



The Great Space Gymkhana Mystery

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

Detective: _____ Date: _____

The annual Zero-Gravity Dog Gymnastics Championship is in trouble! Someone stole the Golden Bone Trophy right before the big floor routine. We need to help the Space Pup Patrol find the thief before the final whistle!

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 the Astro-Pup Thief is _____

Possible suspects

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

NAME	GYMNASTIC SKILL	SPACE GEAR	PAW TAP	FUR TYPE	DISTRACTION
Laika	Laser beam balance	Starry grip chalk	Taps left paw	Golden curly fur	Smelly space treat
Laurie	Zero-gravity spin	Glowing radar visor	Taps right paw	Sleek silver fur	Shiny laser pointer
Barney	Laser beam balance	Starry grip chalk	Taps right paw	Sleek silver fur	Smelly space treat
Bella	Speedy paw-walk	Glowing radar visor	Taps right paw	Sleek silver fur	Squeaky tennis ball
Rover	Speedy paw-walk	Starry grip chalk	Taps right paw	Sleek silver fur	Smelly space treat
Champ	Laser beam balance	Glowing radar visor	Taps left paw	Sleek silver fur	Smelly space treat
Gabby	Speedy paw-walk	Neon bounce boots	Taps right paw	Spotted white fur	Squeaky tennis ball
Ziggy	Super-high backflip	Glowing radar visor	Taps left paw	Sleek silver fur	Smelly space treat
Pip	Laser beam balance	Neon bounce boots	Taps left paw	Sleek silver fur	Shiny laser pointer
Sadie	Laser beam balance	Neon bounce boots	Taps left paw	Golden curly fur	Smelly space treat
Comet	Speedy paw-walk	Neon bounce boots	Taps left paw	Sleek silver fur	Squeaky tennis ball
Apollo	Super-high backflip	Glowing radar visor	Taps right paw	Golden curly fur	Squeaky tennis ball
Sputnik	Speedy paw-walk	Neon bounce boots	Taps left paw	Golden curly fur	Squeaky tennis ball
Nastia	Rocket-boosted leap	Neon bounce boots	Taps left paw	Spotted white fur	Smelly space treat
Daisy	Laser beam balance	Glowing radar visor	Taps right paw	Sleek silver fur	Shiny laser pointer
Stella	Rocket-boosted leap	Sparkly comet cape	Taps right paw	Sleek silver fur	Smelly space treat
Rocky	Rocket-boosted leap	Glowing radar visor	Taps right paw	Sleek silver fur	Squeaky tennis ball
Gizmo	Speedy paw-walk	Silver orbit collar	Taps right paw	Sleek silver fur	Squeaky tennis ball
Sunisa	Super-high backflip	Starry grip chalk	Taps right paw	Sleek silver fur	Squeaky tennis ball
Buster	Rocket-boosted leap	Glowing radar visor	Taps left paw	Spotted white fur	Shiny laser pointer
Kohei	Rocket-boosted leap	Sparkly comet cape	Taps right paw	Sleek silver fur	Squeaky tennis ball

CLUE 1
Multiplication facts (1-12)

The pup gym has several rows of balance beams with a set number of mats under each. Multiply the rows by the mats to find the clue.

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

T			T											T			
30	100	7	30	100	25	7	64	77	121	7	88	2	121	30	33	88	7
	T																
88	30	70	56	56	42	27	56	25	44	16	100	70	99	40			

$10 \times 3 = \square \rightarrow \text{T}$

$8 \times 2 = \square \rightarrow \text{C}$

$8 \times 8 = \square \rightarrow \text{F}$

$11 \times 3 = \square \rightarrow \text{U}$

$9 \times 3 = \square \rightarrow \text{G}$

$1 \times 7 = \square \rightarrow \text{E}$

$8 \times 5 = \square \rightarrow \text{K}$

$11 \times 11 = \square \rightarrow \text{O}$

$8 \times 11 = \square \rightarrow \text{S}$

$9 \times 11 = \square \rightarrow \text{L}$

$5 \times 5 = \square \rightarrow \text{I}$

$10 \times 7 = \square \rightarrow \text{A}$

$1 \times 2 = \square \rightarrow \text{N}$

$10 \times 10 = \square \rightarrow \text{H}$

$4 \times 11 = \square \rightarrow \text{P}$

$7 \times 11 = \square \rightarrow \text{D}$

$6 \times 7 = \square \rightarrow \text{Y}$

$8 \times 7 = \square \rightarrow \text{R}$

Scratch space:

CLUE 2 Rounding

The radar screen in the control room only shows the distance rounded to the nearest ten. Round this number to find the next clue.

