



The Sparkle Reef Mystery

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

Detective: _____ Date: _____

A sneaky thief has taken the Glittering Pearl from the deep water palace! Both mermaids and sea-unicorns live in Sparkle Reef, and one of them is the culprit. Help us track them down!

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 coral thief is _____

Possible suspects

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

NAME	MAGIC SPELL	WATER POWER	CROWN EMBLEM	MANE COLOR	FEAR
Splash	Star Sparkle	Ice Shield	Star Tiara	Bright Kelp Green	Noisy Clam Shells
Misty	Wave Ripple	Steam Blast	Star Tiara	Bright Kelp Green	Noisy Clam Shells
Ariel	Star Sparkle	Tide Wave	Star Tiara	Bright Kelp Green	Noisy Clam Shells
Sandy	Rainbow Dash	Steam Blast	Star Tiara	Bright Kelp Green	Salty Sea Kelp
Comet	Rainbow Dash	Tide Wave	Shell Tiara	Bright Kelp Green	Noisy Clam Shells
Triton	Bubble Beam	Pearl Glow	Star Tiara	Sea Foam Blue	Sparkly Sea Glass
Nova	Wave Ripple	Pearl Glow	Star Tiara	Bright Kelp Green	Noisy Clam Shells
Aurora	Coral Freeze	Steam Blast	Star Tiara	Sea Foam Blue	Sparkly Sea Glass
Marina	Coral Freeze	Pearl Glow	Shell Tiara	Sea Foam Blue	Salty Sea Kelp
Aqua	Coral Freeze	Tide Wave	Star Tiara	Neon Coral Pink	Sparkly Sea Glass
Wave	Wave Ripple	Steam Blast	Shell Tiara	Sea Foam Blue	Sparkly Sea Glass
Storm	Rainbow Dash	Ice Shield	Star Tiara	Sea Foam Blue	Noisy Clam Shells
Barnacle	Coral Freeze	Ice Shield	Star Tiara	Neon Coral Pink	Sparkly Sea Glass
Sparkle	Bubble Beam	Pearl Glow	Shell Tiara	Bright Kelp Green	Salty Sea Kelp
Shimmer	Bubble Beam	Steam Blast	Star Tiara	Neon Coral Pink	Noisy Clam Shells
Jewel	Wave Ripple	Sand Whirl	Star Tiara	Bright Kelp Green	Sparkly Sea Glass
Crystal	Rainbow Dash	Sand Whirl	Star Tiara	Bright Kelp Green	Noisy Clam Shells
Glitter	Rainbow Dash	Sand Whirl	Shell Tiara	Neon Coral Pink	Salty Sea Kelp
Twinkle	Bubble Beam	Sand Whirl	Star Tiara	Bright Kelp Green	Salty Sea Kelp
Celeste	Wave Ripple	Ice Shield	Star Tiara	Sea Foam Blue	Noisy Clam Shells
Pearl	Bubble Beam	Sand Whirl	Star Tiara	Neon Coral Pink	Noisy Clam Shells

CLUE 1

Multiplication facts (1-12)

To find the first clue, we must count the rows of magic sea stars. There are several equal rows on the wall.

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

T 54	100	60	T 54	100	108	60	70	36	96	60	7	80	96	T 54	15	7	60
7	27	80	36	90	100	108	66	49									

$9 \times 6 = \square \rightarrow \text{T}$

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

$9 \times 12 = \square \rightarrow \text{I}$

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

$10 \times 8 = \square \rightarrow \text{N}$

$12 \times 5 = \square \rightarrow \text{E}$

$7 \times 7 = \square \rightarrow \text{L}$

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

$4 \times 9 = \square \rightarrow \text{D}$

$9 \times 10 = \square \rightarrow \text{W}$

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

$8 \times 12 = \square \rightarrow \text{O}$

$5 \times 3 = \square \rightarrow \text{U}$

$6 \times 11 = \square \rightarrow \text{R}$

Scratch space:

CLUE 2
Rounding

We check the reef radar for the thief's energy level. The radar screen only shows the nearest rounded number.

