The Mystery of the Missing Coprolite

Grade 1 math · Addition, Subtraction, Skip counting, Place value, Missing addends · Reading level grades 3-4

Detective: _____ **Date:** _____

Someone snuck into the zoo lab and swapped the rare prehistoric fossilized droppings with regular barnyard manure! Detective, solve the clues to catch the perpetrator.

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 Poop Prankster is _____

Possible suspects

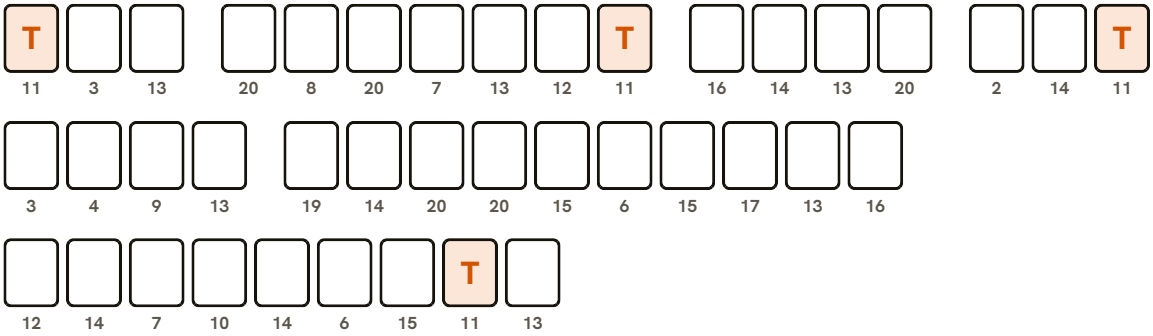
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	TOOL	PRIZE	DOMINANT HAND	HEADWEAR	CLEANUP SPRAY
Mindy Mud	Scoop Shovel	Fertilizer Stamp	Right Handed	Yellow Hardhat	Soapy Water
Barnaby Brown	Scent Masker	Mud Boot	Right Handed	Brown Visor	Air Freshener
Rory Rinse	Plunger Blaster	Fertilizer Stamp	Right Handed	Brown Visor	Soapy Water
Sammy Scoop	Compost Bin	Mud Boot	Left Handed	Brown Visor	Air Freshener
Penny Plunger	Scent Masker	Fertilizer Stamp	Right Handed	Yellow Hardhat	Soapy Water
Rita Rake	Tractor Loader	Golden Dropping	Left Handed	Brown Visor	Soapy Water
Piper Puddle	Compost Bin	Fossilized Coprolite	Left Handed	Brown Visor	Lemon Spray
Tess Trash	Scoop Shovel	Golden Dropping	Left Handed	Green Bucket Hat	Air Freshener
Ollie Odor	Plunger Blaster	Smelly Trophy	Left Handed	Yellow Hardhat	Air Freshener
Pete Pipe	Scent Masker	Fertilizer Stamp	Right Handed	Brown Visor	Lemon Spray
Sienna Suds	Scent Masker	Fertilizer Stamp	Left Handed	Brown Visor	Air Freshener
Zack Zap	Compost Bin	Golden Dropping	Left Handed	Yellow Hardhat	Lemon Spray
Gary Grime	Plunger Blaster	Smelly Trophy	Left Handed	Green Bucket Hat	Air Freshener
Wally Wader	Scent Masker	Golden Dropping	Right Handed	Brown Visor	Soapy Water
Chloe Clean	Compost Bin	Fossilized Coprolite	Left Handed	Brown Visor	Air Freshener
Lulu Loam	Scent Masker	Smelly Trophy	Left Handed	Brown Visor	Air Freshener
Nora Neat	Scoop Shovel	Golden Dropping	Right Handed	Brown Visor	Air Freshener
Milo Muck	Plunger Blaster	Fossilized Coprolite	Left Handed	Brown Visor	Air Freshener
Daisy Dung	Tractor Loader	Golden Dropping	Left Handed	Yellow Hardhat	Soapy Water
Bruno Boot	Scent Masker	Mud Boot	Left Handed	Brown Visor	Air Freshener
Hank Hose	Plunger Blaster	Mud Boot	Right Handed	Yellow Hardhat	Air Freshener

CLUE 1 Addition

We counted the total piles of zoo compost to find our first hint.

