



The Great Hot Spring Caper

Grade 2 math · Place value, Subtraction, Addition, Skip counting, Missing addends · Reading level grades 3-4

Detective: _____ Date: _____

Someone has stolen the Golden Melon Trophy from the annual Hot Spring Games! The capybaras are too relaxed to chase them, so it is up to you to crack the case and find the Spa Spoiler!

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 Spa Spoiler is _____

Possible suspects

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

NAME	FAVORITE SPA TOY	FAVORITE SNACK	SWIM STYLE	FUR PATTERN	DISTRACTION
Peanut	Mini Surfboard	Sweet Grass Biscuits	Splashes with Right Paw	Spotted Belly Fur	Mud Bath Nap
Gidget	Yellow Rubber Duck	Sweet Potato Fries	Splashes with Right Paw	Solid Brown Fur	Warm Water Mist
Turbo	Squeaky Toy Boat	Fresh Bamboo Shoots	Splashes with Right Paw	Solid Brown Fur	Behind Ear Scratches
Coco	Yellow Rubber Duck	Juicy Orange Slices	Splashes with Left Paw	Spotted Belly Fur	Behind Ear Scratches
Mocha	Squeaky Toy Boat	Sweet Potato Fries	Splashes with Right Paw	Striped Back Fur	Behind Ear Scratches
Nugget	Squeaky Toy Boat	Sweet Grass Biscuits	Splashes with Right Paw	Striped Back Fur	Behind Ear Scratches
Splash	Floating Foam Noodle	Sweet Potato Fries	Splashes with Left Paw	Spotted Belly Fur	Behind Ear Scratches
Otis	Floating Foam Noodle	Sweet Potato Fries	Splashes with Right Paw	Solid Brown Fur	Mud Bath Nap
Penelope	Mini Surfboard	Juicy Orange Slices	Splashes with Right Paw	Spotted Belly Fur	Mud Bath Nap
Mochi	Squeaky Toy Boat	Fresh Bamboo Shoots	Splashes with Right Paw	Spotted Belly Fur	Mud Bath Nap
Pip	Mini Surfboard	Crunchy Water Lettuce	Splashes with Right Paw	Spotted Belly Fur	Behind Ear Scratches
Barnaby	Mini Surfboard	Sweet Potato Fries	Splashes with Left Paw	Spotted Belly Fur	Mud Bath Nap
Waffles	Squeaky Toy Boat	Fresh Bamboo Shoots	Splashes with Right Paw	Striped Back Fur	Behind Ear Scratches
Bubbles	Squeaky Toy Boat	Crunchy Water Lettuce	Splashes with Right Paw	Striped Back Fur	Mud Bath Nap
Barney	Floating Foam Noodle	Crunchy Water Lettuce	Splashes with Right Paw	Spotted Belly Fur	Mud Bath Nap
Bruno	Purple Splash Ball	Juicy Orange Slices	Splashes with Left Paw	Striped Back Fur	Warm Water Mist
Dudley	Purple Splash Ball	Crunchy Water Lettuce	Splashes with Right Paw	Spotted Belly Fur	Mud Bath Nap
Bella	Purple Splash Ball	Fresh Bamboo Shoots	Splashes with Right Paw	Striped Back Fur	Mud Bath Nap
Cleo	Mini Surfboard	Juicy Orange Slices	Splashes with Right Paw	Spotted Belly Fur	Behind Ear Scratches
Ziggy	Floating Foam Noodle	Sweet Grass Biscuits	Splashes with Left Paw	Spotted Belly Fur	Warm Water Mist
Cappy	Floating Foam Noodle	Sweet Grass Biscuits	Splashes with Left Paw	Striped Back Fur	Warm Water Mist

CLUE 1

The spa computer needs a secret code to show the first clue. The code has three tens and five ones. Use your place value blocks to find the mystery code!