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

T										T						
50	430	5000	1300	370	1300	2900	5000	70	50	7000	5000	130	90	5000	1300	

				T							T		
110	290	2000	430	50	2900	130	20	2900	110	290	170	50	1300

Round 51 to the nearest ten → **T**

Round 430 to the nearest ten → **H**

Round 1,269 to the nearest hundred → **S**

Round 130 to the nearest ten → **A**

Round 19 to the nearest ten → **W**

Round 169 to the nearest ten → **N**

Round 2,408 to the nearest thousand → **G**

Round 370 to the nearest ten → **U**

Round 286 to the nearest ten → **I**

Round 74 to the nearest ten → **C**

Round 89 to the nearest ten → **V**

Round 2,912 to the nearest hundred → **P**

Round 6,501 to the nearest thousand → **L**

Round 114 to the nearest ten → **R**

Round 4,656 to the nearest thousand → **E**

Scratch space:

CLUE 3

Addition

The coach needs to count all the grip chalk bags and ribbons scattered on the floor. Add them up to get a new clue.

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

S																
9670	4208	9645	8927	4208	4661	9528	4208	4661	7942	9528	6216	4586	7942	4208	4661	2338

S											S					
9670	8883	7367	9528	2338	7033	4694	4208	9528	4474	4474	7942	9670	3216	2338	2634	2634

$4150 + 5520 = \square \rightarrow \text{S}$

$2582 + 1892 = \square \rightarrow \text{N}$

$3402 + 6243 = \square \rightarrow \text{O}$

$2819 + 4214 = \square \rightarrow \text{K}$

$3619 + 5264 = \square \rightarrow \text{Q}$

$2747 + 1947 = \square \rightarrow \text{Y}$

$1975 + 4241 = \square \rightarrow \text{F}$

$1513 + 2695 = \square \rightarrow \text{T}$

$5428 + 2514 = \square \rightarrow \text{I}$

$2718 + 1868 = \square \rightarrow \text{W}$

$2154 + 1062 = \square \rightarrow \text{B}$

$2373 + 4994 = \square \rightarrow \text{U}$

$1150 + 1188 = \square \rightarrow \text{A}$

$3540 + 5387 = \square \rightarrow \text{P}$

$1664 + 970 = \square \rightarrow \text{L}$

$2914 + 1747 = \square \rightarrow \text{H}$

$3657 + 5871 = \square \rightarrow \text{E}$

Scratch space:

CLUE 4

Subtraction

A gym puppy ate some treats from the main treat jar. Subtract the eaten treats from the total to unlock this clue.

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

W																	
4814	3012	3204	1826	8114	1975	8492	5503	1080	3012	3012	4768	5503	8806	1080	6861	3012	3736

3204	8114	3736	4137	4541	4541	8930	3012	5503	5340	3012	1975	3012

$8393 - 3579 = \boxed{} \rightarrow \boxed{\text{W}}$

$6354 - 1586 = \boxed{} \rightarrow \boxed{\text{K}}$

$5499 - 159 = \boxed{} \rightarrow \boxed{\text{C}}$

$8276 - 2773 = \boxed{} \rightarrow \boxed{\text{S}}$

$3655 - 1829 = \boxed{} \rightarrow \boxed{\text{O}}$

$11174 - 2244 = \boxed{} \rightarrow \boxed{\text{H}}$

$12296 - 4182 = \boxed{} \rightarrow \boxed{\text{U}}$

$10304 - 1498 = \boxed{} \rightarrow \boxed{\text{I}}$

$9276 - 2415 = \boxed{} \rightarrow \boxed{\text{V}}$

$11304 - 2812 = \boxed{} \rightarrow \boxed{\text{D}}$

$7236 - 4224 = \boxed{} \rightarrow \boxed{\text{E}}$

$8595 - 4458 = \boxed{} \rightarrow \boxed{\text{A}}$

$3688 - 1713 = \boxed{} \rightarrow \boxed{\text{N}}$

$7819 - 4615 = \boxed{} \rightarrow \boxed{\text{F}}$

$3989 - 2909 = \boxed{} \rightarrow \boxed{\text{L}}$

$6947 - 3211 = \boxed{} \rightarrow \boxed{\text{R}}$

$7280 - 2739 = \boxed{} \rightarrow \boxed{\text{T}}$

Scratch space:

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

The team wants to share the victory kibble evenly among the space puppies. Divide the kibble to reveal 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:

$99 \div 9 = \boxed{}$

$80 \div 10 = \boxed{}$

$33 \div 11 = \boxed{}$

$36 \div 3 = \boxed{}$

$90 \div 10 = \boxed{}$

$4 \div 4 = \boxed{}$

$60 \div 10 = \boxed{}$

$60 \div 12 = \boxed{}$

$8 \div 2 = \boxed{}$

$84 \div 12 = \boxed{}$

$8 \div 4 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain does a super-high backflip over the laser vault, then scouts the path with a glowing radar visor.
2. The villain does a super-high backflip over the laser vault, then grabs the ledge using starry grip chalk.
3. The villain does a speedy paw-walk along the ceiling grid, then scouts the path with a glowing radar visor.
4. The villain does a speedy paw-walk along the ceiling grid, then grabs the ledge using starry grip chalk.
5. The villain shows off a laser beam balance on the orbit beam, then escapes wearing a sparkly comet cape.
6. The villain performs a zero-gravity spin across the high bar, then grabs the ledge using starry grip chalk.
7. The villain does a super-high backflip over the laser vault, then bounces away in neon bounce boots.
8. The villain takes a rocket-boosted leap off the springboard, then escapes wearing a sparkly comet cape.
9. The villain performs a zero-gravity spin across the high bar, then escapes wearing a sparkly comet cape.
10. The villain takes a rocket-boosted leap off the springboard, then scouts the path with a glowing radar visor.
11. The villain does a speedy paw-walk along the ceiling grid, then swipes the prize with a silver orbit collar.
12. The villain shows off a laser beam balance on the orbit beam, then grabs the ledge using starry grip chalk.