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



7 + 4 = ☐ → T

2 + 6 = ☐ → U

6 + 11 = ☐ → Z

7 + 13 = ☐ → S

1 + 2 = ☐ → H

4 + 3 = ☐ → P

4 + 10 = ☐ → O

1 + 1 = ☐ → N

9 + 6 = ☐ → I

9 + 10 = ☐ → F

2 + 7 = ☐ → V

3 + 1 = ☐ → A

8 + 8 = ☐ → D

6 + 6 = ☐ → C

3 + 3 = ☐ → L

4 + 6 = ☐ → R

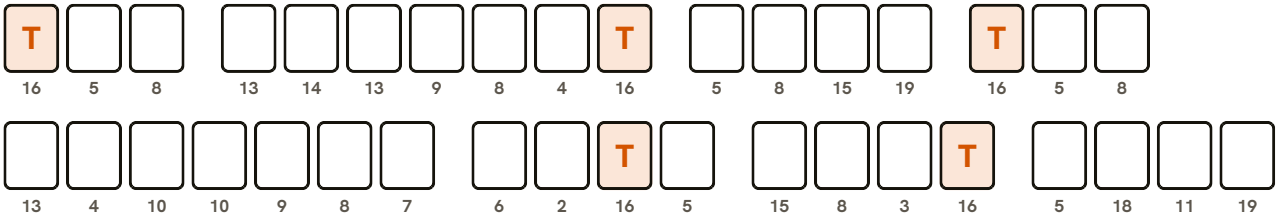
9 + 4 = ☐ → E

Scratch space:

CLUE 2 Subtraction

We took away the cleaned cages to see how many remained dirty.

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



18 - 2 = ☐ → T

12 - 6 = ☐ → W

14 - 6 = ☐ → E

16 - 1 = ☐ → L

13 - 2 = ☐ → N

19 - 1 = ☐ → A

6 - 3 = ☐ → F

15 - 5 = ☐ → O

15 - 1 = ☐ → U

20 - 1 = ☐ → D

11 - 6 = ☐ → H

16 - 7 = ☐ → P

12 - 8 = ☐ → C

18 - 5 = ☐ → S

8 - 1 = ☐ → R

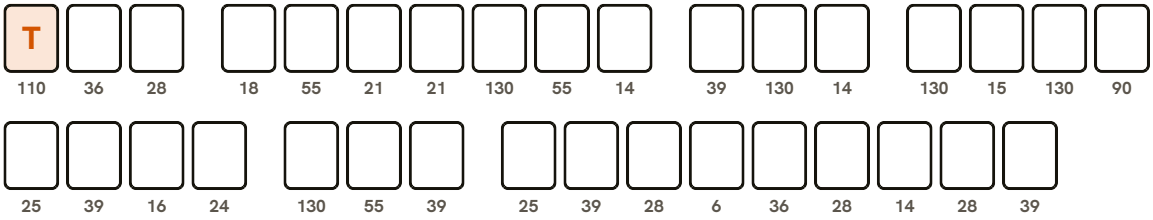
5 - 3 = ☐ → I

Scratch space:

CLUE 3 Skip counting

We counted the sacks of fertilizer by fives along the row.

