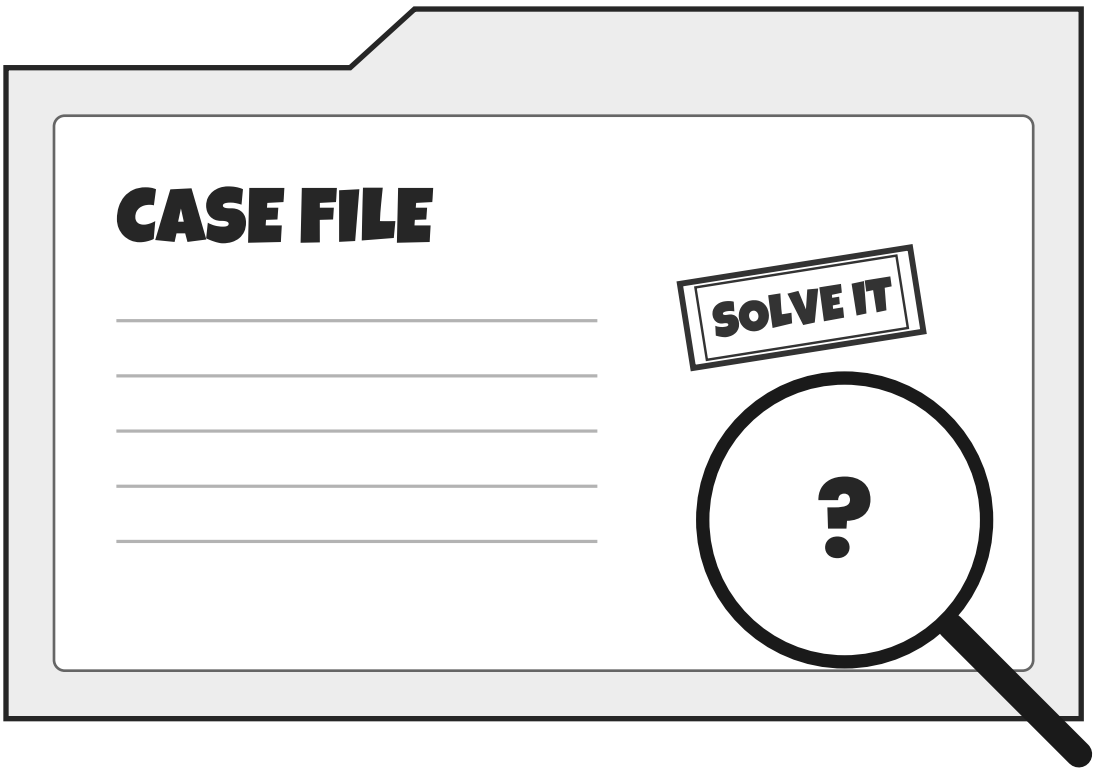
MATH MYSTERY WORKBOOK

Second Grade Math Mysteries

12 Whodunit Cases with Addition, Subtraction, Time, Money and Place Value, 108 Problems with Answer Keys



Harper Lane

Sample pages

Second Grade Math Mysteries

12 Whodunit Cases with Addition, Subtraction, Time, Money and Place Value, 108 Problems with Answer Keys

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All 12 cases and 108 math problems in this book are original. Every case was checked by computer: the math answers, the clues, and that exactly one suspect is left at the end. All names, schools and events are made up; any resemblance to real people is a coincidence.

First edition, 2026

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Sample pages

Detective ID

MATH DETECTIVE AGENCY

draw yourself

Name _____

Detective number _____

Grade _____

Best math skill _____

CASE LOG

CASE	TITLE	DATE SOLVED	CULPRIT FOUND	STARS
1	The Mystery of the Shuffled Bookmarks		☐	☆ ☆ ☆
2	The Flat Basketball Puzzle		☐	☆ ☆ ☆
3	Who Took the Class Calendar?		☐	☆ ☆ ☆
4	The Case of the Silent Robot		☐	☆ ☆ ☆
5	The Case of the Wilted Sunflowers		☐	☆ ☆ ☆
6	The Rainbow Clay Mix-Up		☐	☆ ☆ ☆
7	The Field Trip Map Mystery		☐	☆ ☆ ☆
8	Who Let Peanut Out?		☐	☆ ☆ ☆
9	The Purple Paint Prank		☐	☆ ☆ ☆
10	The Sidewalk Chalk Mystery		☐	☆ ☆ ☆
11	The Great Seedling Swap		☐	☆ ☆ ☆
12	The Runaway Kite		☐	☆ ☆ ☆

Sample pages

How to Solve a Math Mystery

1. Read the case file
Find out what happened, where and when. The tracker on that page is where you keep score.

2. Meet the suspects
Every suspect card lists facts about that person: a locker number, a bus, a time, what they wore. One of them is the culprit.

