left. How many leaves did she collect?

Answer: _____

✓- ✓ ✓+

4. Janice saw four birds sitting in a row on a fence. The robin was on the far left. The crow was not next to the robin. The sparrow was between the crow and the blue jay. List the birds in order from left to right.

Answer: _____

✓- ✓ ✓+

C-2

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Sally has 238 jelly beans, Tom has 864 jelly beans, and Douglas has 568. How many more jelly beans does Douglas have than Sally?

Answer: _____

✓- ✓ ✓+

2. On Monday Bradford picked 5 tomatoes from his garden. Each day that week he picked 2 more than the day before. How many did he pick on Thursday?

Answer: _____

✓- ✓ ✓+

3. Mary can get 18 scoops of ice cream from one carton. She plans to serve 2 scoops to each person at her party. How many cartons will she need to buy to serve 15 people?

Answer: _____

✓- ✓ ✓+

4. Donald bought a toy car for $4.37. He gave the clerk a $5 bill and received 7 coins back in change. What were the 7 coins?

Answer: _____

✓- ✓ ✓+

C-3

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. The Tompson Bridge has a weight limit of 10,000 lbs. If cars weigh about 3,000 lbs, how many cars can safely cross the bridge at the same time?

Answer: _____

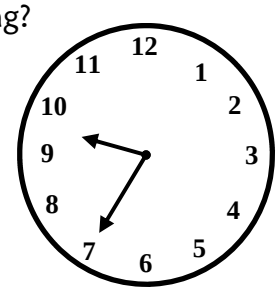
✓- ✓ ✓+

2. Brenda feeds her cat ½ cup of cat food each day. How much cat food will her cat eat in a week?

Answer: _____

✓- ✓ ✓+

3. When Matthew started reading his book, he noticed the clock was set on the time below. If he has to read for 45 minutes, what time will it be when he stops reading?



Answer: _____

✓- ✓ ✓+

4. Rebecca wants to buy a new sweater that costs $28.45. She earns $6 per week for her allowance. How many weeks will she have to save her allowance to pay for the sweater?

Answer: _____

✓- ✓ ✓+

C-4

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Alexis bought 6 lollipops for 15¢ each and 2 candy bars for 95¢ each. How much did she pay in all?

Answer: _____

✓- ✓ ✓+

2. Pizza Palace offers 2 types of crusts, thick and thin. They offer sausage, pepperoni, and ham for toppings. How many different types of pizza can be created if each pizza only has one type of topping?

Answer: _____

✓- ✓ ✓+

3. Randy is twice as old as his sister Jane. Together the sum of their ages is 15. How old is Randy?

Answer: _____

✓- ✓ ✓+

4. Sally wants to put a lace ruffle around her skirt. She bought 6 feet of lace, but the lace was priced by the yard. If it costs $2 per yard, how much did she spend on the lace?

Answer: _____

✓- ✓ ✓+

C-5

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Ronald, Cindy, and Jose had a contest to see whose paper airplane could fly the farthest. Ronald's went 8.6 meters, Cindy's went 8.09 meters, and Jose's went 8.35 meters. Who won the contest?

Answer: _____

✓- ✓ ✓+

2. Thomas bought 4 pieces of bubble gum. Randy bought 3 times as many pieces of gum as Thomas and then gave half to his friends. How many pieces did he have left?

Answer: _____

✓- ✓ ✓+

3. Mrs. Jameson is buying punch for a class party. If every student drinks one pint of punch, how many quarts will she need to buy for a class of 20 students?

Answer: _____

✓- ✓ ✓+

4. Mr. Anderson's class made a chart of the number of books they read each day. How many days did they read at least 4 books?

Day	Books Read
Monday	6
Tuesday	3
Wednesday	4
Thursday	7
Friday	2

Answer: _____

✓- ✓ ✓+

C-6

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Mrs. Eden makes toy dolls to sell. She made 4 dolls on Monday and 12 on Tuesday. How many times more dolls did she make on Tuesday than on Monday?

Answer: _____

✓- ✓ ✓+

2. Sam bought 3/8 of pound of candy, and Julie bought 1/2 pound of candy. Who bought more candy?

Answer: _____

✓- ✓ ✓+

3. Mr. Randolf caught a fish that weighed 7.3 pounds. Mr. Capley's fish was 7.08 pounds. They were both arguing that they had caught the larger fish. Who was right? Explain.

Answer: _____

✓- ✓ ✓+

4. Mrs. Dudley bought a rug for her room that measured 8 feet on one side and 6 feet on the other. What is the perimeter of her rug?

Answer: _____

✓- ✓ ✓+

C-7

Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Cindy pulls 3 cards from a deck. She draws a 4, a 6, and a 3. How many even two-digit numbers can she make from these 3 cards?

Answer: _____

✓- ✓ ✓+

2. Sanya bought new carpet for her home. How many square feet of carpet did she need for her 12' by 10' bedroom?

Answer: _____

✓- ✓ ✓+

3. Marissa has 3 times as many Quacker Crackers as her sister Julie. If Julie has 5 crackers, how many do they have together?

