



The Mystery of the Missing Sparkle Cup

Grade 4 math · Skip counting, Bar models, Place value, Rounding, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

The annual Aqua-Paw Soccer Championship was about to begin when the shiny Sparkle Cup vanished from the trophy stand! Someone zoomed onto the pixelated pitch and swiped it right before kickoff. Detective Purrnelope needs your math skills to figure out which magical soccer star took the trophy!

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 Trophy Thief is _____

Possible suspects

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

NAME	SPECIAL MOVE	GEAR ITEM	KICKING FOOT	FUR COLOR	DISTRACTION
Hornby	Tail Kick	Glow Gloves	Right Footed	Coral Pink Fur	Squeaky Toys
Felis	Super Header	Sparkle Boots	Left Footed	Sea Green Fur	Shiny Yarn
Glitter	Rainbow Dash	Flying Cape	Right Footed	Coral Pink Fur	Shiny Yarn
Marina	Bubble Shield	Sparkle Boots	Left Footed	Pastel Purple Fur	Shiny Yarn
Splashy	Super Header	Turbo Fins	Left Footed	Pastel Purple Fur	Shiny Yarn
Mewsi	Laser Paws	Sparkle Boots	Left Footed	Coral Pink Fur	Shiny Yarn
Nooby	Tail Kick	Sparkle Boots	Right Footed	Pastel Purple Fur	Glitter Kelp
Clawdia	Laser Paws	Neon Whistle	Right Footed	Coral Pink Fur	Squeaky Toys
Tailor	Rainbow Dash	Sparkle Boots	Left Footed	Pastel Purple Fur	Shiny Yarn
Catty	Super Header	Turbo Fins	Right Footed	Pastel Purple Fur	Shiny Yarn
Whiskers	Laser Paws	Sparkle Boots	Right Footed	Coral Pink Fur	Glitter Kelp
Pixel	Rainbow Dash	Neon Whistle	Right Footed	Pastel Purple Fur	Shiny Yarn
Dapple	Laser Paws	Flying Cape	Right Footed	Pastel Purple Fur	Squeaky Toys
Bloxley	Super Header	Neon Whistle	Left Footed	Pastel Purple Fur	Shiny Yarn
Oceanus	Laser Paws	Glow Gloves	Right Footed	Sea Green Fur	Squeaky Toys
Finley	Bubble Shield	Sparkle Boots	Right Footed	Pastel Purple Fur	Squeaky Toys
Pawlo	Rainbow Dash	Sparkle Boots	Left Footed	Pastel Purple Fur	Squeaky Toys
Starlet	Laser Paws	Glow Gloves	Left Footed	Pastel Purple Fur	Shiny Yarn
Builder	Tail Kick	Flying Cape	Right Footed	Pastel Purple Fur	Shiny Yarn
Coral	Tail Kick	Flying Cape	Right Footed	Sea Green Fur	Shiny Yarn
Purrlo	Bubble Shield	Sparkle Boots	Left Footed	Pastel Purple Fur	Glitter Kelp

CLUE 1 Skip counting

We checked the pitch markers along the field by skip counting by five to find where the thief dropped secret cards.

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

T			T											T				
36	20	6	36	20	50	6	80	100	39	6	70	27	39	36	14	6	110	120
110	27	6	39	27	14	20	50	70	T									

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, __, 60, 70 → **I**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, __, 80, 90 → **S**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, __, 22, 24 → **H**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 → **L**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, __, 130, 140 → **R**

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

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

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 → **F**

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

Scratch space:

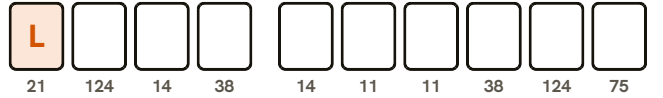
CLUE 2

Bar model word problems

To see who had time to swipe the trophy, we compared player practice minutes using bar models.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was