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

W																		
200	600	70	8000	40	7000	4000	6000	2000	500	6000	60	500	3000	6000	60	6000	6000	500

500	9000	600	2000	80	600

Round 202 to the nearest hundred → **W**

Round 61 to the nearest ten → **R**

Round 1,978 to the nearest thousand → **S**

Round 81 to the nearest ten → **C**

Round 7,036 to the nearest thousand → **N**

Round 609 to the nearest hundred → **E**

Round 3,995 to the nearest thousand → **D**

Round 5,595 to the nearest thousand → **A**

Round 40 to the nearest ten → **U**

Round 70 to the nearest ten → **F**

Round 9,241 to the nearest thousand → **H**

Round 2,998 to the nearest thousand → **I**

Round 527 to the nearest hundred → **T**

Round 7,939 to the nearest thousand → **O**

Scratch space:

CLUE 3 Addition

Let's gather all the glowing shells found in the sand. Adding them together will lead us to the next clue.

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

N																			
546	737	389	835	543	615	281	731	338	835	591	682	281	281	835	262	389	281	281	
835	615	731	795	682	988	591	682	338											

$254 + 292 = \square \rightarrow$ N	$276 + 455 = \square \rightarrow$ A	$167 + 171 = \square \rightarrow$ M
$275 + 462 = \square \rightarrow$ O	$236 + 446 = \square \rightarrow$ E	$514 + 474 = \square \rightarrow$ T
$86 + 176 = \square \rightarrow$ W	$291 + 300 = \square \rightarrow$ H	$533 + 262 = \square \rightarrow$ R
$183 + 360 = \square \rightarrow$ Y	$413 + 422 = \square \rightarrow$ S	$85 + 196 = \square \rightarrow$ L
$266 + 123 = \square \rightarrow$ I	$316 + 299 = \square \rightarrow$ C	

Scratch space:

CLUE 4 Subtraction

The thief dropped a bag of pearls while escaping. We must subtract the missing pearls from the total to learn more.

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

B																			
244	878	520	688	188	394	734	119	125	361	688	878	119	119	568	188	310	520	878	
396	310	164	125	119	674	394													

$643 - 399 = \square \rightarrow \mathbf{B}$	$581 - 220 = \square \rightarrow \mathbf{P}$	$186 - 61 = \square \rightarrow \mathbf{L}$
$1233 - 355 = \square \rightarrow \mathbf{R}$	$615 - 305 = \square \rightarrow \mathbf{A}$	$994 - 306 = \square \rightarrow \mathbf{G}$
$622 - 228 = \square \rightarrow \mathbf{T}$	$137 - 18 = \square \rightarrow \mathbf{E}$	$493 - 329 = \square \rightarrow \mathbf{S}$
$710 - 314 = \square \rightarrow \mathbf{W}$	$840 - 166 = \square \rightarrow \mathbf{F}$	$529 - 341 = \square \rightarrow \mathbf{H}$
$808 - 74 = \square \rightarrow \mathbf{K}$	$707 - 139 = \square \rightarrow \mathbf{N}$	$749 - 229 = \square \rightarrow \mathbf{I}$

Scratch space:

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

To share the magical kelp treats equally among the reef helpers, we split them into equal groups for the last 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:

$60 \div 12 = \boxed{}$

$32 \div 8 = \boxed{}$

$45 \div 5 = \boxed{}$

$70 \div 7 = \boxed{}$

$7 \div 1 = \boxed{}$

$120 \div 10 = \boxed{}$

$16 \div 8 = \boxed{}$

$54 \div 9 = \boxed{}$

$80 \div 10 = \boxed{}$

$33 \div 3 = \boxed{}$

$27 \div 9 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain creates a soft wave ripple, then lights the way with pearl glow.
2. The villain creates a soft wave ripple, then blocks the path with an ice shield.
3. The villain freezes the surrounding coral, then rides away on a giant tide wave.
4. The villain shines a magical star sparkle, then blocks the path with an ice shield.
5. The villain creates a soft wave ripple, then escapes with a hot steam blast.
6. The villain creates a soft wave ripple, then stirs up a wild sand whirl.
7. The villain blasts a stream of bubbles, then lights the way with pearl glow.
8. The villain freezes the surrounding coral, then stirs up a wild sand whirl.
9. The villain shines a magical star sparkle, then rides away on a giant tide wave.
10. The villain dashes a bright rainbow, then rides away on a giant tide wave.
11. The villain shines a magical star sparkle, then lights the way with pearl glow.
12. The villain dashes a bright rainbow, then stirs up a wild sand whirl.