Answer: _____

✓- ✓ ✓+

4. An ant crawled 12 inches in a minute. How long will it take the same ant to crawl a yard?

Answer: _____

✓- ✓ ✓+

C-8

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. A batch of cookies calls for 1/2 cup of sugar. How many batches can be made with 3 cups of sugar?

Answer: _____

✓- ✓ ✓+

2. Sophia has more than 25 stamps in her collection, but less than 55. When you count her stamps by 5, there aren't any left over. When you count by 4's, there's one left over. How many stamps does she have?

Answer: _____

✓- ✓ ✓+

3. John, Roberto, and Bryan raced each other. Bryan's time was 25.6 seconds. Roberto's time was 25.42 seconds. John finished in 25.07 seconds. In what order did the boys cross the finish line?

Answer: _____

✓- ✓ ✓+

4. Reggie started watching a movie at 7:15 p.m. and the movie ended at 9:35 p.m. How long did the movie last?

Answer: _____

✓- ✓ ✓+

C-9

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Jessica needs to cut her rectangular cake into pieces for her party. The cake is a 12" by 12" square. If she cuts pieces that are 2" square, how many pieces will she get?

Answer: _____

✓- ✓ ✓+

2. Ronald's phone company charges 25 cents for the first minute and 12 cents for every minute after that. How much would he pay for an 8-minute call?

Answer: _____

✓- ✓ ✓+

3. Sandy drew 2 cards from a deck of regular playing cards. The first card's value was 3 times the value of the second card. The second card's value was 6 less than the first card. What 2 cards did she draw?

Answer: _____

✓- ✓ ✓+

4. Every 30 seconds a company produces one package of a dozen hotdogs. How many packages are produced in one hour?

Answer: _____

✓- ✓ ✓+

C-10

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Daily Math Puzzlers

Name _____

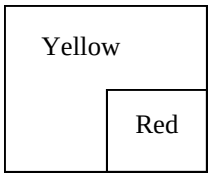
Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Mr. Rabbit needs to put a fence around his rectangular carrot garden. The garden is 15 feet by 12 feet. If the fence material is sold by the yard, how many yards should he buy?

Answer: _____

✓- ✓ ✓+

2. Stan planted yellow and red rose bushes in his garden according to the diagram below. He planted 5 red rose bushes in 1/4 of the garden. How many yellow rose bushes did he plant?



Answer: _____

✓- ✓ ✓+

3. Mrs. Sanders bought 3 pumpkins. The first one weighed 4.8 kilograms, the second one weighed 4.09 kilograms, and the third one weighed 4.196 kilograms. Which pumpkin weighed the least?

Answer: _____

✓- ✓ ✓+

4. Tomas worked 3 hours for $4.00 an hour. Jessie worked 5 hours for $2.00 an hour. Who made more money? Explain.

Answer: _____

✓- ✓ ✓+

C-11

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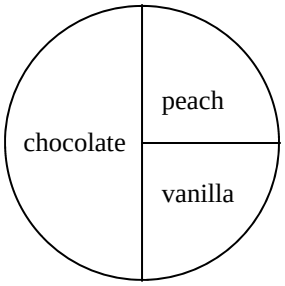
Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Mrs. Jones surveyed her class of 20 students to see how many people liked certain ice cream flavors. According to the circle graph, how many students like vanilla?



Answer: _____

✓- ✓ ✓+

2. The quiz bowl rules call for teams of 4 students. Mr. Baker's class has 23 students. He plans to divide his class into teams and let the others be judges. How many judges will he have?

Answer: _____

✓- ✓ ✓+

3. A rectangular garden is 2 yards long on one side and covers an area of 48 square feet. What is the length of the other side?

Answer: _____

✓- ✓ ✓+

4. Alfred rolls one 6-sided die. What is the probability that he will roll a number greater than 2?

Answer: _____

✓- ✓ ✓+

C-12

Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Suppose watermelons weigh an average of 5.8 pounds. Mr. Danos picked a dozen watermelons on Saturday and half that on Sunday. How many pounds of watermelons did he pick in all?

Answer: _____

✓- ✓ ✓+

2. A can of paint will cover 100 square feet of wall space. Mrs. Sinclair wants to paint a wall that measures 12' x 8' and wonders if one can will be enough. Will it? Explain.

Answer: _____

✓- ✓ ✓+

3. Emily's mom told her to be home at 8:30 p.m. After she ate supper, she checked her watch and saw that she had 1 hour and 15 minutes left. What time was it when she checked her watch?

Answer: _____

✓- ✓ ✓+

4. Nick pours about 400 mL of water on his plants each day. About how many liters of water does he use in 5 days?

Answer: _____

✓- ✓ ✓+

C-13

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Celia's Party Punch recipe calls for 4 cups of orange juice, 1 cup sugar, 6 cups ginger ale, and 1 cup lemon juice. About how many quarts of punch will this make?

Answer: _____

✓- ✓ ✓+

2. Mrs. Needham bought fancy chocolate candies for her party. They cost $7.95 a pound, and she bought 2.5 pounds. Can she pay for this purchase with a $20 bill? Explain.

