



The Great Pumpkin Patch Caper

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

Detective: _____ Date: _____

Someone scrambled the prized pumpkin patch right before the annual Autumn Harvest Contest! Help Detective Vine decode the clues, eliminate suspects, and track down the culprit.

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 Gourd Goblin is _____

Possible suspects

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

NAME	SPECIAL ABILITY	HARVEST GEAR	DOMINANT HAND	HEADWEAR	SECRET WEAKNESS
Eli Acre	Vine Grapple	Spooky Cloak	Left Handed	Brown Hood	Cinnamon Sticks
Rusty Vine	Seed Shooter	Spooky Cloak	Left Handed	Orange Wig	Cinnamon Sticks
Sam Sprout	Pie Launcher	Straw Hat	Right Handed	Green Cap	Pumpkin Spice
Leo Leaf	Vine Grapple	Stem Boots	Right Handed	Orange Wig	Apple Cider
Penny Patch	Seed Shooter	Burlap Sack	Left Handed	Brown Hood	Apple Cider
Glenn Field	Seed Shooter	Spooky Cloak	Right Handed	Green Cap	Apple Cider
Autumn Squash	Candle Beam	Spooky Cloak	Right Handed	Green Cap	Apple Cider
Hank Haystack	Vine Grapple	Spooky Cloak	Right Handed	Orange Wig	Cinnamon Sticks
Jack Lantern	Candle Beam	Straw Hat	Left Handed	Orange Wig	Apple Cider
Willow Weaver	Vine Grapple	Stem Boots	Left Handed	Orange Wig	Cinnamon Sticks
Clara Cider	Candle Beam	Burlap Sack	Right Handed	Orange Wig	Cinnamon Sticks
Pip Seed	Vine Grapple	Spooky Cloak	Left Handed	Green Cap	Pumpkin Spice
Toby Tiller	Candle Beam	Spooky Cloak	Right Handed	Orange Wig	Cinnamon Sticks
Zack Zip	Vine Grapple	Stem Boots	Right Handed	Green Cap	Cinnamon Sticks
Nina Nutmeg	Vine Grapple	Lantern Belt	Left Handed	Brown Hood	Cinnamon Sticks
Buster Gourd	Vine Grapple	Burlap Sack	Right Handed	Orange Wig	Pumpkin Spice
Bruno Burlap	Seed Shooter	Stem Boots	Right Handed	Orange Wig	Cinnamon Sticks
Fiona Farmer	Gourd Blast	Stem Boots	Right Handed	Orange Wig	Cinnamon Sticks
Rosie Rake	Gourd Blast	Spooky Cloak	Left Handed	Green Cap	Pumpkin Spice
Vera Vine	Pie Launcher	Stem Boots	Right Handed	Brown Hood	Apple Cider
Jasper Sieve	Seed Shooter	Stem Boots	Right Handed	Brown Hood	Apple Cider

CLUE 1
Multiplication facts (1-12)

Detective Vine counts rows of giant pumpkins lined up in the contest tent to find the first coded message.

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

T																			
90	40	56	5	66	56	7	25	10	55	77	36	36	7	77	66	20	120	56	5
		T																	
66	120	90	32	56	7	21	7	33	81	21	36	7	28	5	7	80	25		

$9 \times 10 = \square \rightarrow$ T	$2 \times 10 = \square \rightarrow$ D	$7 \times 3 = \square \rightarrow$ R	
$9 \times 9 = \square \rightarrow$ U	$7 \times 1 = \square \rightarrow$ A	$5 \times 1 = \square \rightarrow$ S	$7 \times 11 = \square \rightarrow$ I
$7 \times 8 = \square \rightarrow$ E	$8 \times 4 = \square \rightarrow$ W	$10 \times 1 = \square \rightarrow$ Y	
$6 \times 11 = \square \rightarrow$ N	$9 \times 4 = \square \rightarrow$ L	$8 \times 10 = \square \rightarrow$ C	
$4 \times 7 = \square \rightarrow$ P	$10 \times 12 = \square \rightarrow$ O	$4 \times 10 = \square \rightarrow$ H	
$5 \times 5 = \square \rightarrow$ K	$5 \times 11 = \square \rightarrow$ V	$3 \times 11 = \square \rightarrow$ B	

Scratch space:

CLUE 2 Rounding

The farm digital scale only shows rounded weights for the record gourds, revealing a hidden note.

