



The Fizzy Falls Flavor Heist

Grade 4 math · Rounding, Multi-step word problems, Word problems, Multiplication, Division · Reading level grades 5-6

Detective: _____ Date: _____

Someone sabotaged the grand opening of the Fizzy Falls Soda Conservatory by stealing the secret recipe book! Examine the drink stations, count the supplies, and find out which mixologist committed the crime.

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 Flavor Bandit is _____

Possible suspects

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

NAME	BASE DRINK	TOPPING	DOMINANT HAND	HAIR COLOR	SECRET COUNTER
Sam Fizz	Creamy Milkshake	Popping Boba	Right-Handed Pour	Lime Green Hair	Ice Cubes
Chai Charlie	Sparkling Soda	Mint Leaves	Right-Handed Pour	Bright Orange Hair	Hot Water
Coco Cream	Herbal Tea	Rainbow Sprinkles	Left-Handed Pour	Lime Green Hair	Lemon Juice
Charles Hires	Creamy Milkshake	Whipped Cream	Right-Handed Pour	Deep Purple Hair	Lemon Juice
Pip Punch	Sparkling Soda	Rainbow Sprinkles	Right-Handed Pour	Deep Purple Hair	Lemon Juice
Matcha Mike	Ice Boba	Popping Boba	Left-Handed Pour	Deep Purple Hair	Lemon Juice
Dash Splash	Creamy Milkshake	Fizzy Tablets	Left-Handed Pour	Bright Orange Hair	Lemon Juice
Earl Grey	Citrus Zap	Whipped Cream	Right-Handed Pour	Deep Purple Hair	Lemon Juice
Lucius Ball	Herbal Tea	Mint Leaves	Right-Handed Pour	Deep Purple Hair	Ice Cubes
Lola Lemon	Sparkling Soda	Fizzy Tablets	Left-Handed Pour	Bright Orange Hair	Ice Cubes
Fizz Fiona	Sparkling Soda	Whipped Cream	Right-Handed Pour	Lime Green Hair	Lemon Juice
Artie Orange	Herbal Tea	Whipped Cream	Right-Handed Pour	Deep Purple Hair	Hot Water
Henri Nestle	Herbal Tea	Fizzy Tablets	Left-Handed Pour	Bright Orange Hair	Ice Cubes
Berry Ben	Sparkling Soda	Fizzy Tablets	Right-Handed Pour	Deep Purple Hair	Lemon Juice
Penny Soda	Ice Boba	Fizzy Tablets	Right-Handed Pour	Deep Purple Hair	Ice Cubes
Boba Bella	Herbal Tea	Rainbow Sprinkles	Right-Handed Pour	Deep Purple Hair	Ice Cubes
Rita Refresh	Sparkling Soda	Whipped Cream	Left-Handed Pour	Lime Green Hair	Ice Cubes
Roy Rooibos	Ice Boba	Mint Leaves	Left-Handed Pour	Deep Purple Hair	Lemon Juice
Caleb Bradham	Ice Boba	Mint Leaves	Right-Handed Pour	Deep Purple Hair	Lemon Juice
Toby Tonic	Herbal Tea	Rainbow Sprinkles	Left-Handed Pour	Lime Green Hair	Ice Cubes
Pippa Punch	Creamy Milkshake	Mint Leaves	Right-Handed Pour	Deep Purple Hair	Ice Cubes

CLUE 1

We gathered receipt stubs from the morning rushes and evening cleanup to track down missing inventory.

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

Diagram illustrating the distribution of 10000 items across 10 categories. The distribution is as follows:

Category	Value
1	170
2	70
3	90
4	30
5	300
6	1300
7	130
8	7000
9	170
10	130
11	1100
12	90
13	200
14	1300
15	1100
16	170
17	500
18	200
19	90

Round 168 to the nearest ten $\rightarrow$ **T**

Round 496 to the nearest hundred $\rightarrow$ **U**

Round 1,057 to the nearest hundred →

Round 1,278 to the nearest hundred → **N**

Round 292 to the nearest ten $\rightarrow$

Round 374 to the nearest ten $\rightarrow$ **Z**

Round 231 to the nearest ten $\rightarrow$

Round 2,278 to the nearest hundred → **F**

Round 129 to the nearest ten → **D**

Round 258 to the nearest hundred → **A**

Round 196 to the nearest hundred →

Round 94 to the nearest ten → **E**

Round 26 to the nearest ten → **B**

Round 6,718 to the nearest thousand →

Round 71 to the nearest ten → **H**

Scratch space:

CLUE 2

Multi-step word problems

The digital syrup counter only shows rounded batch totals on its main display screen.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

R									D	E	D	P	O	U	R
16	57	86	78	33	78	50	89								16

Barista collected 3 straw packages in the morning and 61 straw packages in the afternoon, then split them equally among 4 Flavor Detectives. How many straw packages did each get?