Answer Key

The Sparkle Reef Mystery

Culprit: Nova

Wave Ripple · Pearl Glow · Star Tiara · Bright Kelp Green · Noisy Clam Shells

Trail: Start 21 → Clue 1 16 → Clue 2 12 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE THIEF DOES NOT USE SAND WHIRL"

$9 \times 6 = 54$ (T) · $7 \times 10 = 70$ (F) · $9 \times 12 = 108$ (I) · $1 \times 7 = 7$ (S) · $10 \times 8 = 80$ (N) · $12 \times 5 = 60$ (E) · $7 \times 7 = 49$ (L) · $10 \times 10 = 100$ (H) · $4 \times 9 = 36$ (D) · $9 \times 10 = 90$ (W) · $3 \times 9 = 27$ (A) · $8 \times 12 = 96$ (O) · $5 \times 3 = 15$ (U) · $6 \times 11 = 66$ (R)

Clue 2 (Rounding): "WE FOUND A STAR TIARA AT THE SCENE"

Round 202 to the nearest hundred = 200 (W) · Round 61 to the nearest ten = 60 (R) · Round 1,978 to the nearest thousand = 2000 (S) · Round 81 to the nearest ten = 80 (C) · Round 7,036 to the nearest thousand = 7000 (N) · Round 609 to the nearest hundred = 600 (E) · Round 3,995 to the nearest thousand = 4000 (D) · Round 5,595 to the nearest thousand = 6000 (A) · Round 40 to the nearest ten = 40 (U) · Round 70 to the nearest ten = 70 (F) · Round 9,241 to the nearest thousand = 9000 (H) · Round 2,998 to the nearest thousand = 3000 (I) · Round 527 to the nearest hundred = 500 (T) · Round 7,939 to the nearest thousand = 8000 (O)

Clue 3 (Addition): "NOISY CLAM SHELLS WILL SCARE THEM"

$254 + 292 = 546$ (N) · $276 + 455 = 731$ (A) · $167 + 171 = 338$ (M) · $275 + 462 = 737$ (O) · $236 + 446 = 682$ (E) · $514 + 474 = 988$ (T) · $86 + 176 = 262$ (W) · $291 + 300 = 591$ (H) · $533 + 262 = 795$ (R) · $183 + 360 = 543$ (Y) · $413 + 422 = 835$ (S) · $85 + 196 = 281$ (L) · $266 + 123 = 389$ (I) · $316 + 299 = 615$ (C)

Clue 4 (Subtraction): "BRIGHT KELP GREEN HAIR WAS LEFT"

$643 - 399 = 244$ (B) · $581 - 220 = 361$ (P) · $186 - 61 = 125$ (L) · $1233 - 355 = 878$ (R) · $615 - 305 = 310$ (A) · $994 - 306 = 688$ (G) · $622 - 228 = 394$ (T) · $137 - 18 = 119$ (E) · $493 - 329 = 164$ (S) · $710 - 314 = 396$ (W) · $840 - 166 = 674$ (F) · $529 - 341 = 188$ (H) · $808 - 74 = 734$ (K) · $707 - 139 = 568$ (N) · $749 - 229 = 520$ (I)

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

$60 \div 12 = 5$ · $32 \div 8 = 4$ · $45 \div 5 = 9$ · $70 \div 7 = 10$ · $7 \div 1 = 7$ · $120 \div 10 = 12$ · $16 \div 8 = 2$ · $54 \div 9 = 6$ · $80 \div 10 = 8$ · $33 \div 3 = 11$ · $27 \div 9 = 3$