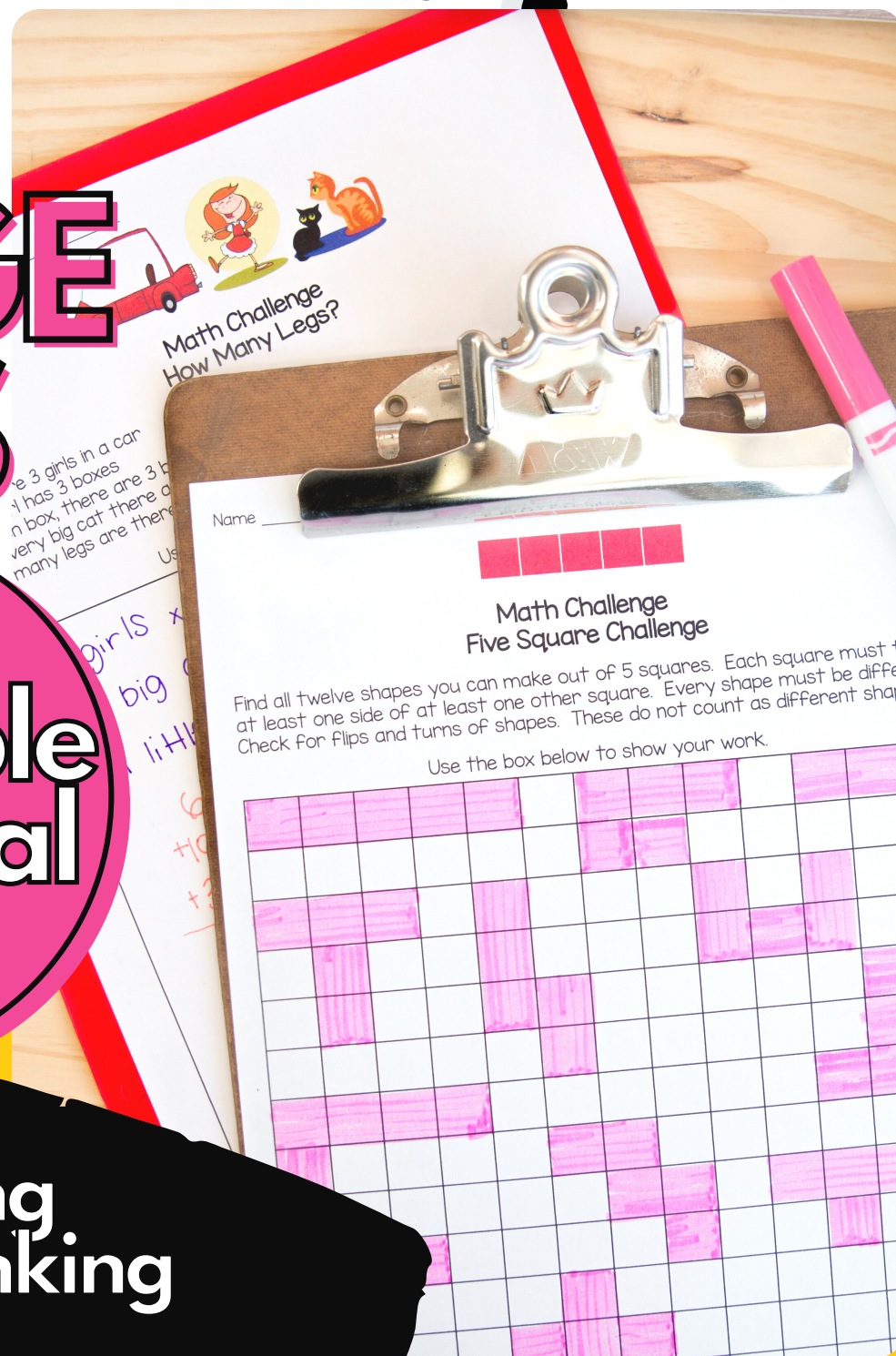


NO PREP MATH CHALLENGE ACTIVITIES

Printable
& Digital

27 math challenges
27 lined pages for writing
about mathematical thinking
19 brain teasers
130 total pages
500+ 4 star ratings
2900+ happy teachers



Name _____



Math Challenge Sum of 150

I'm thinking of 3 consecutive numbers (ex
Their sum is 150. What are the numbers?

Use the box below to show

Write at least 3 sentences explaining how you found your
answer. What did you do first, second, last? How did you
decide which numbers to try first? What strategies did
you use to solve the problem?



