



The Mystery of the Bouncing Jack-O'-Lantern

Grade 4 math · Multiplication, Rounding, Addition, Subtraction, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

During the big autumn contest, someone used high-flying jumping pumpkin gear to hop away with the Golden Gourd Trophy! Solve the math clues to figure out who bounced off with the prize.

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 Bouncing Bandit is _____

Possible suspects

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

NAME	BOUNCE GEAR	PATCH GADGET	DOMINANT HAND	HEADWEAR	TRAP MATERIAL
Fiona Field	bounce potion	glow launchers	right handed	purple beanie	tangled garden net
Rory Root	bounce potion	squishy armor	left handed	green stem cap	tangled garden net
Danny Diggs	bounce potion	vine whips	right handed	purple beanie	sticky maple syrup
Wally Squash	vine catapult	squishy armor	right handed	orange wig	tangled garden net
Jasper Jack	trampo legs	vine whips	left handed	purple beanie	tangled garden net
Tommy Vine	trampo legs	fog blowers	right handed	green stem cap	tangled garden net
Hank Hay	vine catapult	vine whips	left handed	green stem cap	sticky maple syrup
Toby Trampoline	pogo stem	fog blowers	left handed	orange wig	heavy pumpkin seeds
Benny Bloom	bounce potion	glow launchers	left handed	green stem cap	sticky maple syrup
Ollie Orange	bounce potion	vine whips	right handed	green stem cap	tangled garden net
Chloe Crop	trampo legs	vine whips	left handed	orange wig	heavy pumpkin seeds
Zack Zap	vine catapult	squishy armor	left handed	green stem cap	sticky maple syrup
Grace Garden	bounce potion	squishy armor	right handed	green stem cap	sticky maple syrup
Pip Pumpkin	pogo stem	squishy armor	left handed	purple beanie	heavy pumpkin seeds
Polly Patch	trampo legs	fog blowers	left handed	green stem cap	sticky maple syrup
Sammy Seeds	trampo legs	vine whips	left handed	purple beanie	sticky maple syrup
Ivy Sprout	springboard boots	fog blowers	left handed	green stem cap	sticky maple syrup
Sally Stem	trampo legs	vine whips	left handed	orange wig	tangled garden net
Ella Harvest	springboard boots	glow launchers	right handed	orange wig	sticky maple syrup
Abby Autumn	pogo stem	squishy armor	right handed	green stem cap	sticky maple syrup
Vera Vegetable	vine catapult	seed cannons	left handed	purple beanie	heavy pumpkin seeds

Multiplication facts (1-12)

You find boxes of extra bouncy pumpkin springs arranged in equal rows. Multiply the rows to reveal the first hidden clue.

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

A number line from 0 to 1000. The line is divided into segments by vertical tick marks. Below the line, numbers are written in each segment: 9, 144, 64, 72, 81, 33, 33, 16, 24, 54, 24, 81, 33, 9, 100, 72, 64. Above the line, there are boxes for numbers. The box containing '9' is highlighted in orange and has a large orange 'T' above it, indicating the target number.

$9 \times 1 = \boxed{} \rightarrow \boxed{\text{T}}$

$$12 \times 1 = \boxed{} \rightarrow \boxed{\mathbf{W}}$$

$7 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

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

$3 \times 9 = \boxed{} \rightarrow \boxed{\text{A}}$

$$6 \times 12 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

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

$1 \times 2 = \boxed{} \rightarrow \boxed{\text{L}}$

$$10 \times 10 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$8 \times 8 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$6 \times 9 = \boxed{} \rightarrow \boxed{1}$$

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

$$2 \times 12 = \boxed{} \rightarrow \boxed{\mathbf{D}}$$

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

$11 \times 3 = \boxed{} \rightarrow \boxed{0}$

$2 \times 8 = \boxed{} \rightarrow \boxed{\text{P}}$

Scratch space:

CLUE 2

The patch jumpometer display only shows bounce heights rounded to the nearest ten. Round the score to read the next note.

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

Diagram illustrating a sequence of numbers arranged in two rows, with some boxes highlighted in orange and labeled 'T'.

Top Row (Left to Right):

- Box 1 (Orange, T): 20
- Box 2 (White): 110
- Box 3 (White): 90
- Box 4 (White): 2000
- Box 5 (White): 300
- Box 6 (White): 5000
- Box 7 (White): 5000
- Box 8 (White): 1700
- Box 9 (White): 300
- Box 10 (White): 9000
- Box 11 (White): 50
- Box 12 (White): 3700
- Box 13 (White): 90
- Box 14 (White): 70
- Box 15 (Orange, T): 20
- Box 16 (White): 110
- Box 17 (White): 90
- Box 18 (White): 300
- Box 19 (White): 3000

Bottom Row (Left to Right):

