



The Case of the Midnight Haunting

Grade 3 math · Multiplication, Word problems, Subtraction, Addition, Missing addends · Reading level grades 3-4

Detective: _____ Date: _____

Someone is causing chaos at Spooksville Elementary after the sun goes down! Lockers are slamming, and chalkboards are writing by themselves. The Night Janitor needs the Ecto-Squad to find out which ghost is behind these scary tricks before school starts tomorrow!

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 Phantom Prankster is _____

Possible suspects

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

NAME	GHOST POWER	SPOOKY GEAR	DOMINANT HAND	GLOW COLOR	GHOST WEAKNESS
Stretch	wall walking	rattling chains	left handed	green ectoplasm	salt shakers
Myrtle	object floating	fog machine	left handed	green ectoplasm	bright flashlights
Slimer	wall walking	rattling chains	right handed	green ectoplasm	salt shakers
Inky	spooky howling	glow lantern	left handed	blue sparks	salt shakers
Shadow	wall walking	poltergeist dust	right handed	blue sparks	vacuum cleaners
Stinky	slime splashing	glow lantern	left handed	green ectoplasm	salt shakers
Shivers	chilly freezing	poltergeist dust	right handed	blue sparks	bright flashlights
Mist	wall walking	poltergeist dust	left handed	green ectoplasm	salt shakers
Buster	chilly freezing	glow lantern	left handed	green ectoplasm	salt shakers
Gloom	object floating	poltergeist dust	right handed	blue sparks	vacuum cleaners
Specter	slime splashing	poltergeist dust	right handed	green ectoplasm	bright flashlights
Spokey	slime splashing	phantom key	right handed	silver fog	vacuum cleaners
Casper	object floating	phantom key	right handed	green ectoplasm	salt shakers
Blinky	wall walking	poltergeist dust	right handed	green ectoplasm	vacuum cleaners
Bones	spooky howling	rattling chains	left handed	green ectoplasm	bright flashlights
Spooky	chilly freezing	glow lantern	left handed	silver fog	salt shakers
Gravely	object floating	phantom key	left handed	blue sparks	vacuum cleaners
Clyde	spooky howling	fog machine	left handed	green ectoplasm	salt shakers
Haunter	chilly freezing	rattling chains	left handed	silver fog	salt shakers
Pinky	chilly freezing	phantom key	right handed	blue sparks	salt shakers
Cobweb	wall walking	rattling chains	right handed	blue sparks	bright flashlights

Multiplication facts (1-12)

The tracker counts rows of glowing slime jars in the basement storage. If there are several shelves with the same number of jars on each, we can find the total. Solving this unlocks the first clue!

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

Diagram showing two rows of boxes representing a sequence of numbers. The top row has 12 boxes with values 36, 35, 22, 72, 35, 10, 15, 36, 56, 10, 22, 15, 2, 10, 36, 7, 15, 22. The bottom row has 12 boxes with values 110, 10, 66, 36, 22, 100, 72, 22, 49, 15, 36, 56, 7, 15, 36. The boxes containing the number 36 are highlighted in orange and labeled with a 'T'.

$12 \times 3 = \boxed{} \rightarrow \boxed{\text{T}}$

$11 \times 2 = \boxed{} \rightarrow \boxed{\text{E}}$

$$7 \times 7 = \boxed{} \rightarrow \boxed{}$$

$8 \times 7 = \boxed{} \rightarrow \boxed{\text{D}}$

$5 \times 7 =$ $\rightarrow$ **H**

$11 \times 6 = \square \rightarrow \boxed{\text{L}}$

$10 \times 11 = \boxed{} \rightarrow \boxed{\text{P}}$

$$2 \times 1 = \boxed{} \rightarrow \boxed{\mathbf{N}}$$

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

$8 \times 9 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$$10 \times 10 = \boxed{} \rightarrow \boxed{\mathbf{R}}$$

$7 \times 1 = \boxed{} \rightarrow \boxed{\text{U}}$

$10 \times 1 = \boxed{} \rightarrow \boxed{0}$

Scratch space:

CLUE 2

Word problems

To get past the library ghost, you must solve a tricky riddle about how many spooky lanterns are hidden in the bookshelves.

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

A witness saw the villain was L D D .

13 56 74 32 26 41 51 56

Ecto-Tracker found 5 floating keys yesterday and 8 more today. How many floating keys in all?

Answer: → L

There were 73 ecto-badges. 32 were used up. How many ecto-badges are left?

Answer: → A

There were 59 floating keys. 3 were used up. How many floating keys are left?