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

A							A									
1300	300	200	1700	9000	3000	9000	1300	5000	700	290	700	1700	7000	500	170	290
	A										A					
20	1300	2900	700	300	500	110	110	290	700	5000	290	1300	300	3000	9000	290
170	200	5000	290													

Round 1,302 to the nearest hundred → **A**

Round 240 to the nearest hundred → **I**

Round 294 to the nearest ten → **E**

Round 502 to the nearest hundred → **O**

Round 8,553 to the nearest thousand → **H**

Round 1,718 to the nearest hundred → **G**

Round 2,947 to the nearest hundred → **S**

Round 3,121 to the nearest thousand → **T**

Round 20 to the nearest ten → **W**

Round 294 to the nearest hundred → **R**

Round 6,962 to the nearest thousand → **L**

Round 113 to the nearest ten → **P**

Round 748 to the nearest hundred → **D**

Round 172 to the nearest ten → **V**

Round 5,127 to the nearest thousand → **N**

Scratch space:

CLUE 3 Addition

To piece together the trail, Detective Vine tallies up all the dropped pumpkin seeds along the path.

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

A																			
8776	7989	9474	5169	9058	3026	3652	4785	9058	3331	5169	5169	8776	4279	3652	5169				
								A											
5622	5014	3331	9058	4900	5622	5622	9058	8776	2176	3504	9771	5014	3026	3504	9058	2176	3652	3652	4900

$5883 + 2893 = \square \rightarrow$ A	$2433 + 1846 = \square \rightarrow$ M	$2623 + 2391 = \square \rightarrow$ T
$1955 + 1071 = \square \rightarrow$ H	$884 + 1292 = \square \rightarrow$ R	$2985 + 1915 = \square \rightarrow$ K
$1788 + 1543 = \square \rightarrow$ I	$3579 + 2043 = \square \rightarrow$ S	$4109 + 5365 = \square \rightarrow$ U
$1476 + 2176 = \square \rightarrow$ O	$4856 + 3133 = \square \rightarrow$ B	$3434 + 1735 = \square \rightarrow$ N
$1159 + 2345 = \square \rightarrow$ E	$5756 + 4015 = \square \rightarrow$ D	$3227 + 1558 = \square \rightarrow$ F
$4738 + 4320 = \square \rightarrow$ C		

Scratch space:

CLUE 4
Subtraction

Comparing the stolen prize pies to the leftovers shows how many items the culprit took.

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

I						I													
6050	6100	4800	2293	1273	2828	6050	4441	4984	2828	3432	5274	1273	4318	3432	3771	6100	5636		
1273	2828	5274	4984	6100	5636	1273	3432	4318	4984	6100	3432	5274	4984	6100	4441	2293			
	I																		
5872	6050	4441																	

$$6858 - 808 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$8638 - 3364 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$8832 - 4514 = \boxed{} \rightarrow \boxed{\text{F}}$$

$$9455 - 3355 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$3079 - 1806 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$5233 - 2405 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$2999 - 706 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$4174 - 403 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$5795 - 159 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$7253 - 3821 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$7567 - 1695 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$9140 - 4699 = \boxed{} \rightarrow \boxed{\text{G}}$$

$$8870 - 4070 = \boxed{} \rightarrow \boxed{\text{V}}$$

$$7521 - 2537 = \boxed{} \rightarrow \boxed{\text{A}}$$

Scratch space:

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

The detective splits the leftover cinnamon sticks into equal piles to decode 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:

$21 \div 7 = \boxed{}$

$64 \div 8 = \boxed{}$

$36 \div 6 = \boxed{}$

$24 \div 2 = \boxed{}$

$99 \div 9 = \boxed{}$

$60 \div 12 = \boxed{}$

$40 \div 10 = \boxed{}$

$70 \div 10 = \boxed{}$

$24 \div 12 = \boxed{}$

$50 \div 5 = \boxed{}$

$3 \div 3 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain blasted giant gourds, then donned a spooky cloak.
2. The villain swung on a long vine, then adjusted a straw hat.
3. The villain blasted giant gourds, then laced up stem boots.
4. The villain shot explosive seeds, then tightened a lantern belt.
5. The villain flashed a bright candle beam, then carried a burlap sack.
6. The villain swung on a long vine, then donned a spooky cloak.
7. The villain blasted giant gourds, then adjusted a straw hat.
8. The villain flashed a bright candle beam, then donned a spooky cloak.
9. The villain shot explosive seeds, then laced up stem boots.
10. The villain flashed a bright candle beam, then laced up stem boots.
11. The villain blasted giant gourds, then tightened a lantern belt.
12. The villain shot explosive seeds, then donned a spooky cloak.