Answer: → **R**

Barista filled 9 boxes with 2 flavor packets each, then found 15 more flavor packets. How many flavor packets are there in all?

Answer: → **T**

There were 154 straw packages in all. 1 Flavor Detective used 40 straw packages each. The other 2 Flavor Detectives shared the rest equally. How many straw packages did each of the other Flavor Detectives get?

Answer: → **I**

There were 230 juice bottles in all. 3 Flavor Detectives used 10 juice bottles each. The other 4 Flavor Detectives shared the rest equally. How many juice bottles did each of the other Flavor Detectives get?

Answer: → **A**

Barista earned 4 juice bottles in each of 5 rounds, plus 67 bonus juice bottles. Then 1 juice bottles were lost. How many juice bottles are left?

Answer: → **G**

Barista collected 197 boba scoops in the morning and 193 boba scoops in the afternoon, then split them equally among 5 Flavor Detectives. How many boba scoops did each get?

Answer: → **H**

Barista filled 2 boxes with 9 flavor packets each, then found 71 more flavor packets. How many flavor packets are there in all?

Answer: → **N**

Scratch space:

CLUE 3

Word problems

A shift log near the blender station gives us a clear record of liquid ingredients used today.

Solve each problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with

L							I	C	
8	54	37	12	17	78	31			54

.

Barista found 4 boba scoops yesterday and 4 more today. How many boba scoops in all?

Answer: →

L

There were 63 flavor packets. 32 were used up. How many flavor packets are left?

Answer: →

U

There were 26 flavor packets. 9 were used up. How many flavor packets are left?

Answer: →

N

Barista found 9 straw packages yesterday and 3 more today. How many straw packages in all?

Answer: →

O

Barista lined up 9 rows of 6 smoothie cups. How many smoothie cups in all?

Answer: →

E

Barista found 7 straw packages yesterday and 30 more today. How many straw packages in all?

Answer: →

M

There were 87 straw packages. 9 were used up. How many straw packages are left?

Answer: →

J

Scratch space:

CLUE 4

Multiplication facts (1-12)

The crate storage room holds neat rows of juice boxes lined up along the back wall.

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

A				A														
50	21	81	56	50	72	121	36	10	121	6	6	20	20	1	56	20	28	6

	A				A					
132	50	60	56	18	50	21	28	6	10	81

$5 \times 10 = \square \rightarrow \boxed{\text{A}}$

$9 \times 9 = \square \rightarrow \boxed{\text{T}}$

$12 \times 3 = \square \rightarrow \boxed{\text{O}}$

$9 \times 8 = \square \rightarrow \boxed{\text{N}}$

$9 \times 2 = \square \rightarrow \boxed{\text{W}}$

$1 \times 10 = \square \rightarrow \boxed{\text{F}}$

$6 \times 1 = \square \rightarrow \boxed{\text{E}}$

$4 \times 7 = \square \rightarrow \boxed{\text{L}}$

$2 \times 10 = \square \rightarrow \boxed{\text{P}}$

$7 \times 3 = \square \rightarrow \boxed{\text{S}}$

$7 \times 8 = \square \rightarrow \boxed{\text{R}}$

$6 \times 10 = \square \rightarrow \boxed{\text{I}}$

$11 \times 11 = \square \rightarrow \boxed{\text{D}}$

$1 \times 1 = \square \rightarrow \boxed{\text{U}}$

$12 \times 11 = \square \rightarrow \boxed{\text{H}}$

Scratch space:

CLUE 5**Division facts (1-12) - the last clue**

The staff split the remaining smoothie samples equally among all testing trays.

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:

$18 \div 3 = \boxed{}$

$12 \div 1 = \boxed{}$

$80 \div 8 = \boxed{}$

$27 \div 3 = \boxed{}$

$3 \div 1 = \boxed{}$

$40 \div 10 = \boxed{}$

$21 \div 3 = \boxed{}$

$9 \div 9 = \boxed{}$

$45 \div 9 = \boxed{}$

$20 \div 10 = \boxed{}$

$88 \div 8 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain whipped creamy milkshake in large tubs, then dusted the rim with rainbow sprinkles.
2. The villain poured sparkling soda into every jug, then topped the drinks with whipped cream.
3. The villain steeped herbal tea in secret cauldrons, then topped the drinks with whipped cream.
4. The villain blended ice boba for the crowd, then dusted the rim with rainbow sprinkles.
5. The villain squeezed citrus zap across the bar, then dusted the rim with rainbow sprinkles.
6. The villain squeezed citrus zap across the bar, then topped the drinks with whipped cream.
7. The villain blended ice boba for the crowd, then topped the drinks with whipped cream.
8. The villain whipped creamy milkshake in large tubs, then topped the drinks with whipped cream.
9. The villain squeezed citrus zap across the bar, then added popping boba to every cup.
10. The villain blended ice boba for the crowd, then garnished each glass with mint leaves.
11. The villain blended ice boba for the crowd, then dropped fizzy tablets into the tank.
12. The villain poured sparkling soda into every jug, then dusted the rim with rainbow sprinkles.