Answer Key

The Great Space Gymkhana Mystery

Culprit: Rocky

Rocket-boosted leap · Glowing radar visor · Taps right paw · Sleek silver fur · Squeaky tennis ball

Trail: Start 21 → Clue 1 17 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE THIEF DOES NOT USE STARRY GRIP CHALK"

$10 \times 3 = 30$ (T) · $8 \times 2 = 16$ (C) · $8 \times 8 = 64$ (F) · $11 \times 3 = 33$ (U) · $9 \times 3 = 27$ (G) · $1 \times 7 = 7$ (E) · $8 \times 5 = 40$ (K) · $11 \times 11 = 121$ (O) · $8 \times 11 = 88$ (S) · $9 \times 11 = 99$ (L) · $5 \times 5 = 25$ (I) · $10 \times 7 = 70$ (A) · $1 \times 2 = 2$ (N) · $10 \times 10 = 100$ (H) · $4 \times 11 = 44$ (P) · $7 \times 11 = 77$ (D) · $6 \times 7 = 42$ (Y) · $8 \times 7 = 56$ (R)

Clue 2 (Rounding): "THE SUSPECT LEAVES RIGHT PAW PRINTS"

Round 51 to the nearest ten = 50 (T) · Round 430 to the nearest ten = 430 (H) · Round 1,269 to the nearest hundred = 1300 (S) · Round 130 to the nearest ten = 130 (A) · Round 19 to the nearest ten = 20 (W) · Round 169 to the nearest ten = 170 (N) · Round 2,408 to the nearest thousand = 2000 (G) · Round 370 to the nearest ten = 370 (U) · Round 286 to the nearest ten = 290 (I) · Round 74 to the nearest ten = 70 (C) · Round 89 to the nearest ten = 90 (V) · Round 2,912 to the nearest hundred = 2900 (P) · Round 6,501 to the nearest thousand = 7000 (L) · Round 114 to the nearest ten = 110 (R) · Round 4,656 to the nearest thousand = 5000 (E)

Clue 3 (Addition): "STOP THE THIEF WITH A SQUEAKY TENNIS BALL"

$4150 + 5520 = 9670$ (S) · $2582 + 1892 = 4474$ (N) · $3402 + 6243 = 9645$ (O) · $2819 + 4214 = 7033$ (K) · $3619 + 5264 = 8883$ (Q) · $2747 + 1947 = 4694$ (Y) · $1975 + 4241 = 6216$ (F) · $1513 + 2695 = 4208$ (T) · $5428 + 2514 = 7942$ (I) · $2718 + 1868 = 4586$ (W) · $2154 + 1062 = 3216$ (B) · $2373 + 4994 = 7367$ (U) · $1150 + 1188 = 2338$ (A) · $3540 + 5387 = 8927$ (P) · $1664 + 970 = 2634$ (L) · $2914 + 1747 = 4661$ (H) · $3657 + 5871 = 9528$ (E)

Clue 4 (Subtraction): "WE FOUND SLEEK SILVER FUR AT THE SCENE"

$8393 - 3579 = 4814$ (W) · $6354 - 1586 = 4768$ (K) · $5499 - 159 = 5340$ (C) · $8276 - 2773 = 5503$ (S) · $3655 - 1829 = 1826$ (O) · $11174 - 2244 = 8930$ (H) · $12296 - 4182 = 8114$ (U) · $10304 - 1498 = 8806$ (I) · $9276 - 2415 = 6861$ (V) · $11304 - 2812 = 8492$ (D) · $7236 - 4224 = 3012$ (E) · $8595 - 4458 = 4137$ (A) · $3688 - 1713 = 1975$ (N) · $7819 - 4615 = 3204$ (F) · $3989 - 2909 = 1080$ (L) · $6947 - 3211 = 3736$ (R) · $7280 - 2739 = 4541$ (T)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Rocky

$99 \div 9 = 11$ · $80 \div 10 = 8$ · $33 \div 11 = 3$ · $36 \div 3 = 12$ · $90 \div 10 = 9$ · $4 \div 4 = 1$ · $60 \div 10 = 6$ · $60 \div 12 = 5$ · $8 \div 2 = 4$ · $84 \div 12 = 7$ · $8 \div 4 = 2$