Math Challenges & Brainteasers with a variety of high- interest themes

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Print & Go PDF

re 3 girls in a car
rl has 3 boxes
ch box, there are 3 b
every big cat there a
many legs are there

Use

3 girls x
27 big
81 little

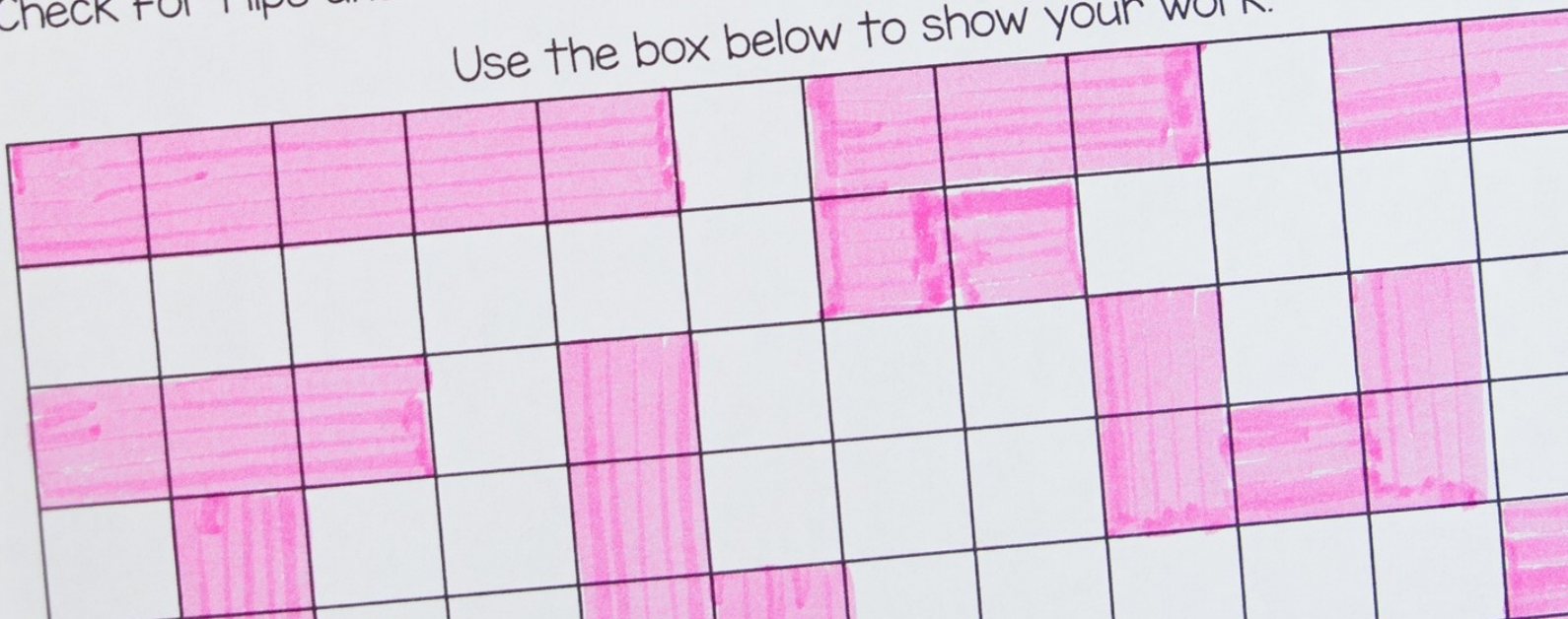
6
+10
+3
—

Name _____

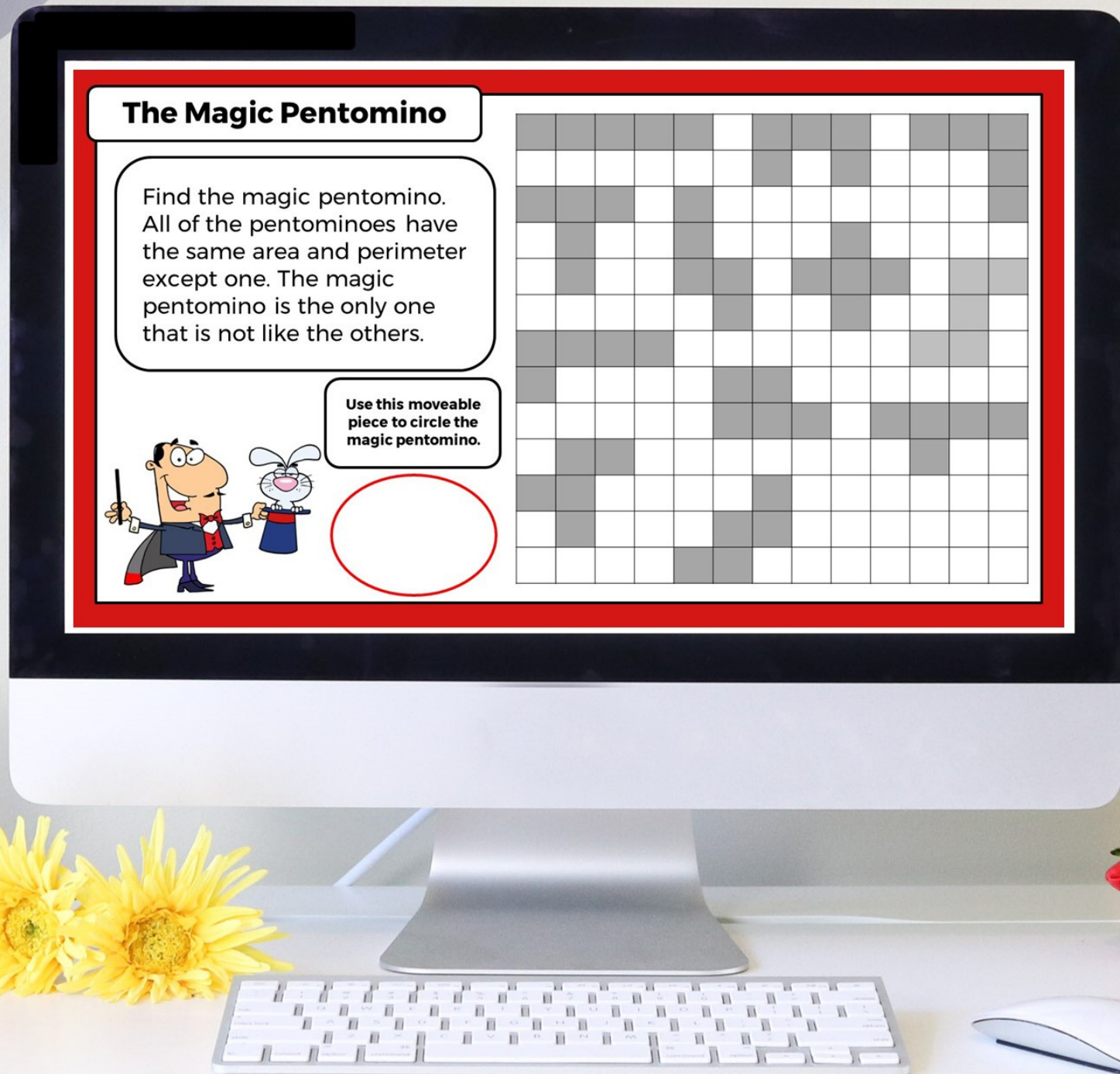
Math Challenge Five Square Challenge

Find all twelve shapes you can make out of 5 squares. Each square must
at least one side of at least one other square. Every shape must be diff
Check for flips and turns of shapes. These do not count as different sho

Use the box below to show your work.



Google Slides versions



27 Math Challenges

[illegible]

Name _____



Math Challenge Book

Write at least 3 sentences explaining how you found your answer. What did you do first, second, last? How did you know you should add, subtract, multiply or divide? What strategies did you use to solve the problem?



Miss Clarry bought 45 books from the bookstore. She gave away 14 books to her friends. She bought 23 more online. How many books does she have now?

Use the

All math challenges come with a page for students to explain their mathematical thinking

Answer Keys


North Challenge
American Values
A Answer Key

Answer key explaining why answers 1-5 are declared correct
 of all the answers, the correct answer is the one that is most correct. They will meet the basic theme of the first two questions and a good answer.

Combination #1	Combination #2
California 35	California 35
Mass 30	Mass 30
Florida 25	Florida 25
New York 20	New York 20
Illinois 20	Illinois 20
Nevada 10	Vermont 5
Ohio 5	Washington 2
Michigan 1	Alaska 1
North Carolina 0	Colorado 0

[illegible][illegible]

Math Challenge
The Penny Problem
Answer Key

If you win, you'll see the double-header taking \$1000 dollars on a penny table. Assumed to be for 20 days, you'll see the double-header take \$1000 dollars. Example: Day 1-13, Day 14-20, Day 21-27, Day 28-34.