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



Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, ___, 120, 130 ☐ → T

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, ___, 140, 150 ☐ → A

Skip-count by 2s. Fill the blank: 2, 4, ___, 8, 10 ☐ → S

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, ___, 21, 24 ☐ → V

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, ___, 24, 27 ☐ → L

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, ___, 26, 28 ☐ → M

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, ___, 30, 32 ☐ → E

Skip-count by 5s. Fill the blank: 5, 10, ___, 20, 25 ☐ → W

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, ___, 42, 45 ☐ → R

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ___, 39, 42 ☐ → H

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 ☐ → I

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, ___, 18, 20 ☐ → O

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, ___, 100, 110 ☐ → Y

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, ___, 16, 18 ☐ → **N**

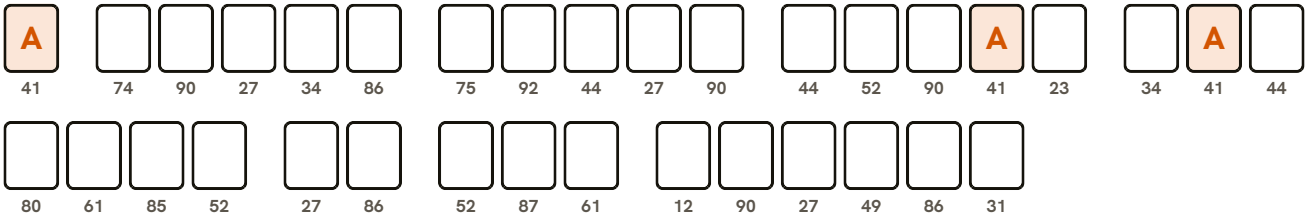
Skip-count by 5s. Fill the blank: 5, 10, 15, 20, ___, 30, 35 ☐ → **F**

Scratch space:

CLUE 4 Place value

The digital scale showed tens and ones of total dung weight.

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



What number has 4 tens and 1 one? ☐ → A

What number has 9 tens and 0 ones? ☐ → R

What number has 2 tens and 3 ones? ☐ → P

What number has 3 tens and 1 one? ☐ → D

What number has 8 tens and 5 ones? ☐ → F

What number has 8 tens and 7 ones? ☐ → H

What number has 2 tens and 7 ones? ☐ → O

What number has 9 tens and 2 ones? ☐ → I

What number has 3 tens and 4 ones? ☐ → W

What number has 8 tens and 6 ones? ☐ → N

What number has 4 tens and 9 ones? ☐ → U

What number has 5 tens and 2 ones? ☐ → T

What number has 7 tens and 5 ones? ☐ → V

What number has 6 tens and 1 one? ☐ → E

What number has 8 tens and 0 ones? ☐ → L

What number has 7 tens and 4 ones? ☐ → B

What number has 4 tens and 4 ones? ☐ → S

What number has 1 ten and 2 ones? ☐ → G

Scratch space:

CLUE 5 Missing addends - the last clue

> We knew how much manure fit in the cart and solved what was missing.

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:

2 + ___ = 9 ☐	3 + ___ = 12 ☐	3 + ___ = 6 ☐	10 + ___ = 14 ☐
10 + ___ = 21 ☐	5 + ___ = 11 ☐	9 + ___ = 17 ☐	8 + ___ = 18 ☐
6 + ___ = 11 ☐	3 + ___ = 15 ☐	10 + ___ = 12 ☐	

Step 2 - cross out the sentence with each answer:

1. The villain dumped the compost load, then kicked the mud boot.
2. The villain blasted the clogged pipe, then swiped the fossilized coprolite.
3. The villain sprayed the scent blocker, then stamped the fertilizer bag.
4. The villain blasted the clogged pipe, then stamped the fertilizer bag.
5. The villain dumped the compost load, then snagged the golden dropping.
6. The villain sprayed the scent blocker, then snagged the golden dropping.
7. The villain sprayed the scent blocker, then grabbed the smelly trophy.
8. The villain drove the loader truck, then snagged the golden dropping.
9. The villain sprayed the scent blocker, then kicked the mud boot.
10. The villain scooped the smelly mess, then snagged the golden dropping.
11. The villain drove the loader truck, then grabbed the smelly trophy.
12. The villain blasted the clogged pipe, then grabbed the smelly trophy.