Answer: _____

✓- ✓ ✓+

3. Jarod, Bill, and Fred live on the same road. Jarod lives 12 miles west of Fred, and Bill lives 7 miles west of Fred. How far apart are Jarod's and Bill's homes?

Answer: _____

✓- ✓ ✓+

4. One half of the 64 students in 5th grade sold raffle tickets. If each student sold 5 tickets and the tickets were $2 each, how much money was raised?

Answer: _____

✓- ✓ ✓+

C-14

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Ronald bought 1/2 pound of red apples, 2/3 pound of green apples, and 3/8 pound of yellow apples. Did he buy more red, green, or yellow apples? Explain or show your work.

Answer: _____

✓- ✓ ✓+

2. Greg buys 24 feet of fence on sale and wants to create a garden. If he creates a square garden, what will be the lengths of each side?

Answer: _____

✓- ✓ ✓+

3. A bathtub takes 5 minutes to fill and holds 15 gallons of water. At this rate, how long would it take to fill a bathtub that held 18 gallons of water?

Answer: _____

✓- ✓ ✓+

4. Tanika earned the following scores on her math tests: 67, 89, 90, 95, and 89. What is the range of her scores? What is her average?

Answer: R = _____ **A =** _____

✓- ✓ ✓+

C-15

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. David packed a dozen doughnuts in a box. If each doughnut weighs 4 ounces, how many pounds will the box weigh?

Answer: _____

✓- ✓ ✓+

2. Carlos was bird watching. The first day he spotted 2 birds. The next day he spotted 5 birds. On the third day he saw 9 birds. If the pattern continued, how many birds did he see on the sixth day?

Answer: _____

✓- ✓ ✓+

3. Xavier's family went hiking. It took them 2 hours and 15 minutes to climb a mountain and 1 hour and 35 minutes to come back down. If they started at 9:00 a.m. and stayed at the top for 15 minutes, what time did they return?

Answer: _____

✓- ✓ ✓+

4. Four cars were lined up at the stoplight. A black car was first. A green car was between a yellow car and a red one. The yellow car was directly behind the black one. What was the order of the cars?

Answer: _____

✓- ✓ ✓+

C-16

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. The track at Jason's school is 200 yards around for one lap. His coach told him to run 1,200 yards during practice. If he has already run 3 laps, how many more laps will he have to run?

Answer: _____

✓- ✓ ✓+

2. Amy baked a dozen sugar cookies. She put sprinkles on 2/3 of the cookies. How many cookies did not have sprinkles?

Answer: _____

✓- ✓ ✓+

3. Glenda writes the numbers from 1 to 20 on slips of paper and puts them into a bowl. If she draws a number, what is the probability that it will be a multiple of five?

Answer: _____

✓- ✓ ✓+

4. Dan noticed that his faucet was dripping and collected 1/2 cup water in one hour. At this rate, how many quarts of water will he collect in one day?

Answer: _____

✓- ✓ ✓+

C-17

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Marissa is making some shelves to store her toys. She has 2 boards that are 8 feet long. How many 3-foot long shelves can she cut from the two boards?

Answer: _____

✓- ✓ ✓+

2. Tony and Madison estimated how far their toy car could travel after rolling down a ramp. Tony estimated 28 inches and Madison estimated 4 feet. The car went exactly 3 feet. Whose estimate was closer? Explain.

Answer: _____

✓- ✓ ✓+

3. The high temperature on Monday was 62˚F and it increased 1.5 degrees each day that week. What was the temperature on Friday?

Answer: _____

✓- ✓ ✓+

4. Zachary drew 4 different cards from a deck. How many different ways can he arrange those cards in a sequence in his hand?

Answer: _____

✓- ✓ ✓+

C-18

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. David's cat weighs 8 pounds. Sam's cat weighs 90 ounces. Which cat weighs more?

Answer: _____

✓- ✓ ✓+

2. William counted his baseball cards and found he had 32 of them. He put 3/4 of his collection in a notebook and gave the rest to his friend. How many did he give away?

Answer: _____

✓- ✓ ✓+

3. After 1 hour, a swimming pool had 50 gallons of water. At this rate, how many hours would it take to fill a pool that holds 250 gallons of water?

Answer: _____

✓- ✓ ✓+

4. Theresa created a game spinner with 8 sections. Half of the spaces are red, three are blue, and one is yellow. What is the probability that the pointer, when spun, will land on a yellow or blue space?

Answer: _____

✓- ✓ ✓+

C-19

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Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

1. Ryan serves ice cream at a beach shop. His store serves chocolate, strawberry, mint, and vanilla ice cream. Customers can order their ice cream in a bowl or a cone. How many combinations are possible if someone orders 2 different scoops of ice cream?

Answer: _____

✓- ✓ ✓+

2. Sally is trying to figure out her average score on homework. She earned a 94 on the first assignment, an 86 on the second, and a 100 on the third assignment. She didn't do the fourth assignment. What is her average?

