The Mystery of Sunken Key

Grade 4 math · Place value, Skip counting, Word problems, Multi-step word problems, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

Someone snuck into the Harbor Master office and snatched the ancient treasure map! Use your detective skills and solve the math clues to discover who took it.

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 Sneaky Bandit is _____

Possible suspects

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

NAME	GADGET	BADGE	DOMINANT HAND	BANDANA COLOR	FEAR
Barnaby Beach	Decoder Ring	Silver Anchor	Left handed	Green Bandana	Afraid of Spiders
Zane Zephyr	Brass Compass	Bronze Compass	Left handed	Red Bandana	Afraid of Storms
Grace Gull	Smoke Bomb	Golden Feather	Left handed	Red Bandana	Afraid of Parrots
Vince Voyage	Decoder Ring	Bronze Compass	Right handed	Blue Bandana	Afraid of Storms
Leo Lagoon	Brass Compass	Ruby Skull	Right handed	Blue Bandana	Afraid of Storms
Hank Haven	Pocket Telescope	Bronze Compass	Right handed	Green Bandana	Afraid of Parrots
Opal Ocean	Smoke Bomb	Golden Feather	Right handed	Red Bandana	Afraid of Parrots
Rory Ripple	Grappling Hook	Ruby Skull	Left handed	Green Bandana	Afraid of Spiders
Nico Nautilus	Grappling Hook	Golden Feather	Left handed	Red Bandana	Afraid of Storms
Mina Marina	Smoke Bomb	Ruby Skull	Right handed	Red Bandana	Afraid of Storms
Kira Kelp	Brass Compass	Golden Feather	Left handed	Green Bandana	Afraid of Spiders
Quinn Reef	Grappling Hook	Ruby Skull	Left handed	Blue Bandana	Afraid of Spiders
Pete Pelican	Pocket Telescope	Bronze Compass	Left handed	Green Bandana	Afraid of Storms
Carly Coral	Smoke Bomb	Bronze Compass	Left handed	Green Bandana	Afraid of Spiders
Ella Ebbtide	Pocket Telescope	Golden Feather	Right handed	Red Bandana	Afraid of Parrots
Toby Trawler	Pocket Telescope	Golden Feather	Left handed	Green Bandana	Afraid of Spiders
Xander Yole	Pocket Telescope	Ruby Skull	Right handed	Red Bandana	Afraid of Spiders
Finn Guppy	Grappling Hook	Emerald Palm	Right handed	Green Bandana	Afraid of Spiders
Ula Urchin	Decoder Ring	Silver Anchor	Left handed	Green Bandana	Afraid of Storms
Willa Wave	Grappling Hook	Golden Feather	Left handed	Green Bandana	Afraid of Parrots
Drake Drift	Decoder Ring	Ruby Skull	Right handed	Red Bandana	Afraid of Storms

make your own at mathcrackers.com

CLUE 1 Place value

You find a mysterious digit lock on the sea chest that reveals a place value puzzle.

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

T																					
800	3000	10	60	80	50	50	900	80	300	100	7000	10	70	300	7000	800					

3000	900	60	10	900	90	30	7000	300	9000	10	200	7000	2000	40	900	70	70				

What is the value of the 8 in 805? ☐ → T

What is the value of the 9 in 933? ☐ → A

What is the value of the 6 in 5,364? ☐ → V

What is the value of the 8 in 6,789? ☐ → I

What is the value of the 2 in 32,007? ☐ → M

What is the value of the 7 in 7,864? ☐ → O

What is the value of the 9 in 1,695? ☐ → B

What is the value of the 3 in 308? ☐ → N

What is the value of the 3 in 838? ☐ → R

What is the value of the 3 in 93,581? ☐ → H

What is the value of the 4 in 142? ☐ → P

What is the value of the 2 in 297? ☐ → C

What is the value of the 1 in 6,149? ☐ → D

What is the value of the 9 in 9,654? ☐ → Z

What is the value of the 5 in 1,651? ☐ → L

What is the value of the 7 in 678? ☐ → S

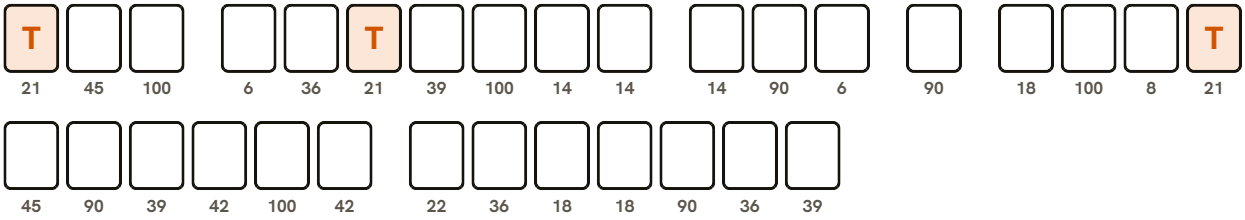
What is the value of the 1 in 6,218? ☐ → E

Scratch space:

CLUE 2 Skip counting

Footprints on the beach jump in equal steps along the sand dunes.