TEACHER / PARENT

Answer Key

The Mystery of the Missing Coprolite

Culprit: Sammy Scoop

Compost Bin · Mud Boot · Left Handed · Brown Visor · Air Freshener

Trail: Start 21 → Clue 1 18 → Clue 2 10 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE SUSPECT DOES NOT HAVE FOSSILIZED COPROLITE"

7 + 4 = 11 (T) · 2 + 6 = 8 (U) · 6 + 11 = 17 (Z) · 7 + 13 = 20 (S) · 1 + 2 = 3 (H) · 4 + 3 = 7 (P) · 4 + 10 = 14 (O) · 1 + 1 = 2 (N) · 9 + 6 = 15 (I) · 9 + 10 = 19 (F) · 2 + 7 = 9 (V) · 3 + 1 = 4 (A) · 8 + 8 = 16 (D) · 6 + 6 = 12 (C) · 3 + 3 = 6 (L) · 4 + 6 = 10 (R) · 9 + 4 = 13 (E)

Clue 2 (Subtraction): "THE SUSPECT HELD THE SCOOPER WITH LEFT HAND"

18 - 2 = 16 (T) · 12 - 6 = 6 (W) · 14 - 6 = 8 (E) · 16 - 1 = 15 (L) · 13 - 2 = 11 (N) · 19 - 1 = 18 (A) · 6 - 3 = 3 (F) · 15 - 5 = 10 (O) · 15 - 1 = 14 (U) · 20 - 1 = 19 (D) · 11 - 6 = 5 (H) · 16 - 7 = 9 (P) · 12 - 8 = 4 (C) · 18 - 5 = 13 (S) · 8 - 1 = 7 (R) · 5 - 3 = 2 (I)

Clue 3 (Skip counting): "THE VILLAIN RAN AWAY FROM AIR FRESHENER"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, ___, 120, 130 = 110 (T) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, ___, 140, 150 = 130 (A) · Skip-count by 2s. Fill the blank: 2, 4, ___, 8, 10 = 6 (S) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, ___, 21, 24 = 18 (V) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, ___, 24, 27 = 21 (L) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, ___, 26, 28 = 24 (M) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, ___, 30, 32 = 28 (E) · Skip-count by 5s. Fill the blank: 5, 10, ___, 20, 25 = 15 (W) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, ___, 42, 45 = 39 (R) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ___, 39, 42 = 36 (H) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 = 55 (I) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, ___, 18, 20 = 16 (O) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, ___, 100, 110 = 90 (Y) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, ___, 16, 18 = 14 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, ___, 30, 35 = 25 (F)

Clue 4 (Place value): "A BROWN VISOR STRAP WAS LEFT ON THE GROUND"

What number has 4 tens and 1 one? = 41 (A) · What number has 9 tens and 0 ones? = 90 (R) · What number has 2 tens and 3 ones? = 23 (P) · What number has 3 tens and 1 one? = 31 (D) · What number has 8 tens and 5 ones? = 85 (F) · What number has 8 tens and 7 ones? = 87 (H) · What number has 2 tens and 7 ones? = 27 (O) · What number has 9 tens and 2 ones? = 92 (I) · What number has 3 tens and 4 ones? = 34 (W) · What number has 8 tens and 6 ones? = 86 (N) · What number has 4 tens and 9 ones? = 49 (U) · What number has 5 tens and 2 ones? = 52 (T) · What number has 7 tens and 5 ones? = 75 (V) · What number has 6 tens and 1 one? = 61 (E) · What number has 8 tens and 0 ones? = 80 (L) · What number has 7 tens and 4 ones? = 74 (B) · What number has 4 tens and 4 ones? = 44 (S) · What number has 1 ten and 2 ones? = 12 (G)

Clue 5 (Missing addends): surviving statement is box 1 → Sammy Scoop

2 + ___ = 9 = 7 · 3 + ___ = 12 = 9 · 3 + ___ = 6 = 3 · 10 + ___ = 14 = 4 · 10 + ___ = 21 = 11 · 5 + ___ = 11 = 6 · 9 + ___ = 17 = 8 · 8 + ___ = 18 = 10 · 6 + ___ = 11 = 5 · 3 + ___ = 15 = 12 · 10 + ___ = 12 = 2