Choosing the penny doubled for 20 days will result in more money than \$10000

Day 1 \$1	Day 2 \$52	Day 3 \$104	Day 4 \$1068	Day 5 \$66
Day 6 \$132	Day 7 \$494	Day 8 \$258	Day 9 \$256	Day 10 \$1012
Day 11 \$2024	Day 12 \$2508	Day 13 \$1040	Day 14 \$6452	Day 15 \$16376

**Multi-Choice
Donors Donations**
Answer Key

Car donated \$500 to charity to support the purchase of food money to charity.
 Are the two choices are donated to:

Americans for Great Britain American Red Cross American Red Cross American Red Cross American Red Cross	American Society of Human Rights American Society of Human Rights American Society of Human Rights American Society of Human Rights
---	--

How much money did she spend on the \$23,000

How much money will she left to donate if she wants to give away half of her \$500 to charity? \$100

Give your work in the box below



Mr. Duke calls the 8000 for
his wife. He then says to
"Holly's 715"
Holly says "22-24"
Holly says "25"
For Jayne K. L. "26"
The Duke says "27"
Monday, May 10, 1994, 20:00
Holly says "28"
Holly says "29"
Holly says "30"
Holly says "31"
Holly says "32"
Holly says "33"
Holly says "34"
Holly says "35"
Holly says "36"
Holly says "37"
Holly says "38"
Holly says "39"
Holly says "40"
Holly says "41"
Holly says "42"
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Holly says "88"
Holly says "89"
Holly says "90"
Holly says "91"
Holly says "92"
Holly says "93"
Holly says "94"
Holly says "95"
Holly says "96"
Holly says "97"
Holly says "98"
Holly says "99"
Holly says "100"

[illegible]

Magic Challenge

Five Square Challenge

Answer Key

Find at least three shapes you can make out of 5 squares. Each shape must be built of at least one side of at most one other square. Every shape must be different! Check for tips and turns of shapes. These do not count as different shapes.

Use the box below to show your work.

A large 10x10 grid of small squares, intended for students to draw their own shapes composed of five connected squares. The grid is currently empty.


Math Challenge
Marathon Runners
Answer Key

1 marathon = 26.2 miles
 4 half-marathons = $4 \times 13.1 = 52.4$ miles
 2 10Ks = $2 \times 6.2 = 12.4$ miles
 26.2 + 52.4 + 12.4 = 91 total miles
 91 x 5/280 Feet = 160,840 Feet

Use the below equation to solve this problem:
 The answer is 160,840 Feet

Math Challenge
Perimeter Problem
Answer Key

In the chart below, make 3 different quadrilaterals that each have a perimeter of 22 units.

Math Challenge
Equal Sums
Answer Key

These boxes can hold equal sums if any number from each box is moved.

[illegible][illegible][illegible]

The book has 240 total pages.

A Braintester with 22 Legs
Answer Keys

I counted 12 legs in total. All things with 4 legs were on the ground. There were 3 birds in the air. I counted 1 spider on the ground. I counted 1 spider on the wall. I counted 1 spider on the ceiling. I counted 1 spider on the floor. I counted 1 spider on the table. I counted 1 spider on the chair. I counted 1 spider on the bed. I counted 1 spider on the couch. I counted 1 spider on the car. I counted 1 spider on the boat. I counted 1 spider on the plane. I counted 1 spider on the train. I counted 1 spider on the bus. I counted 1 spider on the truck. I counted 1 spider on the ship. I counted 1 spider on the airplane. I counted 1 spider on the rocket. I counted 1 spider on the satellite. I counted 1 spider on the moon. I counted 1 spider on the sun. I counted 1 spider on the stars. I counted 1 spider on the planets. I counted 1 spider on the galaxies. I counted 1 spider on the universe. I counted 1 spider on everything.

spiders: 12
birds: 3
people: 1

spiders	birds	people
1	0	7
1	1	5
1	2	3
1	3	1
2	1	1
2	0	3

0	0	11
0	1	9
2	2	7

Football Month 1
Footballer Ray

At Home Coaches	2	3	0	1	22
Southwestern	2	0	1	0	2
Black Hills	2	0	1	0	3
Utah State	3	1	0	3	24
Western State	2	4	1	2	2

Football Math #2
Answer Key

1. If this field is 100 yards long, how many yards are there on each side of the 50 yard line?

2. How many yards is the end zone?

3. How many yards is the field?

4. How many yards are there in the entire field?

5. How many yards are there in the entire field?

Team Name	Score	Points	Goals	Points	Goals	Points	Goals
San Francisco	5	2	0	5	41	2	3
Los Angeles	2	3	1	2	25	3	2
San Diego	7	1	2	7	56	2	3
San Jose	4	3	1	2	37	2	3
San Francisco	5	3	1	3	30	2	3

Alma Mater	6	9	0	6	5
Cambridge University	5	5	5	5	5
Harvard University	10	2	3	10	8
University of Chicago	4	5	3		



Volunteer Math Olympiad instructor
“Volunteer” Ruby

Teaching is a *challenging* and *rewarding* process.
 But math olympics is the *most* *challenging* *and* *rewarding* thing I do.