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

Row 1: (T, 34, 99, 79) (32, 65, 18, 72, 45, 79, 15) (95, 18, 79, 32, 29, 18, T, 34)

Row 2: (79, 41, T, 34) (18, 15, 41, 29, 76, 79) (32, 45, 72, 16, 79, 32)

What number has 3 tens and 4 ones? → T

What number has 9 tens and 9 ones? → **H**

What number has 9 tens and 5 ones? → **D**

What number has 3 tens and 2 ones? → **S**

What number has 7 tens and 9 ones? → **E**

What number has 1 ten and 6 ones? → **C**

What number has 7 tens and 2 ones? →

What number has 2 tens and 9 ones? → **N**

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

What number has 6 tens and 5 ones? → **P**

What number has 7 tens and 6 ones? → **G**

What number has 1 ten and 8 ones? → **0**

What number has 1 ten and 5 ones? → **R**

What number has 4 tens and 5 ones? → **L**

Scratch space:

CLUE 2 Subtraction

The thief took a bunch of sweet grass snacks from the kitchen. We had twenty snacks, but now some are missing. Subtract the leftover snacks to see how many the thief ate!

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

T					T													
63	47	51	35	12	63	51	89	35	12	71	71	26	66	12	71	47	51	37
80	75	12	89	27	85	47	63	26	12	35	24	21	66	75				

$96 - 33 = \square \rightarrow$ T	$51 - 16 = \square \rightarrow$ W	$98 - 13 = \square \rightarrow$ G
$67 - 16 = \square \rightarrow$ E	$76 - 1 = \square \rightarrow$ Y	$28 - 7 = \square \rightarrow$ N
$60 - 36 = \square \rightarrow$ O	$23 - 11 = \square \rightarrow$ A	$105 - 25 = \square \rightarrow$ B
$64 - 37 = \square \rightarrow$ I	$89 - 18 = \square \rightarrow$ S	$52 - 26 = \square \rightarrow$ P
$70 - 4 = \square \rightarrow$ L	$102 - 13 = \square \rightarrow$ R	$77 - 40 = \square \rightarrow$ D
$53 - 6 = \square \rightarrow$ H		

Scratch space:

CLUE 3 Addition

To find the next clue, we must count all the rubber ducks in both pools. Let us add the ducks in the big pool to the ducks in the small pool.

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

T																		
96	86	89	24	50	89	29	29	79	27	29	89	89	44	77	33	79		
21	79	26	81	81	98	35	53	79	96	86								

$41 + 55 = \square \rightarrow$ T	$50 + 39 = \square \rightarrow$ E	$11 + 16 = \square \rightarrow$ S
$15 + 9 = \square \rightarrow$ Y	$23 + 54 = \square \rightarrow$ I	$67 + 31 = \square \rightarrow$ U
$22 + 22 = \square \rightarrow$ P	$16 + 37 = \square \rightarrow$ B	$37 + 49 = \square \rightarrow$ H
$47 + 32 = \square \rightarrow$ A	$17 + 9 = \square \rightarrow$ R	$16 + 13 = \square \rightarrow$ L
$25 + 10 = \square \rightarrow$ D	$48 + 33 = \square \rightarrow$ M	$12 + 9 = \square \rightarrow$ W
$9 + 24 = \square \rightarrow$ N	$27 + 23 = \square \rightarrow$ F	

Scratch space:

CLUE 4

The suspect ran past the muddy path. We see footprints spaced out in a pattern. Skip count by fives to follow the tracks and find the clue!

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

50 15 12 16 16 130 70 55 10 45 6 140 50 18 130 55 16 12 14

16 27 130 50 15 140 65 130 14 24 27

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, __, 55, 60 → **S**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 →

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, , 21, 24 → **L**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 → **C**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 → **T**

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, , 18, 21 → **P**

Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 → **W**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 → **U**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, , 150, 160 → **A**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 → **B**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 → **R**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 → **D**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **H**

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

Scratch space:

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

The juice bar needs ten oranges to make a super drink, but they only have seven. Find the missing number of oranges to complete the recipe and get 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:

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

$4 + \underline{\quad} = 9$

$4 + \underline{\quad} = 11$

$7 + \underline{\quad} = 19$

$4 + \underline{\quad} = 10$

$5 + \underline{\quad} = 7$

$2 + \underline{\quad} = 12$

$6 + \underline{\quad} = 10$

$2 + \underline{\quad} = 5$

$7 + \underline{\quad} = 8$

$1 + \underline{\quad} = 10$

Step 2 - cross out the sentence with each answer:

1. The villain swims quietly across the pool, then drops a half eaten snack.
2. The villain waddles behind the juice bar, then leaves a trail of wet footprints.
3. The villain slides down the muddy riverbank, then knocks over a stack of fluffy towels.
4. The villain slides down the muddy riverbank, then shakes warm water off their fur.
5. The villain waddles behind the juice bar, then drops a half eaten snack.
6. The villain rolls through the tall grass, then leaves a trail of wet footprints.
7. The villain slides down the muddy riverbank, then whistles a happy tune.
8. The villain rolls through the tall grass, then drops a half eaten snack.
9. The villain slides down the muddy riverbank, then leaves a trail of wet footprints.
10. The villain swims quietly across the pool, then leaves a trail of wet footprints.
11. The villain swims quietly across the pool, then knocks over a stack of fluffy towels.
12. The villain swims quietly across the pool, then shakes warm water off their fur.