3. Solve, then unlock
Each evidence page has math problems labeled A, B, C and D. In the clue, a letter in a box like [A] means "your answer to problem A".

4. Cross suspects out
Use the clue to cross out suspects in the Suspect Check, then mark them on the tracker.

5. Name the culprit
After the last clue, exactly one suspect is left. Write your report, then check the answer key at the back.

EXAMPLE

Problems

A $6 \times 7 =$ 42

B $80 - 15 =$ 65

Clue

The thief's locker number is not [A] or [B].

Suspect check (locker numbers)

~~Ava 42~~	Ben 56	~~Cleo 65~~	Dev 24

Ava has locker 42 and Cleo has locker 65, so they are crossed out. Ben and Dev are still suspects.

Detective tips

- Work in pencil and show your work in the box.
- Cross suspects out in the Suspect Check first, then copy the X onto the tracker.
- Every answer matches something on its page: a number on a suspect card or a witness statement. If yours does not, check your math.
- The clues work in any order, and every clue is needed to find the culprit.

Sample pages

For Teachers and Parents

Each case is a short whodunit that can only be solved with math. 12 cases, 108 problems. Students read the case file, meet 6 suspects, then work through 3 evidence pages. Every evidence page has 3 problems; the answers unlock a clue that clears some of the suspects. Correct math leaves exactly one suspect: the culprit.

Why it works

- **Every answer matters.** Clues use the answers themselves, so a student cannot guess the clue from part of the page.
- **Self-checking.** Answers have to match a locker, a bus, a time or a witness statement on the page. If an answer matches nothing, students know to check their work before they go on.
- **Every clue is needed.** Each case was checked by computer: skip any one clue and two or more suspects are left.
- **Any order.** The clues can be done in any order and still point to the same culprit, so a case can be split across days or groups.

Ways to use it

- ✓ Math centers or stations: one evidence page per station.
- ✓ Early finishers, review days, test prep and sub plans.
- ✓ Partner work: one student solves, the other checks against the page.
- ✓ Homework or summer practice at home, one case a week.

Make it easier or harder

- **More support:** solve the first evidence page together, read the word problems aloud, or let partners share one case file.
- **More challenge:** ask students to explain in writing which clue cleared each suspect, or to write a new clue that would clear one more person.

Good to know

A case takes about 20 to 30 minutes. Work space is built into every problem box. The case report page asks students to explain their thinking in writing. Full answer keys start on page 80: every answer, the clue it unlocks, who gets crossed out and the culprit. The skills in each case are listed on the next page.

Sample pages

Skills at a Glance

A check mark shows the skills practiced in each case.

CASE	Add & Subtract	Multiply & Divide	Place Value	Fractions	Money	Time
01 The Mystery of the Shuffled Bookmarks	✓	✓		✓		
02 The Flat Basketball Puzzle			✓		✓	✓
03 Who Took the Class Calendar?	✓	✓			✓	
04 The Case of the Silent Robot			✓	✓		✓
05 The Case of the Wilted Sunflowers				✓	✓	✓
06 The Rainbow Clay Mix-Up	✓	✓	✓			
07 The Field Trip Map Mystery	✓		✓		✓	
08 Who Let Peanut Out?		✓		✓		✓
09 The Purple Paint Prank		✓		✓		✓
10 The Sidewalk Chalk Mystery	✓		✓		✓	
11 The Great Seedling Swap		✓		✓	✓	
12 The Runaway Kite	✓		✓			✓

Level: Grade 2. Problems get a little harder from case to case.

Sample pages

CASE FILE

No. 01 · Grade 2 · 6 suspects · 3 clues

TOP SECRET

The Mystery of the Shuffled Bookmarks

WHAT	WHERE	WHEN	SUSPECTS
The reading club bookmarks	The school library	10:00 a.m. to 12:00 p.m.	6 people

Every reading club member keeps a paper bookmark in a cup at the front desk. At 10:00 a.m., the cup was neat and tidy. At 12:00 p.m., every bookmark was in the wrong book!