Answer: → E

Ecto-Tracker found 45 ecto-badges yesterday and 6 more today. How many ecto-badges in all?

Answer: → N

Ecto-Tracker found 20 ecto-badges yesterday and 6 more today. How many ecto-badges in all?

Answer: → H

There were 82 ecto-badges. 8 were used up. How many ecto-badges are left?

Answer: → F

Ecto-Tracker lined up 8 rows of 4 ecto-badges. How many ecto-badges in all?

Answer: → T

Scratch space:

CLUE 3

Subtraction

A ghost took some of our salt shakers from the supply cabinet. We started with a full crate, and now some are missing. Subtract to find how many we lost!

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

A											A		
624	149	607	211	149	744	285	327	273	420	624	744	557	

420	557	327	502	502	285	209	557	117	285	541	117	327	420	557	149	327	744	209

$995 - 371 = \boxed{} \rightarrow \boxed{\text{A}}$

$491 - 280 = \boxed{} \rightarrow \boxed{\text{R}}$

$692 - 365 = \boxed{} \rightarrow \boxed{\text{O}}$

$136 - 19 = \boxed{} \rightarrow \boxed{\text{H}}$

$648 - 107 = \boxed{} \rightarrow \boxed{\text{G}}$

$281 - 132 = \boxed{} \rightarrow \boxed{\text{C}}$

$588 - 168 = \boxed{} \rightarrow \boxed{\text{S}}$

$355 - 82 = \boxed{} \rightarrow \boxed{\text{F}}$

$942 - 335 = \boxed{} \rightarrow \boxed{\text{I}}$

$607 - 322 = \boxed{} \rightarrow \boxed{\text{E}}$

$805 - 303 = \boxed{} \rightarrow \boxed{\text{P}}$

$850 - 293 = \boxed{} \rightarrow \boxed{\text{T}}$

$788 - 44 = \boxed{} \rightarrow \boxed{\text{L}}$

$422 - 213 = \boxed{} \rightarrow \boxed{\text{D}}$

Scratch space:

CLUE 4 **Addition**

We found a pile of dropped ecto-badges in the hallway. Let us add up the badges from the gym and the library to get our next clue.

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

W																
347	952	459	659	933	649	490	490	442	639	952	490	617	442	952	952	649
952	474	679	659	821	361	506	484	957	617	659	659					

$222 + 125 = \square \rightarrow \boxed{\text{W}}$	$344 + 305 = \square \rightarrow \boxed{\text{N}}$	$211 + 295 = \square \rightarrow \boxed{\text{A}}$
$113 + 248 = \square \rightarrow \boxed{\text{L}}$	$150 + 324 = \square \rightarrow \boxed{\text{C}}$	$212 + 427 = \square \rightarrow \boxed{\text{I}}$
$324 + 497 = \square \rightarrow \boxed{\text{P}}$	$265 + 194 = \square \rightarrow \boxed{\text{F}}$	$343 + 609 = \square \rightarrow \boxed{\text{E}}$
$268 + 216 = \square \rightarrow \boxed{\text{S}}$	$374 + 559 = \square \rightarrow \boxed{\text{U}}$	$266 + 351 = \square \rightarrow \boxed{\text{G}}$
$225 + 454 = \square \rightarrow \boxed{\text{T}}$	$206 + 453 = \square \rightarrow \boxed{\text{O}}$	$275 + 215 = \square \rightarrow \boxed{\text{D}}$
$382 + 575 = \square \rightarrow \boxed{\text{M}}$	$203 + 239 = \square \rightarrow \boxed{\text{R}}$	

Scratch space:

CLUE 5**Missing addends - the last clue**

The security lock needs a total of ten power cells to open, but we only have some. Figure out the missing number of cells needed to crack the lock.

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:

$1 + \underline{\quad} = 9$

$8 + \underline{\quad} = 20$

$6 + \underline{\quad} = 17$

$7 + \underline{\quad} = 14$

$7 + \underline{\quad} = 13$

$9 + \underline{\quad} = 13$

$8 + \underline{\quad} = 17$

$3 + \underline{\quad} = 6$

$3 + \underline{\quad} = 4$

$2 + \underline{\quad} = 4$

$5 + \underline{\quad} = 15$

Step 2 - cross out the sentence with each answer:

1. The villain splashed green slime all over the floor, then sprinkled sparkling poltergeist dust everywhere.
2. The villain splashed green slime all over the floor, then shook a set of heavy rattling chains.
3. The villain made the schoolbooks float in the air, then unlocked the cabinet with a phantom key.
4. The villain let out a spooky howl that shook the room, then unlocked the cabinet with a phantom key.
5. The villain splashed green slime all over the floor, then lit the way with a glow lantern.
6. The villain let out a spooky howl that shook the room, then shook a set of heavy rattling chains.
7. The villain made the schoolbooks float in the air, then disappeared into a thick fog machine cloud.
8. The villain walked right through the library wall, then shook a set of heavy rattling chains.
9. The villain froze the classroom door handle solid, then disappeared into a thick fog machine cloud.
10. The villain splashed green slime all over the floor, then disappeared into a thick fog machine cloud.
11. The villain let out a spooky howl that shook the room, then disappeared into a thick fog machine cloud.
12. The villain froze the classroom door handle solid, then lit the way with a glow lantern.

Answer Key

The Case of the Midnight Haunting

Culprit: Stinky

slime splashing · glow lantern · left handed · green ectoplasm · salt shakers

Trail: Start 21 → Clue 1 15 → Clue 2 10 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE GHOST DOES NOT USE POLTERGEIST DUST"

$12 \times 3 = 36$ (T) · $11 \times 2 = 22$ (E) · $7 \times 7 = 49$ (I) · $8 \times 7 = 56$ (D) · $5 \times 7 = 35$ (H) · $11 \times 6 = 66$ (L) · $10 \times 11 = 110$ (P) · $2 \times 1 = 2$ (N) · $5 \times 3 = 15$ (S) · $8 \times 9 = 72$ (G) · $10 \times 10 = 100$ (R) · $7 \times 1 = 7$ (U) · $10 \times 1 = 10$ (O)

Clue 2 (Word problems): "LEFT HANDED"

Ecto-Tracker found 5 floating keys yesterday and 8 more today. How many floating keys in all? = 13 (L) · There were 73 ecto-badges. 32 were used up. How many ecto-badges are left? = 41 (A) · There were 59 floating keys. 3 were used up. How many floating keys are left? = 56 (E) · Ecto-Tracker found 45 ecto-badges yesterday and 6 more today. How many ecto-badges in all? = 51 (N) · Ecto-Tracker found 20 ecto-badges yesterday and 6 more today. How many ecto-badges in all? = 26 (H) · There were 82 ecto-badges. 8 were used up. How many ecto-badges are left? = 74 (F) · Ecto-Tracker lined up 8 rows of 4 ecto-badges. How many ecto-badges in all? = 32 (T)

Clue 3 (Subtraction): "A CIRCLE OF SALT STOPPED THE GHOST COLD"

$995 - 371 = 624$ (A) · $491 - 280 = 211$ (R) · $692 - 365 = 327$ (O) · $136 - 19 = 117$ (H) · $648 - 107 = 541$ (G) · $281 - 132 = 149$ (C) · $588 - 168 = 420$ (S) · $355 - 82 = 273$ (F) · $942 - 335 = 607$ (I) · $607 - 322 = 285$ (E) · $805 - 303 = 502$ (P) · $850 - 293 = 557$ (T) · $788 - 44 = 744$ (L) · $422 - 213 = 209$ (D)

Clue 4 (Addition): "WE FOUND DRIED GREEN ECTOPLASM GOO"

$222 + 125 = 347$ (W) · $344 + 305 = 649$ (N) · $211 + 295 = 506$ (A) · $113 + 248 = 361$ (L) · $150 + 324 = 474$ (C) · $212 + 427 = 639$ (I) · $324 + 497 = 821$ (P) · $265 + 194 = 459$ (F) · $343 + 609 = 952$ (E) · $268 + 216 = 484$ (S) · $374 + 559 = 933$ (U) · $266 + 351 = 617$ (G) · $225 + 454 = 679$ (T) · $206 + 453 = 659$ (O) · $275 + 215 = 490$ (D) · $382 + 575 = 957$ (M) · $203 + 239 = 442$ (R)

Clue 5 (Missing addends): surviving statement is box 5 → Stinky

$1 + \underline{\quad} = 9 = 8$ · $8 + \underline{\quad} = 20 = 12$ · $6 + \underline{\quad} = 17 = 11$ · $7 + \underline{\quad} = 14 = 7$ · $7 + \underline{\quad} = 13 = 6$ · $9 + \underline{\quad} = 13 = 4$ · $8 + \underline{\quad} = 17 = 9$ · $3 + \underline{\quad} = 6 = 3$ · $3 + \underline{\quad} = 4 = 1$ · $2 + \underline{\quad} = 4 = 2$ · $5 + \underline{\quad} = 15 = 10$