Answer: _____

✓- ✓ ✓+

3. Susan rolls two 6-sided dice and finds the sum of the two numbers. How many different odd sums are possible?

Answer: _____

✓- ✓ ✓+

4. Jane's Citrus Punch recipe calls for 1 cup sugar, 2 cups lemon juice, 1 cup orange juice, and 1 quart of water. How many 8-ounce servings of punch does the recipe make?

Answer: _____

✓- ✓ ✓+

C-20

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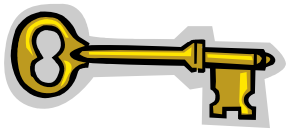
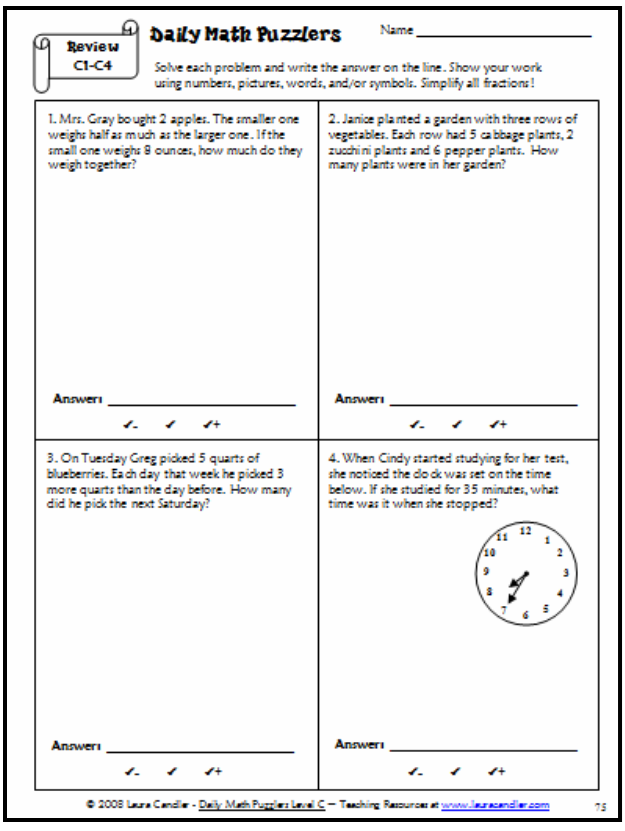
Answer Key



Activity Page	Problem #1	Problem #2	Problem #3	Problem #4
C-1	3 black; 5 white	21 pounds	2/8 or 1/4	8 packages
C-2	673 miles	32 flowers	24 leaves	R B S C
C-3	330 jellybeans	11 tomatoes	2 cartons	2Q, 2N, 3P
C-4	3 cars	3 1/2 cups	10:20	5 weeks
C-5	$2.80	6 types	10 years old	$4
C-6	Ronald	6 pieces	10 quarts	3 days
C-7	3 times	Julie	Mr. Randolph	28 feet
C-8	4 even numbers	120 sq. ft.	20 crackers	3 minutes
C-9	6 batches	45 stamps	J R B	2 hr 20 min
C-10	36 pieces	$1.09	9 and 3	120 packages
C-11	18 yards	15 yellow roses	second (4.09)	Tomas
C-12	5 students	3 judges	8 feet	4/6 or 2/3
C-13	104.4 pounds	Yes (96 sq. ft.)	7:15 p.m.	2 liters
C-14	3 quarts	Yes	5 miles	$320
C-15	green	6 feet	6 minutes	R = 28 A = 86
C-16	3 pounds	27 birds	1:05 p.m.	B Y G R
C-17	3 more	4 cookies	1/5 or 20%	3 quarts
C-18	4 boards	Tony's estimate	68°F	24 ways
C-19	David's cat	8 cards	5 hours	1/2 or 50%
C-20	12 combinations	70%	5 odd sums	8 servings

Daily Math Puzzler Review Pages



Review C1-C4

Daily Math Puzzlers Name _____

Solve each problem and write the answer on the line. Show your work using numbers, pictures, words, and/or symbols. Simplify all fractions!

1. Mrs. Gray bought 2 apples. The smaller one weighs half as much as the larger one. If the small one weighs 8 ounces, how much do they weigh together?

Answer: _____

✓- ✓ ✓+

2. Janice planted a garden with three rows of vegetables. Each row had 5 cabbage plants, 2 zucchini plants and 6 pepper plants. How many plants were in her garden?

Answer: _____

✓- ✓ ✓+

3. On Tuesday Greg picked 5 quarts of blueberries. Each day that week he picked 3 more quarts than the day before. How many did he pick the next Saturday?

Answer: _____

✓- ✓ ✓+

4. When Cindy started studying for her test, she noticed the clock was set on the time below. If she studied for 35 minutes, what time was it when she stopped?

Answer: _____

✓- ✓ ✓+

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Daily Math Puzzler Review

Using the Review Pages

Overview

While using the Daily Math Puzzler program, you may feel the need for periodic review and assessment. There are five review pages, one for every four activity pages in the program. Each review page contains problems that are similar to problems on the corresponding activity pages. For example, Review Page C1-C4 contains four problems, one problem for each of the activity pages C1-C4.