- Box 1 (White): 5000
- Box 2 (White): 90
- Box 3 (White): 4300
- Box 4 (Orange, T): 20
- Box 5 (White): 110
- Box 6 (White): 1700
- Box 7 (White): 9000
- Box 8 (White): 70
- Box 9 (Orange, T): 20
- Box 10 (White): 1300
- Box 11 (White): 5000
- Box 12 (White): 90
- Box 13 (White): 1700
- Box 14 (White): 130

Round 24 to the nearest ten $\rightarrow$ **T**

Round 9,013 to the nearest thousand $\rightarrow$ **N**

Round 332 to the nearest hundred $\rightarrow$

Round 3,741 to the nearest hundred → **S**

Round 72 to the nearest ten → **D**

Round 49 to the nearest ten $\rightarrow$ **U**

Round 110 to the nearest ten $\rightarrow$ **H**

Round 134 to the nearest ten $\rightarrow$ **P**

Round 94 to the nearest ten → **E**

Round 2,096 to the nearest thousand $\rightarrow$ **V**

Round 1,265 to the nearest hundred $\rightarrow$ ☐

Round 4,262 to the nearest hundred → **F**

Round 5,057 to the nearest thousand $\rightarrow$ **L**

Round 1,663 to the nearest hundred $\rightarrow$ **A**

Round 2,752 to the nearest thousand → **R**

Scratch space:

CLUE 3 Addition

To track the jumper trail, add up all the smashed gourds found along the north and south paths.

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

M																			
7724	4437	9657	4354	4018	2538	8934	2020	6982	9657	9316	2020	4997	9657	9657	4018	2942	6982	9657	
												M							
9316	3817	4018	2020	6982	3279	4437	6403	4437	8934	9657	6982	7724	9657	6927	4997	3279			

$3807 + 3917 = \square \rightarrow \mathbf{M}$	$1841 + 2596 = \square \rightarrow \mathbf{A}$	$2094 + 2903 = \square \rightarrow \mathbf{I}$
$2452 + 1902 = \square \rightarrow \mathbf{L}$	$3356 + 5960 = \square \rightarrow \mathbf{T}$	$4046 + 2881 = \square \rightarrow \mathbf{K}$
$2148 + 1131 = \square \rightarrow \mathbf{N}$	$2233 + 1785 = \square \rightarrow \mathbf{E}$	$1488 + 1050 = \square \rightarrow \mathbf{S}$
$1121 + 1821 = \square \rightarrow \mathbf{D}$	$3654 + 2749 = \square \rightarrow \mathbf{W}$	$1206 + 814 = \square \rightarrow \mathbf{R}$
$3966 + 5691 = \square \rightarrow \mathbf{P}$	$1146 + 2671 = \square \rightarrow \mathbf{H}$	$4266 + 4668 = \square \rightarrow \mathbf{Y}$
$2332 + 4650 = \square \rightarrow \mathbf{U}$		

Scratch space:

CLUE 4

Subtraction

Compare the initial bounce height to the final landing spot by subtracting to find the difference.

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

A										A			A		
7383	7907	8739	1956	1956	3469	7092	5442	1956	8004	2746	7383	5841	6086	7383	7092

								A											
7833	8739	8206	5841	5841	1956	7833	3469	1956	7383	8739	5442	4749	1956	5442	8739	8206	5841	4749	8342

$11255 - 3872 = \boxed{} \rightarrow \boxed{\text{A}}$

$7277 - 1436 = \boxed{} \rightarrow \boxed{\text{P}}$

$7863 - 771 = \boxed{} \rightarrow \boxed{\text{S}}$

$9209 - 867 = \boxed{} \rightarrow \boxed{\text{Y}}$

$9823 - 1916 = \boxed{} \rightarrow \boxed{\text{G}}$

$6283 - 3537 = \boxed{} \rightarrow \boxed{\text{C}}$

$9904 - 2071 = \boxed{} \rightarrow \boxed{\text{D}}$

$7451 - 3982 = \boxed{} \rightarrow \boxed{\text{N}}$

$8640 - 2554 = \boxed{} \rightarrow \boxed{\text{W}}$

$13013 - 4807 = \boxed{} \rightarrow \boxed{\text{O}}$

$5577 - 828 = \boxed{} \rightarrow \boxed{\text{H}}$

$10875 - 2136 = \boxed{} \rightarrow \boxed{\text{R}}$

$6552 - 1110 = \boxed{} \rightarrow \boxed{\text{T}}$

$10728 - 2724 = \boxed{} \rightarrow \boxed{\text{M}}$

$4296 - 2340 = \boxed{} \rightarrow \boxed{\text{E}}$

Scratch space:

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

Split the gathered pumpkin seeds equally into mystery bags to unlock the final clue.