The red team has 51 bubble helmets and the blue team has 30 bubble helmets. How many more bubble helmets does the red team have?

draw a bar model

Answer: → **L**

Coach Whiskers shares 132 bubble helmets equally among 12 teams. How many bubble helmets does each team get?

draw a bar model

Answer: → **O**

One group collected 56 glow soccer balls and another group collected 19 glow soccer balls. How many glow soccer balls in all?

draw a bar model

Answer: → **D**

The red team has 66 sparkle jerseys and the blue team has 28 sparkle jerseys. How many more sparkle jerseys does the red team have?

draw a bar model

Answer: → **T**

The red team has 17 rainbow cleats and the blue team has 3 rainbow cleats. How many more rainbow cleats does the red team have?

draw a bar model

Answer: → **F**

The red team has 125 bubble helmets and the blue team has 1 bubble helmets. How many more bubble helmets does the red team have?

draw a bar model

Answer: → **E**

CLUE 3 Place value

The digital scoreboard flashed locker numbers, and we solved the place value clue to read the message.

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

T																			
3000	2000	40	300	9000	500	500	200	9000	900	50	200	700	3000	70	200	4000	4000	40	30

90	10	700	2000	9000	900	10	10	200	70	900									

What is the value of the 3 in 43,272? → **T**

What is the value of the 9 in 985? → **N**

What is the value of the 7 in 730? → **S**

What is the value of the 9 in 496? → **B**

What is the value of the 4 in 24,263? → **P**

What is the value of the 3 in 340? → **V**

What is the value of the 2 in 2,830? → **H**

What is the value of the 5 in 458? → **W**

What is the value of the 3 in 6,231? → **D**

What is the value of the 9 in 9,425? → **I**

What is the value of the 7 in 978? → **R**

What is the value of the 5 in 6,581? → **L**

What is the value of the 1 in 815? → **Y**

What is the value of the 4 in 543? → **E**

What is the value of the 2 in 218? → **A**

Scratch space:

CLUE 4
Rounding

The stadium radar clocked kick speeds, but the readout only showed numbers rounded to the nearest ten.

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

T									T	T									
9000	1300	370	3700	2900	430	370	30	9000	9000	1300	370	70	3700	370	500	370	2000	70	

			T												
20	30	70	9000	370	2900	20	430	110	20	2900	370	290	430	110	

Round 9,179 to the nearest thousand → **T**

Round 434 to the nearest ten → **U**

Round 1,291 to the nearest hundred → **H**

Round 2,063 to the nearest thousand → **I**

Round 372 to the nearest ten → **E**

Round 2,885 to the nearest hundred → **L**

Round 3,698 to the nearest hundred → **C**

Round 73 to the nearest ten → **S**

Round 18 to the nearest ten → **P**

Round 26 to the nearest ten → **A**

Round 114 to the nearest ten → **R**

Round 287 to the nearest ten → **F**

Round 539 to the nearest hundred → **N**

Scratch space:

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

Coach Whiskers split the leftover practice soccer balls equally into gear bags to reveal our final mystery 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:

$120 \div 10 = \boxed{}$

$16 \div 4 = \boxed{}$

$80 \div 8 = \boxed{}$

$40 \div 8 = \boxed{}$

$6 \div 3 = \boxed{}$

$36 \div 12 = \boxed{}$

$6 \div 1 = \boxed{}$

$121 \div 11 = \boxed{}$

$36 \div 4 = \boxed{}$

$56 \div 7 = \boxed{}$

$8 \div 8 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain pounced quickly with laser paws, then blew hard on a neon whistle.
2. The villain zoomed across the pitch with rainbow dash, then flew away in a flying cape.
3. The villain scored with a super header, then caught the ball with glow gloves.
4. The villain zoomed across the pitch with rainbow dash, then laced up sparkle boots.
5. The villain pounced quickly with laser paws, then swam off with turbo fins.
6. The villain zoomed across the pitch with rainbow dash, then blew hard on a neon whistle.
7. The villain pounced quickly with laser paws, then caught the ball with glow gloves.
8. The villain blasted the ball with tail kick, then blew hard on a neon whistle.
9. The villain blocked shots using bubble shield, then swam off with turbo fins.
10. The villain blocked shots using bubble shield, then laced up sparkle boots.
11. The villain scored with a super header, then flew away in a flying cape.
12. The villain scored with a super header, then swam off with turbo fins.