- Learn *profound* *math* *concepts* *and* *techniques*.
- Gain *valuable* *experience* *in* *mathematics*.
- There's a *great* *math* *community* *and* *culture* *in* *math* *olympics*.
- Gain *valuable* *experience* *in* *mathematics* *and* *culture*.



1. The tens digit of a number is 4 less than the ones digit. The tens digit is 2 less than 10. What is the number?

2. The thousands digit of a number is 4 less than the ones digit. The thousands digit is 2 less than 10. What is the number?

3. The thousands digit of a number is 4 less than the ones digit. The thousands digit is 2 less than 10. What is the number?

Chyngene's Arithmetic: The subtraction game

And, as you'll see, the game is played on a subtraction table. There are many subtraction tables, but the one we are using is the one that is most commonly used. It is called the **subtraction table**.

The subtraction table is a table that has the numbers 1 through 10 in the top row and the numbers 1 through 10 in the left column. The numbers in the table are the results of subtracting the number in the top row from the number in the left column.

For example, the number in the top row is 7 and the number in the left column is 5. The number in the table is 2. This is because $7 - 5 = 2$.

The subtraction table is used to play the subtraction game. The game is played by taking turns subtracting numbers from a starting number. The player who cannot subtract a number from the starting number loses the game.

For example, if the starting number is 10, the first player can subtract 1, 2, 3, 4, 5, 6, 7, 8, or 9. The second player can then subtract a number from the result. The game continues until one player cannot subtract a number from the starting number.

The subtraction table is a useful tool for playing the subtraction game. It helps you to see the results of subtracting numbers and to plan your moves.

End accountants for: **chilling** (chill + ing), **chill** (chill + ed)
 Entry completed for: **jumping** (jump + ing), **jump** (jump + ed)
 Both competitive **choreography** and various **chore** (chore + ed)
 Gutter completed for: **chilling** (chill + ing), **chill** (chill + ed)

4. $10 \times 10 = 100$
 5. The sum of the first 100 even numbers is 10,100.
 6. The sum of all numbers has 100 digits is 4,500.

2
 Numbers in Making Bridges: #2
 (Arithmetic) Kelly

Use the numbers in the first column to answer the questions. Write the answers in the empty boxes.

100	127	11	23	30	15	68	1
-----	-----	----	----	----	----	----	---

1. The sum of all numbers is 277,529.
 2. The product of all numbers has 100 digits is 4,500.
 3. The sum of the first 100 even numbers is 10,100.
 4. The sum of all numbers has 100 digits is 4,500.



"I can't make a **purchase** and be **unaffected** by it."



TOTAL VALUE: 41
Answer: 41

"What if I had total value of 41, and my professional skills are 40, and my trading strategy, then I would have no reason to stop."

Money	Stocks	Debt	Customer	Index	Total
2			1		\$0.15
3	1				\$0.25
1	1	1			\$0.38
4	2	2			\$0.34
6	1	1	2		\$0.41
2	2	2	2		\$0.42

[illegible]

Roper is heading to **Elkridge** and will drive **270 miles**.
 O'Brien heading to **Towson** will drive **130 miles**.
 Jaffe heading to **New York** will drive **200 miles**.
 Forney is heading to **Collegeville** and will drive **260 miles**.

Links to Google Slides versions, Google FAQ, and Tutorial Videos



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Simply click on this link, choose "Make a Copy", and the interactive slides will be uploaded to your Google Drive™.

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If you have questions about how to share the slides with students, please see the next two pages which include Google Slides™ FAQ and Tutorial Videos.

