



The Chicago History Mystery

Grade 5 math · Multiplication, Fractions of a number, Order of operations, Rounding · Reading level grades 5-6

Detective: _____ **Date:** _____

The museum's grand opening is in jeopardy! Someone has stolen priceless historical treasures, from vintage Chicago Cubs pennants to legendary pop star memorabilia and rare digital Blocket trophies. The suspect left a trail of tricky math puzzles across the exhibits. We need your team to solve the clues, track down the thief, and save the grand opening!

1. Solve each math problem. The answer is a number, and the letter beside it is what that number stands for.
2. In the clue boxes, write that letter in every box showing the same number, then read the secret clue.
3. Use each clue to cross suspects off the list. The one suspect left at the end is the culprit!

My answer: the the Phantom Fan is _____

Possible suspects

Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	FAVORITE EXHIBIT	STOLEN TREASURE	BATTING STANCE	WIG COLOR	DISTRACTION
Billy Williams	Wrigley Field Exhibit	Championship Ring	Right Handed	Ivy Green	Pop Music
Abe Lincoln	Wrigley Field Exhibit	Pharaoh Crown	Left Handed	Ivy Green	Pop Music
Ernie Banks	Route Sixty Six Exhibit	Old Map	Left Handed	Powdered White	Pop Music
Ron Santo	Wrigley Field Exhibit	Tom Blook	Right Handed	Powdered White	Play by Play
Ryne Sandberg	Blooket Arena Exhibit	Old Map	Right Handed	Ivy Green	Play by Play
Kerry Wood	Pop Star Stage Exhibit	Old Map	Right Handed	Powdered White	Play by Play
Astronaut Blook	Blooket Arena Exhibit	Old Map	Right Handed	Powdered White	Pop Music
Moises Alou	Blooket Arena Exhibit	Golden Glove	Left Handed	Curly Black	History Trivia
Susie Q	Wrigley Field Exhibit	Pharaoh Crown	Right Handed	Ivy Green	Pop Music
Yeti Blook	Wrigley Field Exhibit	Tom Blook	Right Handed	Ivy Green	Pop Music
Diana Ross	Wrigley Field Exhibit	Old Map	Left Handed	Curly Black	Play by Play
Mac Jackson	Giza Pyramids Exhibit	Golden Glove	Right Handed	Ivy Green	Pop Music
Sammy Sosa	Pop Star Stage Exhibit	Pharaoh Crown	Left Handed	Curly Black	Pop Music
Marco Polo	Giza Pyramids Exhibit	Pharaoh Crown	Left Handed	Curly Black	Play by Play
Harry Caray	Wrigley Field Exhibit	Tom Blook	Right Handed	Ivy Green	History Trivia
Ben Stewart	Pop Star Stage Exhibit	Old Map	Right Handed	Ivy Green	Pop Music
Billie Jean	Blooket Arena Exhibit	Tom Blook	Left Handed	Ivy Green	Play by Play
Kris Bryant	Wrigley Field Exhibit	Pharaoh Crown	Left Handed	Curly Black	Pop Music
Ben King	Route Sixty Six Exhibit	Tom Blook	Right Handed	Curly Black	History Trivia
Betsy Ross	Route Sixty Six Exhibit	Old Map	Left Handed	Powdered White	Play by Play
Amelia Earhart	Pop Star Stage Exhibit	Golden Glove	Right Handed	Curly Black	History Trivia

Multiplication facts (1-12)

At the Wrigley Field exhibit, we found rows of vintage baseball card packs. If we multiply the rows by the cards in each pack, we can unlock the security cabinet.

Solve each problem, then write its letter in every clue box that shows the same number.

70 42 21 63 24 121 121 20 24 30 90 24 90 30 6 70

7 70 21 20 121 70 6 15 96 121 6 6 50

$$10 \times 7 = \boxed{} \rightarrow \boxed{\text{T}}$$

$3 \times 5 = \boxed{} \rightarrow \boxed{\mathbf{M}}$

$$6 \times 5 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$2 \times 3 = \boxed{} \rightarrow \boxed{0}$$

$1 \times 7 = \square \rightarrow \mathbf{S}$

$$3 \times 8 = \boxed{} \rightarrow \boxed{I}$$

$10 \times 5 = \boxed{} \rightarrow \boxed{\text{K}}$

$7 \times 6 = \square \rightarrow \mathbf{H}$

$$5 \times 4 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$9 \times 7 = \boxed{} \rightarrow \boxed{\mathbf{v}}$$

$12 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{B}}$

$3 \times 7 = \square \rightarrow \mathbf{E}$

$$9 \times 10 = \boxed{} \rightarrow \mathbf{D}$$

$$11 \times 11 = \boxed{} \rightarrow \boxed{\text{L}}$$

Scratch space:

CLUE 2

Fractions of a number

We found a crate of souvenir baseballs in the Chicago history wing. Taking a fraction of this total shipment reveals the secret vault passcode.