6 readers came in that morning. Work out each clue to name the prankster.

YOUR MISSION Multiply & Divide · Add & Subtract · Fractions

Each evidence page has 3 math problems. Solve them to unlock a clue, then use the clue to cross suspects off the tracker below. When only one suspect is left, you have found the prankster!

ELIMINATION TRACKER

Mark an X under the evidence that clears each suspect.

SUSPECT	CLUE 1	CLUE 2	CLUE 3	STILL IN?
CZ **Cyrus Zamora** Line leader	☐	☐	☐	☐
IC **Mrs. Cruz** Custodian	☐	☐	☐	☐
ZW **Zara Walsh** Class helper	☐	☐	☐	☐
RH **Ms. Holm** Lunch helper	☐	☐	☐	☐
FO **Finn Okafor** Plant waterer	☐	☐	☐	☐
US **Uma Shah** Plant waterer	☐	☐	☐	☐

Sample pages

THE SUSPECTS

6 people were there. Only one of them is the prankster.

CZ

#1

Cyrus Zamora

Line leader

TABLE	LIBRARY CARD
15	87

PET	SNACK
cat	popcorn

IC

#2

Mrs. Cruz

Custodian

TABLE	LIBRARY CARD
16	83

PET	SNACK
guinea pig	grapes

ZW

#3

Zara Walsh

Class helper

TABLE	LIBRARY CARD
30	44

PET	SNACK
guinea pig	grapes

RH

#4

Ms. Holm

Lunch helper

TABLE	LIBRARY CARD
8	29

PET	SNACK
guinea pig	popcorn

FO

#5

Finn Okafor

Plant waterer

TABLE	LIBRARY CARD
30	33

PET	SNACK
parrot	granola bar

US

#6

Uma Shah

Plant waterer

TABLE	LIBRARY CARD
70	68

PET	SNACK
guinea pig	crackers

Sample pages

EVIDENCE 1 OF 3 Multiplication & Division

The Table Chart

The table chart was pinned to the wall. Some numbers on it are circled in red.

A

$$5 + 5 + 5 =$$

ANSWER

B There are 4 jars. Each jar has 2 buttons. How many buttons are there in all?

ANSWER

C There are 7 boxes. Each box has 10 crayons. How many crayons are there in all?

ANSWER

UNLOCK THE CLUE

- **The prankster does not sit at table A, B or C.**

SUSPECT CHECK Table of each suspect. Cross out everyone this clue clears.

☐ Cyrus	☐ Mrs. Cruz	☐ Zara	☐ Ms. Holm	☐ Finn	☐ Uma
15	16	30	8	30	70

Sample pages

EVIDENCE 2 OF 3 Addition & Subtraction

The Library Card Log

A sign-out log was found at the scene. Some library card numbers on it belong to people who could not be the prankster.

A

$$\begin{array}{r} 71 \\ -\ 42 \\ \hline \end{array}$$

ANSWER

B

$$\begin{array}{r} 31 \\ +\ 56 \\ \hline \end{array}$$

ANSWER

C

$$\begin{array}{r} 28 \\ +\ 55 \\ \hline \end{array}$$

ANSWER

UNLOCK THE CLUE

- **The prankster's library card number is not A, B or C.**

SUSPECT CHECK Library card of each suspect. Cross out everyone this clue clears.

☐ Cyrus 87	☐ Mrs. Cruz 83	☐ Zara 44	☐ Ms. Holm 29	☐ Finn 33	☐ Uma 68

Sample pages

EVIDENCE 3 OF 3 Fractions

The Fur on the Floor

Who owns a pet that sheds fur like this? Only one statement is true.

A What fraction of the shape is shaded?



ANSWER

B

$\frac{1}{2}$ of 4 =

ANSWER

C

$\frac{1}{4}$ of 36 =

ANSWER

UNLOCK THE CLUE

Each answer matches the number on one statement. Those statements are false: cross them out. The one statement left is true.

2	9	$\frac{3}{4}$	3
The prankster has a pet cat.	The prankster has a pet gecko.	The prankster has a pet parrot.	The prankster has a pet guinea pig.

SUSPECT CHECK Pet of each suspect. Cross out everyone this clue clears.

☐ Cyrus	☐ Mrs. Cruz	☐ Zara	☐ Ms. Holm	☐ Finn	☐ Uma
cat	guinea pig	guinea pig	guinea pig	parrot	guinea pig

Sample pages