Assessment and Grading

Scoring

✓- = 19 points
✓ = 22 points
✓+ = 25 points

You can use the review pages as you've been using the regular activity pages, or you may want to use them for assessment. If so, you can have students complete the review page in one session rather than spreading it out over a week. Any grading system should give credit to students who try to solve each problem and who show their work, even if their answers are not completely correct. An easy way to grade the worksheet is to circle the check minus, check, and check plus for each problem and then assign the points shown above. This system will result in 100 points for four check pluses, 88 points for four checks, and 76 points for four check minuses. You may also want to use the grading rubric shown on page 86.

Activity Page	Problem #1	Problem #2	Problem #3	Problem #4
C1 - C4	24 ounces	39 plants	17 quarts	8:10
C5 - C8	$10	9 candy bars	Joseph	4
C9 - C12	T, C, B	12 pieces	21 white	6 ft or 2 yds
C13 - C16	2 liters	3 miles	6 minutes	11:55 a.m
C17 - C20	2 quarts	Justin's	12 cards	16 servings

Review C1-C4

Daily Math Puzzlers

Name _____

Solve each problem and write the answer on the line. Show your work using numbers, pictures, words, and/or symbols. Simplify all fractions!

1. Mrs. Gray bought 2 apples. The smaller one weighs half as much as the larger one. If the small one weighs 8 ounces, how much do they weigh together?

Answer: _____

✓- ✓ ✓+

2. Janice planted a garden with three rows of vegetables. Each row had 5 cabbage plants, 2 zucchini plants and 6 pepper plants. How many plants were in her garden?

Answer: _____

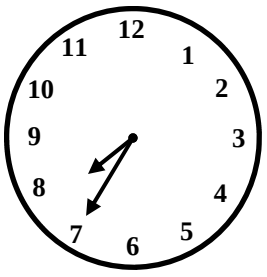
✓- ✓ ✓+

3. On Tuesday Greg picked 5 quarts of blueberries. Each day that week he picked 3 more quarts than the day before. How many quarts did he pick on Saturday?

Answer: _____

✓- ✓ ✓+

4. When Cindy started studying for her test, she noticed the clock was set on the time below. If she studied for 35 minutes, what time was it when she stopped?



Answer: _____

✓- ✓ ✓+

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Review C5-C8

Daily Math Puzzlers

Name _____

Solve each problem and write the answer on the line. Show your work using numbers, pictures, words, and/or symbols. Simplify all fractions!

1. Teresa wanted to put a lace ruffle around a tablecloth. She bought 12 feet of lace, but she paid by the yard. If it was $2.50 per yard, how much did she spend on the lace?

Answer: _____

✓- ✓ ✓+

2. Zane bought 6 candy bars. Jarod bought 3 times as many candy bars as Zane and then gave half to his friends. How many pieces did Jarod have left?

Answer: _____

✓- ✓ ✓+

3. Sylvia bought 3/6 of pound of candy, and Joseph bought 2/3 pound of candy. Who bought more candy? Show how you know.

Answer: _____

✓- ✓ ✓+

4. Cindy pulls 3 cards from a deck. She draws a 4, a 5, and a 3. How many odd two-digit numbers can she make from these 3 cards?

Answer: _____

✓- ✓ ✓+

Review C9-C12

Daily Math Puzzlers

Name _____

Solve each problem and write the answer on the line. Show your work using numbers, pictures, words, and/or symbols. Simplify all fractions!

1. Bill, Tom, and Cary raced each other. Bill's time was 39.7 seconds. Tom's time was 39.08 seconds. Cary finished in 39.24 seconds. In what order did the boys cross the finish line?

Answer: _____

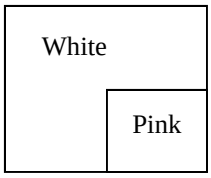
✓- ✓ ✓+

2. Gail needs to cut her rectangular cake into pieces for her party. The cake is a 12" by 9" rectangle. If she cuts pieces that are 3" square, how many pieces will she get?

Answer: _____

✓- ✓ ✓+

3. Griffin planted pink and white rose bushes in his garden according to the diagram below. He planted 7 pink rose bushes in 1/4 of the garden. How many white rose bushes did he plant?



Answer: _____

✓- ✓ ✓+

4. A rectangular garden is 3 yards long on one side and covers an area of 54 square feet. What is the length of the other side?

Answer: _____

✓- ✓ ✓+

Review C13-C16

Daily Math Puzzlers

Name _____

Solve each problem and write the answer on the line. Show your work using numbers, pictures, words, and/or symbols. Simplify all fractions!

1. Seth pours 200 mL of water on his plants each day. How many liters of water does he use in 10 days?

Answer: _____

✓- ✓ ✓+

2. Ken, Henry, and Luke live on the same road. Ken lives 4 miles north of Henry, and Luke lives 7 miles south of Ken. How far apart do Luke and Henry live from each other?

Answer: _____

✓- ✓ ✓+

3. A bathtub takes 4 minutes to fill and holds 28 gallons of water. At this rate, how long would it take to fill a bathtub that held 42 gallons of water?