Solve each problem, then write its letter in every clue box that shows the same number.

T 16	37	18	29	3	29	28	18	32	T 16	29	34	3	17	21	T 16	37	18
10	35	T 16	9	30	21	37	T 16	37	35	17	11	18	11				

$2/10$ of 80 = → T	$4/8$ of 68 = → W	$3/10$ of 100 = → I
$7/8$ of 40 = → A	$4/10$ of 70 = → P	$1/3$ of 87 = → S
$1/5$ of 55 = → D	$3/6$ of 36 = → E	$3/10$ of 70 = → G
$2/6$ of 30 = → B	$1/5$ of 185 = → H	$3/6$ of 18 = → R
$1/10$ of 170 = → N	$4/8$ of 6 = → U	$2/6$ of 96 = → C

Scratch space:

CLUE 3
Order of operations

The museum alarm system has a complex formula that must be solved in the exact order of operations to download the security camera footage.

Solve each problem, then write its letter in every clue box that shows the same number.

T					T							T					
77	43	69	56	57	77	7	79	79	69	62	77	7	62	46	73	68	69

T									
77	7	79	7	79	54	71	57	6	68

$12 \times 8 - 19 = \square \rightarrow$ T	$49 + 6 \times 5 = \square \rightarrow$ P	$55 + 4 \times 4 = \square \rightarrow$ U
$6 \times 10 - 6 = \square \rightarrow$ M	$6 \times 12 - 26 = \square \rightarrow$ A	$39 + 5 \times 6 = \square \rightarrow$ E
$3 + 2 \times 2 = \square \rightarrow$ O	$8 \times 8 - 2 = \square \rightarrow$ D	$63 + 5 \times 2 = \square \rightarrow$ N
$7 \times 12 - 28 = \square \rightarrow$ Y	$62 + 2 \times 3 = \square \rightarrow$ C	$2 + 2 \times 2 = \square \rightarrow$ I
$9 \times 5 - 2 = \square \rightarrow$ H	$10 \times 8 - 23 = \square \rightarrow$ S	

Scratch space:

CLUE 4 Rounding

The radar tracker on the roof is fuzzy and only displays rounded numbers. Rounding the speed reading to the nearest ten pinpoints where the thief fled.

Solve each problem, then write its letter in every clue box that shows the same number.

W														
5000	170	900	50	110	300	1700	1100	200	430	2900	370	170	170	300
900	1100	3700	170	370	4300	50	300	9000	2300	170	4300	170	3000	9000

Round 4,975 to the nearest thousand → **W**

Round 2,287 to the nearest hundred → **H**

Round 3,462 to the nearest thousand → **A**

Round 301 to the nearest hundred → **N**

Round 4,338 to the nearest hundred → **S**

Round 8,844 to the nearest thousand → **T**

Round 2,893 to the nearest hundred → **G**

Round 52 to the nearest ten → **O**

Round 1,706 to the nearest hundred → **D**

Round 213 to the nearest hundred → **V**

Round 174 to the nearest ten → **E**

Round 433 to the nearest ten → **Y**

Round 368 to the nearest ten → **R**

Round 925 to the nearest hundred → **F**

Round 3,731 to the nearest hundred → **B**

Round 1,112 to the nearest hundred → **I**

Round 109 to the nearest ten → **U**

Scratch space:

CLUE 5**Fractions of a number - the last clue**

The museum's ancient map vault holds old scrolls. Finding a fraction of the total scrolls helps us track the thief's escape route across the globe.

First solve each problem. Then find each answer in the numbered list below and cross that sentence out. One sentence will be left - that is exactly what the villain did!

Step 1 - solve these:

$6/8 \text{ of } 8 = \boxed{}$

$2/4 \text{ of } 14 = \boxed{}$

$1/6 \text{ of } 66 = \boxed{}$

$4/10 \text{ of } 20 = \boxed{}$

$2/10 \text{ of } 60 = \boxed{}$

$1/5 \text{ of } 50 = \boxed{}$

$2/4 \text{ of } 6 = \boxed{}$

$5/10 \text{ of } 10 = \boxed{}$

$1/3 \text{ of } 6 = \boxed{}$

$1/8 \text{ of } 8 = \boxed{}$

$1/4 \text{ of } 16 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain logins to the high score server, then drops a sparkly glove.
2. The villain escapes down a dirt highway, then loses a vintage road map.
3. The villain logins to the high score server, then loses a vintage road map.
4. The villain escapes down a dirt highway, then leaves a replica trophy.
5. The villain sails across the mediterranean sea, then hacks the daily quest log.
6. The villain escapes down a dirt highway, then drops a sparkly glove.
7. The villain moonwalks across the museum lobby, then loses a vintage road map.
8. The villain moonwalks across the museum lobby, then drops a sparkly glove.
9. The villain sneaks past the ivy wall, then leaves a replica trophy.
10. The villain escapes down a dirt highway, then drops a golden pyramid coin.
11. The villain sneaks past the ivy wall, then drops a golden pyramid coin.
12. The villain escapes down a dirt highway, then hacks the daily quest log.