Answer Key

The Great Pumpkin Patch Caper

Culprit: Bruno Burlap

Seed Shooter · Stem Boots · Right Handed · Orange Wig · Cinnamon Sticks

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SNEAKY VILLAIN DOES NOT WEAR A BURLAP SACK"

$9 \times 10 = 90$ (T) · $2 \times 10 = 20$ (D) · $7 \times 3 = 21$ (R) · $9 \times 9 = 81$ (U) · $7 \times 1 = 7$ (A) · $5 \times 1 = 5$ (S) · $7 \times 11 = 77$ (I) · $7 \times 8 = 56$ (E) · $8 \times 4 = 32$ (W) · $10 \times 1 = 10$ (Y) · $6 \times 11 = 66$ (N) · $9 \times 4 = 36$ (L) · $8 \times 10 = 80$ (C) · $4 \times 7 = 28$ (P) · $10 \times 12 = 120$ (O) · $4 \times 10 = 40$ (H) · $5 \times 5 = 25$ (K) · $5 \times 11 = 55$ (V) · $3 \times 11 = 33$ (B)

Clue 2 (Rounding): "A RIGHT HANDED GLOVE WAS DROPPED NEAR THE VINE"

Round 1,302 to the nearest hundred = 1300 (A) · Round 240 to the nearest hundred = 200 (I) · Round 294 to the nearest ten = 290 (E) · Round 502 to the nearest hundred = 500 (O) · Round 8,553 to the nearest thousand = 9000 (H) · Round 1,718 to the nearest hundred = 1700 (G) · Round 2,947 to the nearest hundred = 2900 (S) · Round 3,121 to the nearest thousand = 3000 (T) · Round 20 to the nearest ten = 20 (W) · Round 294 to the nearest hundred = 300 (R) · Round 6,962 to the nearest thousand = 7000 (L) · Round 113 to the nearest ten = 110 (P) · Round 748 to the nearest hundred = 700 (D) · Round 172 to the nearest ten = 170 (V) · Round 5,127 to the nearest thousand = 5000 (N)

Clue 3 (Addition): "A BUNCH OF CINNAMON STICKS SCARED THE CROOK"

$5883 + 2893 = 8776$ (A) · $2433 + 1846 = 4279$ (M) · $2623 + 2391 = 5014$ (T) · $1955 + 1071 = 3026$ (H) · $884 + 1292 = 2176$ (R) · $2985 + 1915 = 4900$ (K) · $1788 + 1543 = 3331$ (I) · $3579 + 2043 = 5622$ (S) · $4109 + 5365 = 9474$ (U) · $1476 + 2176 = 3652$ (O) · $4856 + 3133 = 7989$ (B) · $3434 + 1735 = 5169$ (N) · $1159 + 2345 = 3504$ (E) · $5756 + 4015 = 9771$ (D) · $3227 + 1558 = 4785$ (F) · $4738 + 4320 = 9058$ (C)

Clue 4 (Subtraction): "INVESTIGATORS FOUND STRANDS OF AN ORANGE WIG"

$6858 - 808 = 6050$ (I) · $8638 - 3364 = 5274$ (R) · $8832 - 4514 = 4318$ (F) · $9455 - 3355 = 6100$ (N) · $3079 - 1806 = 1273$ (S) · $5233 - 2405 = 2828$ (T) · $2999 - 706 = 2293$ (E) · $4174 - 403 = 3771$ (U) · $5795 - 159 = 5636$ (D) · $7253 - 3821 = 3432$ (O) · $7567 - 1695 = 5872$ (W) · $9140 - 4699 = 4441$ (G) · $8870 - 4070 = 4800$ (V) · $7521 - 2537 = 4984$ (A)

Clue 5 (Division facts (1-12)): surviving statement is box 9 → Bruno Burlap

$21 \div 7 = 3$ · $64 \div 8 = 8$ · $36 \div 6 = 6$ · $24 \div 2 = 12$ · $99 \div 9 = 11$ · $60 \div 12 = 5$ · $40 \div 10 = 4$ · $70 \div 10 = 7$ · $24 \div 12 = 2$ · $50 \div 5 = 10$ · $3 \div 3 = 1$