Answer: _____

✓- ✓ ✓+

3. Bianca's family went hiking. It took them 1 hour and 20 minutes to climb a mountain and 50 minutes to come back down. If they started at 9:30 a.m. and stayed at the top for 15 minutes, what time did they return?

Answer: _____

✓- ✓ ✓+

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Review
C17-C20

Daily Math Puzzlers

Name _____

Solve each problem and write the answer on the line. Show your work using numbers, pictures, words, and/or symbols. Simplify all fractions!

1. Autumn noticed that her faucet was dripping and she collected 1/3 cup water in one hour. At this rate, how many quarts of water will she collect in one day?

Answer: _____

✓- ✓ ✓+

2. Justin and Carter estimated how far their toy truck would travel after rolling down a ramp. Justin estimated 65 inches and Carter estimated 7 feet. The car went exactly 2 yards. Whose estimate was closer? Explain.

Answer: _____

✓- ✓ ✓+

3. Cameron put 2/3 of his 36 baseball cards in a notebook and gave the rest to his friends. How many cards did he give away?

Answer: _____

✓- ✓ ✓+

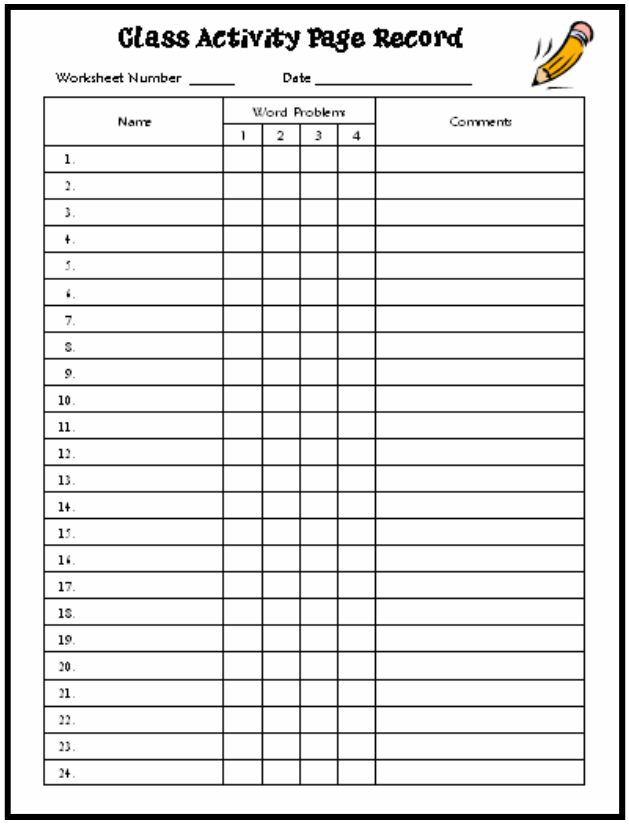
4. Julia's Power Punch recipe calls for 1 cup sugar, 2 cups lime juice, 1 cup orange juice, and 2 quarts of ginger ale. How many 6-oz servings of punch does the recipe make?

Answer: _____

✓- ✓ ✓+

Additional Resources

Blackline Masters
& Record-Keeping



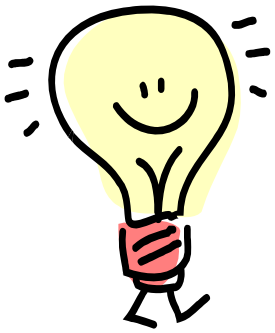
Class Activity Page Record

Worksheet Number _____ Date _____

Name	Word Problems				Comments
	1	2	3	4	
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					

Daily Math Puzzler Program

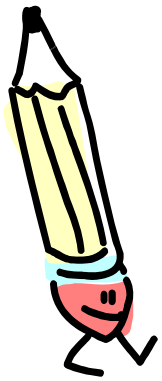
Additional Resources



This section includes several additional resources you may find useful. Use these templates and record-keeping charts to customize the program and track student progress. Read on for a brief overview of each item and suggestions for how to use it with your class. For easy access, keep copies of the record-keeping charts in a 3-ring notebook.

1. Math Problem Template (Page 84)
Copies Needed: One per class
Purpose: To customize the Daily Math Puzzler worksheets
Suggestions: If you downloaded this blank template form when you purchased your Power Pack, you can type create new word problems and type them directly onto the page. If you don't have a digital copy of the blank template, just write or type your problems into each block. You can use this page to make a set of review problems on a particular topic such as fractions or measurement. You can also modify the existing word problems to make them easier or more challenging.

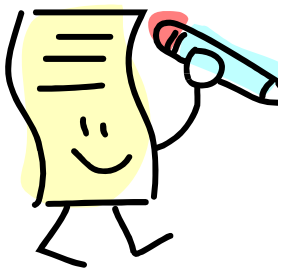
2. Solve and Write (Page 85)
Copies Needed: One per student
Purpose: To provide a place for written explanations
Suggestions: You can duplicate this on the back of your Daily Math Puzzler worksheet to give your students a place to write their explanations in sentence form.