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



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

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

Skip-count by 2s. Fill the blank: 2, 4, 6, ___, 10, 12 ☐ → F

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, ___, 50, 55 ☐ → H

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, ___, 45, 48 ☐ → D

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

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

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

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

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

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

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

Scratch space:

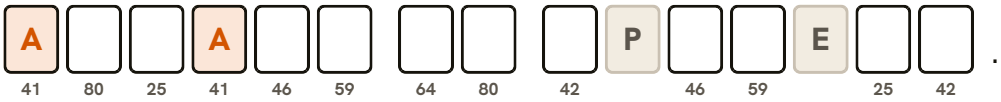
CLUE 3

Word problems

A note in a bottle challenges you to solve a story about island supplies.

Solve each problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with



Captain found 4 spyglasses yesterday and 37 more today. How many spyglasses in all?

Answer: ☐ → **A**

There were 92 compasses. 12 were used up. How many compasses are left?

Answer: ☐ → **F**

There were 63 lanterns. 4 were used up. How many lanterns are left?

Answer: ☐ → **D**

Captain found 39 rope coils yesterday and 3 more today. How many rope coils in all?

Answer: ☐ → **S**

Captain found 10 spyglasses yesterday and 36 more today. How many spyglasses in all?

Answer: ☐ → **I**

Captain lined up 8 rows of 8 compasses. How many compasses in all?

Answer: ☐ → **O**

There were 51 lanterns. 26 were used up. How many lanterns are left?

Answer: ☐ → **R**

Scratch space:

CLUE 4 Multi-step word problems

A map on the table requires solving two connected clues about trail steps.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A strand of

G												
22	36	16	16	75	55	11	75	30	11	75	11	

hair turned up at the scene.

There were 143 lanterns in all. 3 Deckhands used 11 lanterns each. The other 5 Deckhands shared the rest equally. How many lanterns did each of the other Deckhands get?

Answer: ☐ → **G**

Captain collected 87 gold doubloons in the morning and 9 gold doubloons in the afternoon, then split them equally among 6 Deckhands. How many gold doubloons did each get?

Answer: ☐ → **E**

There were 203 compasses in all. 23 compasses were set aside. The rest were shared equally among 5 Deckhands. How many compasses did each get?

Answer: ☐ → **R**

Captain earned 3 spyglasses in each of 2 rounds, plus 72 bonus spyglasses. Then 3 spyglasses were lost. How many spyglasses are left?

Answer: ☐ → **N**

Captain filled 7 boxes with 2 gold doubloons each, then found 41 more gold doubloons. How many gold doubloons are there in all?

Answer: ☐ → **B**

Captain earned 4 compasses in each of 5 rounds, plus 13 bonus compasses. Then 3 compasses were lost. How many compasses are left?

Answer: ☐ → **D**

Captain filled 5 boxes with 2 rope coils each, then found 1 more rope coils. How many rope coils are there in all?

Answer: ☐ → **A**

Scratch space:

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

To unlock the final cave door you must divide the shiny coins equally.

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:

21 ÷ 7 = ☐	90 ÷ 9 = ☐	72 ÷ 8 = ☐	5 ÷ 5 = ☐	99 ÷ 9 = ☐
32 ÷ 8 = ☐	15 ÷ 3 = ☐	48 ÷ 8 = ☐	14 ÷ 7 = ☐	14 ÷ 2 = ☐
84 ÷ 7 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain cracked a secret decoder, then wore an emerald palm.
2. The villain checked the brass compass, then held up a ruby skull.
3. The villain spied through a telescope, then showed off a golden feather.
4. The villain spied through a telescope, then wore an emerald palm.
5. The villain checked the brass compass, then pinned on a silver anchor.
6. The villain dropped a smoke bomb, then held up a ruby skull.
7. The villain cracked a secret decoder, then flashed a bronze compass.
8. The villain checked the brass compass, then showed off a golden feather.
9. The villain cracked a secret decoder, then pinned on a silver anchor.
10. The villain swung across on a rope, then held up a ruby skull.
11. The villain checked the brass compass, then flashed a bronze compass.
12. The villain dropped a smoke bomb, then pinned on a silver anchor.