Check out these Google Slides Tutorial Videos

How to Use the Link & Make a Copy (+ Rename Your New File)

Click the link in this document → You will be directed to a page that asks "Would you like to make a copy?" → Select "Make a copy"



To rename the file, in the top left corner of the new file, click the title "Copy of ..." and you can type your new title

How to Find Your New File

Log in to your Google Drive (drive.google.com) → Click "My Drive" from the left navigation bar if not already selected → Your new file will be listed



How to Share Slides with Students (if not using Google Classroom)

Option 1: Have Students Make a Copy
Open the Slides from Google Drive → Select the "Share" button near the top right corner → Select "Get Shareable Link" from the top right of the pop-up → Select the link, copy/paste however you usually send information to students → By default, this link will allow anyone to VIEW the Slides. For students to make their own copy of this file to work in, they must go to "File" → "Make a copy"

Option 2: Share a Link that Allows Students to Make a Copy

Need extra help? Check out these Google Slides Tutorial Videos

How to Add & Remove Slides

To ADD a slide: Open a Slides presentation → Select the "+" button in the top left corner that says "New slide" when you hover over it.



To DELETE a slide: Open a Slides presentation → Select the slide you would like to delete → Press "Delete" on your keyboard OR right-click the slide and select "Delete"

How to Print Slides

To print each slide as its own page, go to "File" → "Print"



To adjust print settings such as how many slides per page and whether or not to include notes for Slides, go to "File" → "Print settings and preview" → Adjust print settings in the dropdown menu across the top → Select "Print"

If Using Google Classroom:

How to Share Slides with Google Classroom

In Google Classroom, select the "Classwork" tab → Select the "+ Create" button → Select "Assignment" → Select "Add" → "Google Drive" → Navigate to your Slides → From the dropdown menu, select "Make a Copy for Each Student" so everyone has their own copy to edit (if that is what you want)



How Students Work in Slides with Google Classroom

In Google Classroom, select the "Classwork" tab → Select the assignment and click on the Google Slides link with your name on it → Complete the task(s)



To submit, go back to Google Classroom → "Classwork" tab → Select the assignment → Select "View assignment" → On the right side, select the "Submit" button → Confirm that you are submitting the correct assignment

How to View Student Work with Google Classroom

In Google Classroom, select the "Classwork" tab → Select the assignment and click on "Turned in" → Select the thumbnail image or name of the file → Use the bar on the right to enter a grade and comments (optional) → Select "Return" in the top right corner so students will regain access to the file and be able to see their feedback





Math Challenge Resource

Conversions & Calendar

1 mile = 5,280 feet
1 yard = 3 feet
1 foot = 12 inches

1 pound (lb.) = 16 ounces (oz.)

1 gallon = 4 quarts
1 quart = 2 pints
1 pint = 2 cups
1 cup = 8 ounces

1 dozen = 12

1 year = 365 days
1 leap year = 366 days
1 week = 7 days

January = 31 days
February = 28 days
(In a leap year = 29 days)

March = 31 days

April = 30 days

May = 31 days

June = 30 days

July = 31 days

August = 31 days

September = 30 days

October = 31 days

November = 30 days

December = 31 days

Definitions

Sum = the answer to an addition problem

Difference = the answer to a subtraction problem

Product = the answer to a multiplication problem

Quotient = the answer to a division problem

Factors = the numbers that divide evenly into another number (10 is a factor of 20 since 20 can be divided evenly by 10)

Multiple = The product of a number and any other whole number (20 is a multiple of 5 since $5 \times 4 = 20$)

Perimeter = The measurement of the distance around the outside of an object

Area = The measurement of the square units that can cover the inside of a shape

Numbers

1 one
2 two
3 three
4 four
5 five
6 six
7 seven
8 eight
9 nine
10 ten
11 eleven
12 twelve
13 thirteen
14 fourteen
15 fifteen
16 sixteen
17 seventeen
18 eighteen
19 nineteen
20 twenty
30 thirty
40 forty
50 fifty
60 sixty
70 seventy
80 eighty
90 ninety
100 one hundred
1,000 one thousand

Student Resource to help with conversions and math vocabulary, Notes for teachers, and Clickable Table of Contents

How to Use Math Challenges & Brainteasers in Your Classroom: A Few Ideas



- Use these as **extension activities** for **math contracts**. You can read more about this strategy and [receive a free editable math contract at the blog HERE](#).
- Use a challenge or brainteaser as a **homework option** for students who need a challenge or let them **replace a simple homework assignment** with the challenge to **show parents** how well you're **differentiating**.
- Use a math challenge or brainteaser as a **"number talk"** for students to start their **daily math class**. Work through it as a class or let students work in partners or small groups to talk through it and solve it together.
- Use a challenge or brainteaser as a **small group** of students as a **center** or **station**.