3. Daily Math Puzzler Rubric (Page 86)
Copies Needed: One half page per student
Purpose: To assess work quality and effort
Suggestions: You can use this rubric "as is" or create your own based on the overall concept. There are many rubric-creation sites available such as Rubistar (http://rubistar.4teachers.org) that you can use for this purpose. If you don't want to use the grading scale at the bottom of the page, just remove it before copying.

Daily Math Puzzler Program

Additional Resources

4. **Activity Page Tracking Sheet (Page 87)**

Copies Needed: One per class
Purpose: To keep track of which problem-solving activity pages have been used
Suggestions: Record the date you use each page and make notes about any difficulties your students experienced. You'll be able to tell at a glance which pages are still available for use.

5. **Student Activity Page Record (Page 88)**
Copies Needed: One per student
Purpose: To record individual progress throughout the program
Suggestions: Record the Activity Page letter and number in the first column. Then record a ✓-, ✓, or ✓+ for each problem on the worksheet. Use the comments section to notate any difficulties experienced by the student or improvements made over time. At the end of the year, you can place the Student Activity Page Record in the student's portfolio or include it with other assessment documentation.

6. **Class Activity Page Record (Page 89)**
Copies Needed: One per class for each Activity Page
Purpose: To identify trends in student performance
Suggestions: Before duplicating the Class Activity Page, list your students' names in the first column. Then duplicate one copy of the recording sheet for each Activity Page. Each day record a ✓-, ✓, or ✓+ for each student in the column under that day's problem number. At the end of the week, you'll be able to see at a glance which problems were difficult and which ones were easy for your students, allowing you to provide additional instruction on some topics as needed. You may even want to supplement with another Daily Math Puzzler book such as Level B or Level D.

Daily Math Puzzlers

Name _____

Try to solve each problem ***on your own***. Show your work using numbers, pictures, words, or symbols. We will discuss the problems together and correct them in class.

Answer: _____

✓- ✓ ✓+

Answer: _____

✓- ✓ ✓+

Answer: _____

✓- ✓ ✓+

Answer: _____

✓- ✓ ✓+

Activity Page created from a Daily Math Puzzler template available at Teaching Resources (www.lauracandler.com)

Solve and Write

Name _____

Use the space below to write an explanation of how you solved each Daily Math Puzzler problem. Be sure to use complete sentences and explain your answer clearly!

1. Answer: _____

Explanation

✓- ✓ ✓+

2. Answer: _____

Explanation

✓- ✓ ✓+

3. Answer: _____

Explanation

✓- ✓ ✓+

4. Answer: _____

Explanation

✓- ✓ ✓+

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Daily Math Puzzler Rubric

Name _____

Criteria	4	3	2	1	0	Totals
Facts & Questions	Correctly identified the question and/or the important facts in all problems	Correctly identified the question and/or the important facts in most problems	Correctly identified the question and/or the important facts in some problems	Correctly identified the question and/or the important facts in one problem	Did not identify the question and/or the important facts in any of the problems	
Strategies	Used a variety of effective strategies and showed work for all problems	Used a variety of strategies and showed work for most problems	Had difficulty applying effective strategies and/or did not show work	Was unable to apply strategies without assistance and/or did not show work	Was unable to apply strategies and/or did not show work for any problems	
Solutions	Solved all problems correctly and labeled answers	Solved most problems correctly and labeled answers	Many solutions were incorrect (may have been due to careless errors)	Solved at least one problem correctly	Was unable to solve any problems correctly	
Effort	Showed effort and persistence in solving all problems	Showed effort and persistence in solving most problems	Put forth reasonable effort in solving some problems	Demonstrated very little effort or persistence in solving problems	Did not put forth any effort to follow directions or solve problems	

Overall Score: **4-5 = F** **6 - 7 = D** **8 - 10 = C** **11 - 13 = B** **14 - 16 = A** **Total Points** ____

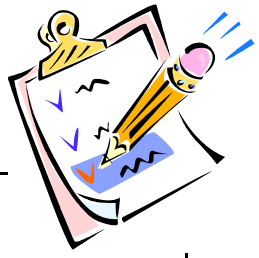
Daily Math Puzzler Rubric

Name _____

Criteria	4	3	2	1	0	Totals
Facts & Questions	Correctly identified the question and/or the important facts in all problems	Correctly identified the question and/or the important facts in most problems	Correctly identified the question and/or the important facts in some problems	Correctly identified the question and/or the important facts in one problem	Did not identify the question and/or the important facts in any of the problems	
Strategies	Used a variety of effective strategies and showed work for all problems	Used a variety of strategies and showed work for most problems	Had difficulty applying effective strategies and/or did not show work	Was unable to apply strategies without assistance and/or did not show work	Was unable to apply strategies and/or did not show work for any problems	
Solutions	Solved all problems correctly and labeled answers	Solved most problems correctly and labeled answers	Many solutions were incorrect (may have been due to careless errors)	Solved at least one problem correctly	Was unable to solve any problems correctly	
Effort	Showed effort and persistence in solving all problems	Showed effort and persistence in solving most problems	Put forth reasonable effort in solving some problems	Demonstrated very little effort or persistence in solving problems	Did not put forth any effort to follow directions or solve problems	