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:

$3 \div 1 = \boxed{}$

$6 \div 1 = \boxed{}$

$120 \div 12 = \boxed{}$

$56 \div 7 = \boxed{}$

$120 \div 10 = \boxed{}$

$30 \div 6 = \boxed{}$

$22 \div 11 = \boxed{}$

$36 \div 4 = \boxed{}$

$32 \div 8 = \boxed{}$

$44 \div 4 = \boxed{}$

$35 \div 5 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain bounced with trampo legs, then blew fog blowers.
2. The villain leapt on springboard boots, then flashed glow launchers.
3. The villain launched from a vine catapult, then bounced off squishy armor.
4. The villain leapt on springboard boots, then blasted seed cannons.
5. The villain drank a bounce potion, then blasted seed cannons.
6. The villain launched from a vine catapult, then swung vine whips.
7. The villain launched from a vine catapult, then blasted seed cannons.
8. The villain hopped on a pogo stem, then flashed glow launchers.
9. The villain drank a bounce potion, then swung vine whips.
10. The villain leapt on springboard boots, then blew fog blowers.
11. The villain bounced with trampo legs, then blasted seed cannons.
12. The villain drank a bounce potion, then bounced off squishy armor.

Answer Key

The Mystery of the Bouncing Jack-O'-Lantern

Culprit: Polly Patch

trampo legs · fog blowers · left handed · green stem cap · sticky maple syrup

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SNOOP DID NOT USE GLOW LAUNCHERS"

$9 \times 1 = 9$ (T) · $12 \times 1 = 12$ (W) · $7 \times 8 = 56$ (G) · $8 \times 12 = 96$ (R) · $3 \times 9 = 27$ (A) · $6 \times 12 = 72$ (S) · $12 \times 12 = 144$ (H) · $1 \times 2 = 2$ (L) · $10 \times 10 = 100$ (U) · $8 \times 8 = 64$ (E) · $6 \times 9 = 54$ (I) · $3 \times 7 = 21$ (C) · $2 \times 12 = 24$ (D) · $9 \times 9 = 81$ (N) · $11 \times 3 = 33$ (O) · $2 \times 8 = 16$ (P)

Clue 2 (Rounding): "THE VILLAIN USED THEIR LEFT HAND TO LEAP"

Round 24 to the nearest ten = 20 (T) · Round 9,013 to the nearest thousand = 9000 (N) · Round 332 to the nearest hundred = 300 (I) · Round 3,741 to the nearest hundred = 3700 (S) · Round 72 to the nearest ten = 70 (D) · Round 49 to the nearest ten = 50 (U) · Round 110 to the nearest ten = 110 (H) · Round 134 to the nearest ten = 130 (P) · Round 94 to the nearest ten = 90 (E) · Round 2,096 to the nearest thousand = 2000 (V) · Round 1,265 to the nearest hundred = 1300 (O) · Round 4,262 to the nearest hundred = 4300 (F) · Round 5,057 to the nearest thousand = 5000 (L) · Round 1,663 to the nearest hundred = 1700 (A) · Round 2,752 to the nearest thousand = 3000 (R)

Clue 3 (Addition): "MAPLE SYRUP TRIPPED UP THE RUNAWAY PUMPKIN"

$3807 + 3917 = 7724$ (M) · $1841 + 2596 = 4437$ (A) · $2094 + 2903 = 4997$ (I) · $2452 + 1902 = 4354$ (L) · $3356 + 5960 = 9316$ (T) · $4046 + 2881 = 6927$ (K) · $2148 + 1131 = 3279$ (N) · $2233 + 1785 = 4018$ (E) · $1488 + 1050 = 2538$ (S) · $1121 + 1821 = 2942$ (D) · $3654 + 2749 = 6403$ (W) · $1206 + 814 = 2020$ (R) · $3966 + 5691 = 9657$ (P) · $1146 + 2671 = 3817$ (H) · $4266 + 4668 = 8934$ (Y) · $2332 + 4650 = 6982$ (U)

Clue 4 (Subtraction): "A GREEN STEM CAP WAS DROPPED NEAR THE TROPHY"

$11255 - 3872 = 7383$ (A) · $7277 - 1436 = 5841$ (P) · $7863 - 771 = 7092$ (S) · $9209 - 867 = 8342$ (Y) · $9823 - 1916 = 7907$ (G) · $6283 - 3537 = 2746$ (C) · $9904 - 2071 = 7833$ (D) · $7451 - 3982 = 3469$ (N) · $8640 - 2554 = 6086$ (W) · $13013 - 4807 = 8206$ (O) · $5577 - 828 = 4749$ (H) · $10875 - 2136 = 8739$ (R) · $6552 - 1110 = 5442$ (T) · $10728 - 2724 = 8004$ (M) · $4296 - 2340 = 1956$ (E)

Clue 5 (Division facts (1-12)): surviving statement is box 1 → Polly Patch

$3 \div 1 = 3$ · $6 \div 1 = 6$ · $120 \div 12 = 10$ · $56 \div 7 = 8$ · $120 \div 10 = 12$ · $30 \div 6 = 5$ · $22 \div 11 = 2$ · $36 \div 4 = 9$ · $32 \div 8 = 4$ · $44 \div 4 = 11$ · $35 \div 5 = 7$