TEACHER / PARENT

Answer Key

The Mystery of Sunken Key

Culprit: Kira Kelp

Brass Compass · Golden Feather · Left handed · Green Bandana · Afraid of Spiders

Trail: Start 21 → Clue 1 16 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT HAVE A BRONZE COMPASS"

What is the value of the 8 in 805? = 800 (T) · What is the value of the 9 in 933? = 900 (A) · What is the value of the 6 in 5,364? = 60 (V) · What is the value of the 8 in 6,789? = 80 (I) · What is the value of the 2 in 32,007? = 2000 (M) · What is the value of the 7 in 7,864? = 7000 (O) · What is the value of the 9 in 1,695? = 90 (B) · What is the value of the 3 in 308? = 300 (N) · What is the value of the 3 in 838? = 30 (R) · What is the value of the 3 in 93,581? = 3000 (H) · What is the value of the 4 in 142? = 40 (P) · What is the value of the 2 in 297? = 200 (C) · What is the value of the 1 in 6,149? = 100 (D) · What is the value of the 9 in 9,654? = 9000 (Z) · What is the value of the 5 in 1,651? = 50 (L) · What is the value of the 7 in 678? = 70 (S) · What is the value of the 1 in 6,218? = 10 (E)

Clue 2 (Skip counting): "THE WITNESS SAW A LEFT HANDED VILLAIN"

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, ___, 24, 27 = 21 (T) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ___, 24, 26 = 22 (V) · Skip-count by 2s. Fill the blank: 2, 4, 6, ___, 10, 12 = 8 (F) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, ___, 50, 55 = 45 (H) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, ___, 45, 48 = 42 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, ___, 21, 24 = 18 (L) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, ___, 100, 110 = 90 (A) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, ___, 110, 120 = 100 (E) · Skip-count by 2s. Fill the blank: 2, 4, ___, 8, 10 = 6 (W) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ___, 39, 42 = 36 (I) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, ___, 16, 18 = 14 (S) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, ___, 42, 45 = 39 (N)

Clue 3 (Word problems): "AFRAID OF SPIDERS"

Captain found 4 spyglasses yesterday and 37 more today. How many spyglasses in all? = 41 (A) · There were 92 compasses. 12 were used up. How many compasses are left? = 80 (F) · There were 63 lanterns. 4 were used up. How many lanterns are left? = 59 (D) · Captain found 39 rope coils yesterday and 3 more today. How many rope coils in all? = 42 (S) · Captain found 10 spyglasses yesterday and 36 more today. How many spyglasses in all? = 46 (I) · Captain lined up 8 rows of 8 compasses. How many compasses in all? = 64 (O) · There were 51 lanterns. 26 were used up. How many lanterns are left? = 25 (R)

Clue 4 (Multi-step word problems): "GREEN BANDANA"

There were 143 lanterns in all. 3 Deckhands used 11 lanterns each. The other 5 Deckhands shared the rest equally. How many lanterns did each of the other Deckhands get? = 22 (G) · Captain collected 87 gold doubloons in the morning and 9 gold doubloons in the afternoon, then split them equally among 6 Deckhands. How many gold doubloons did each get? = 16 (E) · There were 203 compasses in all. 23 compasses were set aside. The rest were shared equally among 5 Deckhands. How many compasses did each get? = 36 (R) · Captain earned 3 spyglasses in each of 2 rounds, plus 72 bonus spyglasses. Then 3 spyglasses were lost. How many spyglasses are left? = 75 (N) · Captain filled 7 boxes with 2 gold doubloons each, then found 41 more gold doubloons. How many gold doubloons are there in all? = 55 (B) · Captain earned 4 compasses in each of 5 rounds, plus 13 bonus compasses. Then 3 compasses were lost. How many compasses are left? = 30 (D) · Captain filled 5 boxes with 2 rope coils each, then found 1 more rope coils. How many rope coils are there in all? = 11 (A)

Clue 5 (Division facts (1-12)): surviving statement is box 8 → Kira Kelp

21 ÷ 7 = 3 · 90 ÷ 9 = 10 · 72 ÷ 8 = 9 · 5 ÷ 5 = 1 · 99 ÷ 9 = 11 · 32 ÷ 8 = 4 · 15 ÷ 3 = 5 · 48 ÷ 8 = 6 · 14 ÷ 7 = 2 · 14 ÷ 2 = 7 · 84 ÷ 7 = 12