Answer Key

The Chicago History Mystery

Culprit: Billy Williams

Wrigley Field Exhibit · Championship Ring · Right Handed · Ivy Green · Pop Music

Trail: Start 21 → Clue 1 16 → Clue 2 8 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DID NOT STEAL TOM BLOOK"

$10 \times 7 = 70$ (T) · $3 \times 5 = 15$ (M) · $6 \times 5 = 30$ (N) · $2 \times 3 = 6$ (O) · $1 \times 7 = 7$ (S) · $3 \times 8 = 24$ (I) · $10 \times 5 = 50$ (K) · $7 \times 6 = 42$ (H) · $5 \times 4 = 20$ (A) · $9 \times 7 = 63$ (V) · $12 \times 8 = 96$ (B) · $3 \times 7 = 21$ (E) · $9 \times 10 = 90$ (D) · $11 \times 11 = 121$ (L)

Clue 2 (Fractions of a number): "THE SUSPECT SWUNG THE BAT RIGHT HANDED"

$2/10$ of 80 = 16 (T) · $4/8$ of 68 = 34 (W) · $3/10$ of 100 = 30 (I) · $7/8$ of 40 = 35 (A) · $4/10$ of 70 = 28 (P) · $1/3$ of 87 = 29 (S) · $1/5$ of 55 = 11 (D) · $3/6$ of 36 = 18 (E) · $3/10$ of 70 = 21 (G) · $2/6$ of 30 = 10 (B) · $1/5$ of 185 = 37 (H) · $3/6$ of 18 = 9 (R) · $1/10$ of 170 = 17 (N) · $4/8$ of 6 = 3 (U) · $2/6$ of 96 = 32 (C)

Clue 3 (Order of operations): "THEY STOPPED TO DANCE TO POP MUSIC"

$12 \times 8 - 19 = 77$ (T) · $49 + 6 \times 5 = 79$ (P) · $55 + 4 \times 4 = 71$ (U) · $6 \times 10 - 6 = 54$ (M) · $6 \times 12 - 26 = 46$ (A) · $39 + 5 \times 6 = 69$ (E) · $3 + 2 \times 2 = 7$ (O) · $8 \times 8 - 2 = 62$ (D) · $63 + 5 \times 2 = 73$ (N) · $7 \times 12 - 28 = 56$ (Y) · $62 + 2 \times 3 = 68$ (C) · $2 + 2 \times 2 = 6$ (I) · $9 \times 5 - 2 = 43$ (H) · $10 \times 8 - 23 = 57$ (S)

Clue 4 (Rounding): "WE FOUND IVY GREEN FIBERS ON THE SEAT"

Round 4,975 to the nearest thousand = 5000 (W) · Round 2,287 to the nearest hundred = 2300 (H) · Round 3,462 to the nearest thousand = 3000 (A) · Round 301 to the nearest hundred = 300 (N) · Round 4,338 to the nearest hundred = 4300 (S) · Round 8,844 to the nearest thousand = 9000 (T) · Round 2,893 to the nearest hundred = 2900 (G) · Round 52 to the nearest ten = 50 (O) · Round 1,706 to the nearest hundred = 1700 (D) · Round 213 to the nearest hundred = 200 (V) · Round 174 to the nearest ten = 170 (E) · Round 433 to the nearest ten = 430 (Y) · Round 368 to the nearest ten = 370 (R) · Round 925 to the nearest hundred = 900 (F) · Round 3,731 to the nearest hundred = 3700 (B) · Round 1,112 to the nearest hundred = 1100 (I) · Round 109 to the nearest ten = 110 (U)

Clue 5 (Fractions of a number): surviving statement is box 9 → Billy Williams

$6/8$ of 8 = 6 · $2/4$ of 14 = 7 · $1/6$ of 66 = 11 · $4/10$ of 20 = 8 · $2/10$ of 60 = 12 · $1/5$ of 50 = 10 · $2/4$ of 6 = 3 · $5/10$ of 10 = 5 · $1/3$ of 6 = 2 · $1/8$ of 8 = 1 · $1/4$ of 16 = 4