Clickable Table of Contents

Math Challenges

[Books](#) (Adding and subtracting two-digit numbers)
[Finger and Toes](#) (Repeated addition, multiplication by tens or twenties)
[Hidden Numbers](#) (Hidden numbers)
[Hidden Numbers](#) (Hidden numbers)
[Hidden Numbers](#) (Hidden numbers)
[Electoral Votes](#) (Estimation, multiplication, division, easier)
[Coin Combination](#) (Estimation, multiplication, division, easier)
[Library Fines](#) (Addition, multiplication, division, easier)
[The Penny Problem](#) (Addition, multiplication, division, easier)
[Days in Office](#) (Logarithmic thinking, guess and check)
[Quarters, Dimes, and Pennies](#) (Logarithmic thinking, guess and check)
[Pizza Party](#) (Fraction, multiplication, division, easier)
[2006 Medal Count](#) (Logarithmic thinking, guess and check)
[Four Leaf Clovers](#) (Complex problem, multiplication, division, easier)
[How Many Legs?](#) (Complex problem, multiplication, division, easier)
[Marathon Runners](#) (Complex problem, multiplication, division, easier)
[Five Square Challenge](#) (Complex problem, multiplication, division, easier)
[Perimeter Problem](#) (Complex problem, multiplication, division, easier)
[Equal Sums](#) (Logarithmic thinking, guess and check)
[Heads and Tails](#) (Logarithmic thinking, guess and check)
[The Magic Pentagon](#) (Complex problem, multiplication, division, easier)
[Beach Reading](#) (Complex problem, multiplication, division, easier)

Clickable Table of Contents Continued

Brainteasers

[Who am I?](#) (Logical thinking, guess and check, adding multiple two-digit numbers, money, defining a dozen)
[Trick or Treat](#) (Logical thinking, guess and check)
[Thanksgiving Dinner Restaurant Style](#) (Adding/multiplying money with decimals)
[Thanksgiving Dinner Brainteaser #1](#) (Logical thinking, multiplication and division, easier)
[Thanksgiving Dinner Brainteaser #2](#) (Logical thinking, multiplication and division, more difficult)
[Equal Equations #1](#) (Equivalent number sentences, easier)
[Equal Equations #2](#) (Equivalent number sentences, more advanced)
[Mystery Numbers](#) (Logical thinking, guess and check, addition with 1 and 2-digit numbers)
[A Brainteaser with 22 Legs](#) (Guess and check, addition, finding all possible solutions)
[Football Math #1](#) (Addition, multiplication, easier)
[Football Math #2](#) (Addition, multiplication, more advanced)
[Valentine Mail](#) (Logical thinking, guess and check)
[Olympic Athletes](#) (Logical thinking, guess and check)
[Numbers in Hiding #1](#) (Addition, subtraction, estimation, guess and check)
[Numbers in Hiding #2](#) (Addition, subtraction, multiplication, estimation, guess and check)
[Bunny Brainteaser](#) (Logical thinking, guess and check)
[Total Value #1](#) (Adding coins and dollars, easier)
[Total Value #2](#) (Adding coins and dollars, more advanced)
[Road Trippin'](#) (Logical thinking, guess and check)