Answer Key

The Mystery of the Missing Sparkle Cup

Culprit: Starlet

Laser Paws · Glow Gloves · Left Footed · Pastel Purple Fur · Shiny Yarn

Trail: Start 21 → Clue 1 18 → Clue 2 8 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Skip counting): "THE THIEF DOES NOT WEAR A NEON WHISTLE"

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

Clue 2 (Bar model word problems): "LEFT FOOTED"

The red team has 51 bubble helmets and the blue team has 30 bubble helmets. How many more bubble helmets does the red team have? = 21 (L) · Coach Whiskers shares 132 bubble helmets equally among 12 teams. How many bubble helmets does each team get? = 11 (O) · One group collected 56 glow soccer balls and another group collected 19 glow soccer balls. How many glow soccer balls in all? = 75 (D) · The red team has 66 sparkle jerseys and the blue team has 28 sparkle jerseys. How many more sparkle jerseys does the red team have? = 38 (T) · The red team has 17 rainbow cleats and the blue team has 3 rainbow cleats. How many more rainbow cleats does the red team have? = 14 (F) · The red team has 125 bubble helmets and the blue team has 1 bubble helmets. How many more bubble helmets does the red team have? = 124 (E)

Clue 3 (Place value): "THE VILLAIN WAS TRAPPED BY SHINY YARN"

What is the value of the 3 in 43,272? = 3000 (T) · What is the value of the 9 in 985? = 900 (N) · What is the value of the 7 in 730? = 700 (S) · What is the value of the 9 in 496? = 90 (B) · What is the value of the 4 in 24,263? = 4000 (P) · What is the value of the 3 in 340? = 300 (V) · What is the value of the 2 in 2,830? = 2000 (H) · What is the value of the 5 in 458? = 50 (W) · What is the value of the 3 in 6,231? = 30 (D) · What is the value of the 9 in 9,425? = 9000 (I) · What is the value of the 7 in 978? = 70 (R) · What is the value of the 5 in 6,581? = 500 (L) · What is the value of the 1 in 815? = 10 (Y) · What is the value of the 4 in 543? = 40 (E) · What is the value of the 2 in 218? = 200 (A)

Clue 4 (Rounding): "THE CLUE AT THE SCENE IS PASTEL PURPLE FUR"

Round 9,179 to the nearest thousand = 9000 (T) · Round 434 to the nearest ten = 430 (U) · Round 1,291 to the nearest hundred = 1300 (H) · Round 2,063 to the nearest thousand = 2000 (I) · Round 372 to the nearest ten = 370 (E) · Round 2,885 to the nearest hundred = 2900 (L) · Round 3,698 to the nearest hundred = 3700 (C) · Round 73 to the nearest ten = 70 (S) · Round 18 to the nearest ten = 20 (P) · Round 26 to the nearest ten = 30 (A) · Round 114 to the nearest ten = 110 (R) · Round 287 to the nearest ten = 290 (F) · Round 539 to the nearest hundred = 500 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 7 → Starlet

$120 \div 10 = 12$ · $16 \div 4 = 4$ · $80 \div 8 = 10$ · $40 \div 8 = 5$ · $6 \div 3 = 2$ · $36 \div 12 = 3$ · $6 \div 1 = 6$ · $121 \div 11 = 11$ · $36 \div 4 = 9$ · $56 \div 7 = 8$ · $8 \div 8 = 1$