Answer Key

The Great Hot Spring Caper

Culprit: Barney

Floating Foam Noodle · Crunchy Water Lettuce · Splashes with Right Paw · Spotted Belly Fur · Mud Bath Nap

Trail: Start 21 → Clue 1 17 → Clue 2 13 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE SPOILER DOES NOT EAT ORANGE SLICES"

What number has 3 tens and 4 ones? = 34 (T) · What number has 9 tens and 9 ones? = 99 (H) · What number has 9 tens and 5 ones? = 95 (D) · What number has 3 tens and 2 ones? = 32 (S) · What number has 7 tens and 9 ones? = 79 (E) · What number has 1 ten and 6 ones? = 16 (C) · What number has 7 tens and 2 ones? = 72 (I) · What number has 2 tens and 9 ones? = 29 (N) · What number has 4 tens and 1 one? = 41 (A) · What number has 6 tens and 5 ones? = 65 (P) · What number has 7 tens and 6 ones? = 76 (G) · What number has 1 ten and 8 ones? = 18 (O) · What number has 1 ten and 5 ones? = 15 (R) · What number has 4 tens and 5 ones? = 45 (L)

Clue 2 (Subtraction): "THE WATER WAS SPLASHED BY A RIGHT PAW ONLY"

$96 - 33 = 63$ (T) · $51 - 16 = 35$ (W) · $98 - 13 = 85$ (G) · $67 - 16 = 51$ (E) · $76 - 1 = 75$ (Y) · $28 - 7 = 21$ (N) · $60 - 36 = 24$ (O) · $23 - 11 = 12$ (A) · $105 - 25 = 80$ (B) · $64 - 37 = 27$ (I) · $89 - 18 = 71$ (S) · $52 - 26 = 26$ (P) · $70 - 4 = 66$ (L) · $102 - 13 = 89$ (R) · $77 - 40 = 37$ (D) · $53 - 6 = 47$ (H)

Clue 3 (Addition): "THEY FELL ASLEEP IN A WARM MUD BATH"

$41 + 55 = 96$ (T) · $50 + 39 = 89$ (E) · $11 + 16 = 27$ (S) · $15 + 9 = 24$ (Y) · $23 + 54 = 77$ (I) · $67 + 31 = 98$ (U) · $22 + 22 = 44$ (P) · $16 + 37 = 53$ (B) · $37 + 49 = 86$ (H) · $47 + 32 = 79$ (A) · $17 + 9 = 26$ (R) · $16 + 13 = 29$ (L) · $25 + 10 = 35$ (D) · $48 + 33 = 81$ (M) · $12 + 9 = 21$ (W) · $9 + 24 = 33$ (N) · $27 + 23 = 50$ (F)

Clue 4 (Skip counting): "SPOTTED FUR WAS LEFT ON THE SPA BENCH"

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, __, 55, 60 = 50 (S) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 = 12 (O) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, __, 21, 24 = 18 (L) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 = 24 (C) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (T) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, __, 16, 18 = 14 (N) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, __, 18, 21 = 15 (P) · Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 = 6 (W) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 = 10 (U) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (E) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 = 140 (A) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 = 65 (B) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 = 45 (R) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 = 70 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (H) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, __, 60, 65 = 55 (F)

Clue 5 (Missing addends): surviving statement is box 8 → Barney

$6 + \underline{\quad} = 17 = 11$ · $4 + \underline{\quad} = 9 = 5$ · $4 + \underline{\quad} = 11 = 7$ · $7 + \underline{\quad} = 19 = 12$ · $4 + \underline{\quad} = 10 = 6$ · $5 + \underline{\quad} = 7 = 2$ · $2 + \underline{\quad} = 12 = 10$ · $6 + \underline{\quad} = 10 = 4$ · $2 + \underline{\quad} = 5 = 3$ · $7 + \underline{\quad} = 8 = 1$ · $1 + \underline{\quad} = 10 = 9$