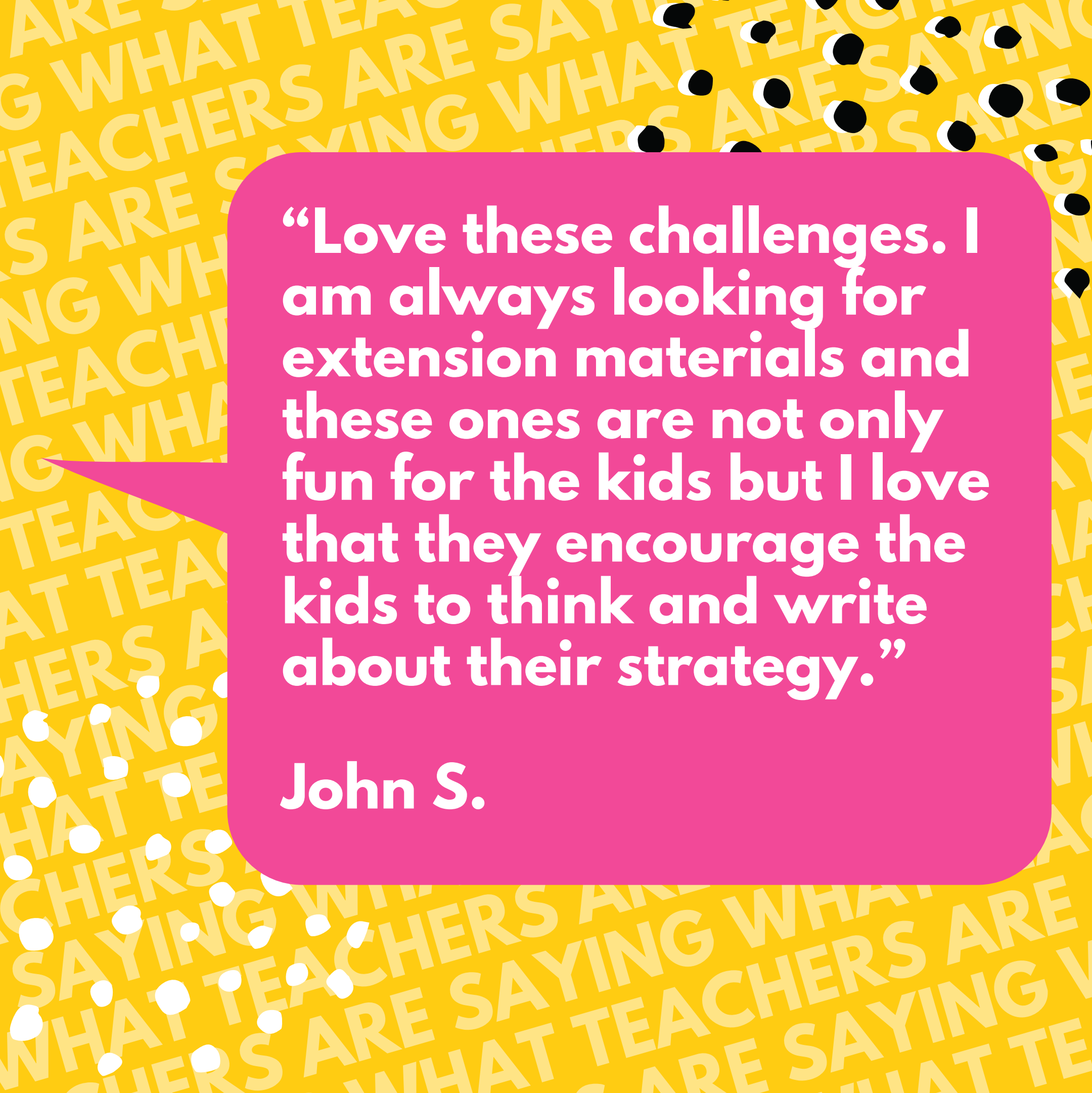
Also includes

[Student resource page](#) with common conversions and extra info students might need to help solve these problems. Perfect to use for homework or centers!
[Interactive Google Slides version](#)
[Google Slides FAQ and Tutorial Videos](#)
[Answer keys](#) for every problem

*All math challenge strategies students

“I am so pleased with your product that this is the first time I have ever left feedback for anyone on the site. I appreciate that your product does not imply any one system of math instruction, allows for/encourages multiple approaches, is challenging but accessible for second graders, includes some theme/time of year connections, doesn't include any characters nor scenarios from main stream media, includes enough instructions to be self-sufficient and more.”

Sally W.



“Love these challenges. I am always looking for extension materials and these ones are not only fun for the kids but I love that they encourage the kids to think and write about their strategy.”

John S.

The background is a bright yellow color. It features a repeating pattern of the text "WHAT TEACHERS ARE SAYING" in a light yellow, sans-serif font, angled diagonally. Scattered across the background are numerous small circles in pink, white, and yellow, resembling confetti.

**“These have been great
for my student who needs
to be challenged in math!
They are fun, engaging,
and all very different!”**

Amy S.

“Great set of Math Challenges! My students were so engaged and worked collaboratively! The math discourse that takes place is phenomenal. There is a great balance of strands of math like number sense, logical reasoning, geometry, algebraic thinking, measurement and data.”


Ingrid L.

“I used this with my higher students in math as challenges and they constantly begged for more. These were great for building problem solving skills and to front load new 3rd grade skills.”

Miss Wilton

“I was between this product and another and I’m glad I purchased this product. Really makes the students think, and then explain their thinking! Absolutely what I am looking for when it comes to my high flyers.”

Silly and Smart in Second



“This is such a great resource for students who need a little enrichment in math. My students loved it and it made them think on such a deeper level.”

Meagan B.

“This is an amazing resource for those students who want to be and/or need a little challenge in math. I created math challenge books that they could work on with finished early with their in class work. It is challenging but they loved working together in small groups to try to solve. My students loved it!”

Kristina N.