Answer Key

The Fizzy Falls Flavor Heist

Culprit: Charles Hires

Creamy Milkshake · Whipped Cream · Right-Handed Pour · Deep Purple Hair · Lemon Juice

Trail: Start 21 → Clue 1 16 → Clue 2 11 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE BANDIT DOES NOT USE FIZZY TABLETS"

Round 168 to the nearest ten = 170 (T) · Round 496 to the nearest hundred = 500 (U) · Round 1,057 to the nearest hundred = 1100 (O) · Round 1,278 to the nearest hundred = 1300 (N) · Round 292 to the nearest ten = 290 (Y) · Round 374 to the nearest ten = 370 (Z) · Round 231 to the nearest ten = 230 (L) · Round 2,278 to the nearest hundred = 2300 (F) · Round 129 to the nearest ten = 130 (D) · Round 258 to the nearest hundred = 300 (A) · Round 196 to the nearest hundred = 200 (S) · Round 94 to the nearest ten = 90 (E) · Round 26 to the nearest ten = 30 (B) · Round 6,718 to the nearest thousand = 7000 (I) · Round 71 to the nearest ten = 70 (H)

Clue 2 (Multi-step word problems): "RIGHT HANDED POUR"

Barista collected 3 straw packages in the morning and 61 straw packages in the afternoon, then split them equally among 4 Flavor Detectives. How many straw packages did each get? = 16 (R) · Barista filled 9 boxes with 2 flavor packets each, then found 15 more flavor packets. How many flavor packets are there in all? = 33 (T) · There were 154 straw packages in all. 1 Flavor Detectives used 40 straw packages each. The other 2 Flavor Detectives shared the rest equally. How many straw packages did each of the other Flavor Detectives get? = 57 (I) · There were 230 juice bottles in all. 3 Flavor Detectives used 10 juice bottles each. The other 4 Flavor Detectives shared the rest equally. How many juice bottles did each of the other Flavor Detectives get? = 50 (A) · Barista earned 4 juice bottles in each of 5 rounds, plus 67 bonus juice bottles. Then 1 juice bottles were lost. How many juice bottles are left? = 86 (G) · Barista collected 197 boba scoops in the morning and 193 boba scoops in the afternoon, then split them equally among 5 Flavor Detectives. How many boba scoops did each get? = 78 (H) · Barista filled 2 boxes with 9 flavor packets each, then found 71 more flavor packets. How many flavor packets are there in all? = 89 (N)

Clue 3 (Word problems): "LEMON JUICE"

Barista found 4 boba scoops yesterday and 4 more today. How many boba scoops in all? = 8 (L) · There were 63 flavor packets. 32 were used up. How many flavor packets are left? = 31 (U) · There were 26 flavor packets. 9 were used up. How many flavor packets are left? = 17 (N) · Barista found 9 straw packages yesterday and 3 more today. How many straw packages in all? = 12 (O) · Barista lined up 9 rows of 6 smoothie cups. How many smoothie cups in all? = 54 (E) · Barista found 7 straw packages yesterday and 30 more today. How many straw packages in all? = 37 (M) · There were 87 straw packages. 9 were used up. How many straw packages are left? = 78 (J)

Clue 4 (Multiplication facts (1-12)): "A STRAND OF DEEP PURPLE HAIR WAS LEFT"

$5 \times 10 = 50$ (A) · $9 \times 9 = 81$ (T) · $12 \times 3 = 36$ (O) · $9 \times 8 = 72$ (N) · $9 \times 2 = 18$ (W) · $1 \times 10 = 10$ (F) · $6 \times 1 = 6$ (E) · $4 \times 7 = 28$ (L) · $2 \times 10 = 20$ (P) · $7 \times 3 = 21$ (S) · $7 \times 8 = 56$ (R) · $6 \times 10 = 60$ (I) · $11 \times 11 = 121$ (D) · $1 \times 1 = 1$ (U) · $12 \times 11 = 132$ (H)

Clue 5 (Division facts (1-12)): surviving statement is box 8 → Charles Hires

$18 \div 3 = 6$ · $12 \div 1 = 12$ · $80 \div 8 = 10$ · $27 \div 3 = 9$ · $3 \div 1 = 3$ · $40 \div 10 = 4$ · $21 \div 3 = 7$ · $9 \div 9 = 1$ · $45 \div 9 = 5$ · $20 \div 10 = 2$ · $88 \div 8 = 11$