Overall Score: **4-5 = F** **6 - 7 = D** **8 - 10 = C** **11 - 13 = B** **14 - 16 = A** **Total Points** ____

Activity Page Tracking Chart



Activity Page	Date of Use	Notes
C-1		
C-2		
C-3		
C-4		
C-5		
C-6		
C-7		
C-8		
C-9		
C-10		
C-11		
C-12		
C-13		
C-14		
C-15		
C-16		
C-17		
C-18		
C-19		
C-20		

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Student Activity Page Record

Name _____

Activity Page	Word Problems				Comments
	1	2	3	4	
C-1					
C-2					
C-3					
C-4					
C-5					
C-6					
C-7					
C-8					
C-9					
C-10					
C-11					
C-12					
C-13					
C-14					
C-15					
C-16					
C-17					
C-18					
C-19					
C-20					

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Class Activity Page Record

Worksheet Number _____ Date _____

Name	Word Problems				Comments
	1	2	3	4	
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					

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More Teaching Resources from Laura Candler

Daily Math Puzzler Program (Levels A - D)

I just implemented Laura's Math Puzzlers, and after two weeks I can already see changes in my class. They are picking up good habits like underlining key words, and writing complete answers already! Each day when we take out the sheet, they know what to do and enjoy doing it. I think part of the fun comes from the program's title "Math Puzzlers". Somehow, they seem to think puzzles are way more fun than math word problems. I also have to say that the breadth of topics and strategies covered in just one weekly sheet is impressive. It is a great way to keep math topics fresh, and have kids apply them to real situations. Each problem could be solved using different strategies, so it has been great for my kids to see all the different ways they could have approached the problem.
~ Dawn, Minnesota

Math Stations for Middle Grades

I just downloaded your Math Stations for Middle Grades, and it is EXACTLY what I was looking for! This is my second year teaching math, after eleven years as a communications teacher. I don't feel I made math fun or interesting for my students last year, which means they didn't learn the things I wanted them to learn about setting goals for themselves and enjoying the challenge for its own sake. Now I finally know how to do that, and I will be able to not only use your activities but build from them and tailor them to my own students' specific needs. Your math stations provide exactly that element of fun practice and social sharing that I hoped to add this year. I can't wait to get started! ~ Shari Miller, Texas

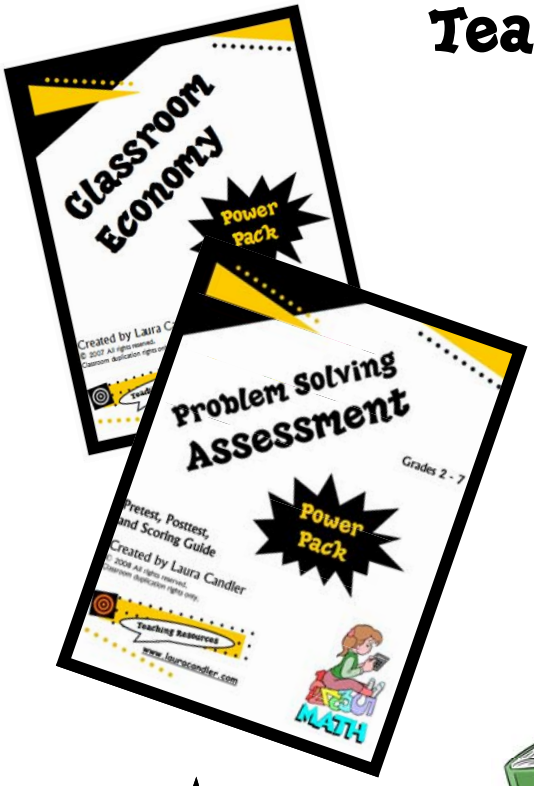
Classroom Goal Setting

WOW! Thank you so MUCH! I just downloaded your Goal Setting Power Pack and I LOVE it! I was most pleasantly surprised because I teach a combination class of grades 6-7-8, and wasn't sure if your pack would be "old" enough for my students! No need to worry....it's perfect! Thank you for a wonderful, quality product!
~ Nancy Berner, Pennsylvania

Visit www.lauracandler.com to learn more!

Teaching Resources Website

www.lauracandler.com



Free Resources for Teachers!

- Blackline masters and activity sheets
- Lesson plans and teaching strategies
- Cooperative learning methods
- Classroom management and motivation
- Literacy and Literature Circle strategies
- Mathematics instructional resources
- Bi-weekly Newsletters

NEW!

Receive the **Classroom Economy** and **Problem Solving Assessment Power Pack** for FREE when you sign up for Laura Candler's bi-weekly newsletters at **www.lauracandler.com**!

Workshop Information

- Invite Laura to your school or district to energize your teachers with powerful strategies!
- Workshops available:
  - * The Dynamic Duo: Putting the Punch in Math Instruction
  - * Innovative Approaches to Literacy Instruction
- Teachers walk away with specific strategies to implement in their classrooms the next day.

Contact Laura for more information: lauracandler@att.net