



The Lost Emerald of Mapogo

Grade 5 math · Subtraction, Word problems, Multiplication, Addition, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Someone slipped into the camp during the heavy tropical rainstorm and snatched the Golden Jaguar Compass! Chief Archaeologist Dr. Sterling is devastated. The perpetrator left a trail of muddy tracks and gear behind. We must search the jungle camp, crack the codes left on the supply crates, and deduce which explorer is the thief before they flee the valley!

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 rogue explorer is _____

Possible suspects

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

NAME	PRIMARY TOOL	SECRET MAP	SLING STRAP	EXPLORER HAT	PHOBIA
Sally Ride	Torch Flashlight	Cavern Network Map	Right Shoulder Strap	Yellow Cap	Scared of Bats
Bear Grylls	Machete	Temple Chambers Map	Right Shoulder Strap	Green Helmet	Scared of Spiders
Sacagawea	Laser Level	Swamp Trails Map	Left Shoulder Strap	Yellow Cap	Scared of Spiders
Percy Fawcett	Laser Level	Cavern Network Map	Left Shoulder Strap	Brown Fedora	Scared of Bats
Nellie Bly	Machete	Canyon Shortcut Map	Left Shoulder Strap	Yellow Cap	Scared of Bats
Matthew Henson	Machete	Cavern Network Map	Right Shoulder Strap	Yellow Cap	Scared of Bats
Ernest Shackleton	Grappling Hook	Temple Chambers Map	Right Shoulder Strap	Yellow Cap	Scared of Bats
Mary Kingsley	Machete	River Route Map	Right Shoulder Strap	Green Helmet	Scared of Spiders
Richard Burton	Decibel Sensor	Swamp Trails Map	Left Shoulder Strap	Green Helmet	Scared of Spiders
Amelia Earhart	Laser Level	River Route Map	Right Shoulder Strap	Yellow Cap	Scared of Spiders
Gertrude Bell	Torch Flashlight	Swamp Trails Map	Right Shoulder Strap	Yellow Cap	Scared of Spiders
Isabella Bird	Grappling Hook	Canyon Shortcut Map	Right Shoulder Strap	Green Helmet	Scared of Bats
Robert Peary	Machete	River Route Map	Left Shoulder Strap	Green Helmet	Scared of Spiders
Roald Amundsen	Torch Flashlight	Swamp Trails Map	Right Shoulder Strap	Yellow Cap	Scared of Heights
Indy Jones	Laser Level	Canyon Shortcut Map	Right Shoulder Strap	Green Helmet	Scared of Spiders
Jacques Cousteau	Torch Flashlight	Cavern Network Map	Right Shoulder Strap	Green Helmet	Scared of Spiders
Lara Croft	Decibel Sensor	Canyon Shortcut Map	Right Shoulder Strap	Green Helmet	Scared of Spiders
Daniel Boone	Torch Flashlight	Cavern Network Map	Left Shoulder Strap	Yellow Cap	Scared of Bats
Steve Irwin	Machete	Cavern Network Map	Left Shoulder Strap	Green Helmet	Scared of Heights
Marco Polo	Laser Level	River Route Map	Right Shoulder Strap	Green Helmet	Scared of Bats
Lewis Clark	Grappling Hook	River Route Map	Right Shoulder Strap	Brown Fedora	Scared of Bats

CLUE 1

To figure out which secret maps the suspects carried, we must solve the word problems left in the expedition logbook.

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

4773 6673 6388 4225 3250 4225 3657 6388 4255 4773 1947 3941 4255 1546 4225 4773 6673 6388

4773 6388 4762 3657 1947 6388 4255 6673 3941 4762 3801 6388 6383 4225 4762 3941 3657

$$5890 - 1117 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$6401 - 1639 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$4963 - 738 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$4768 - 2821 = \boxed{} \rightarrow \mathbf{L}$$

$$4836 - 1586 = \boxed{} \rightarrow \boxed{\text{U}}$$

$8127 - 1454 = \boxed{} \rightarrow \mathbf{H}$

$$2370 - 824 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$7370 - 3429 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$9559 - 3171 = \boxed{} \rightarrow \boxed{\text{E}}$$

$10837 - 4454 = \boxed{} \rightarrow \boxed{\text{R}}$

$$6901 - 3100 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$$8000 - 4343 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$6119 - 1864 = \boxed{} \rightarrow \boxed{\text{C}}$$

Scratch space:

CLUE 2

Word problems

We noticed a difference in the supply crates! Subtracting the stolen rations tells us which side the thief wore their shoulder strap.

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

A witness saw the villain was

R									U	L	D	E	R			R	A	P	.
93	77	67	80	41	99	80	48					93	99	41	93				

Dr. Sterling found 54 artifact yesterday and 39 more today. How many artifact in all?

Answer: → **R**

There were 77 canteen. 36 were used up. How many canteen are left?

Answer: → **T**

There were 107 artifact. 30 were used up. How many artifact are left?

Answer: → **I**

There were 128 artifact. 29 were used up. How many artifact are left?

Answer: → **S**

There were 71 compass. 23 were used up. How many compass are left?

Answer: → **O**

Dr. Sterling lined up 8 rows of 10 notebook. How many notebook in all?

Answer: → **H**

There were 74 notebook. 7 were used up. How many notebook are left?

Answer: → **G**

Scratch space:

CLUE 3
Multiplication facts (1-12)

The traps in the chamber trigger in multiple rows. Multiplying the tiles reveals the phobia that made the suspect run.

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

T																	
14	21	72	44	22	44	63	72	20	14	8	90	11	28	8	121	18	
20	121	9	4	72	9	44	144	11	14	21	72	8	22	144	11	44	

$2 \times 7 = \square \rightarrow \text{T}$	$4 \times 7 = \square \rightarrow \text{F}$	$9 \times 1 = \square \rightarrow \text{B}$	$6 \times 3 = \square \rightarrow \text{M}$
$12 \times 12 = \square \rightarrow \text{I}$	$11 \times 11 = \square \rightarrow \text{O}$	$7 \times 3 = \square \rightarrow \text{H}$	
$12 \times 6 = \square \rightarrow \text{E}$	$2 \times 2 = \square \rightarrow \text{W}$	$4 \times 11 = \square \rightarrow \text{S}$	
$10 \times 2 = \square \rightarrow \text{C}$	$2 \times 11 = \square \rightarrow \text{U}$	$7 \times 9 = \square \rightarrow \text{P}$	
$9 \times 10 = \square \rightarrow \text{A}$	$1 \times 8 = \square \rightarrow \text{R}$	$11 \times 1 = \square \rightarrow \text{N}$	

Scratch space:

CLUE 4 Addition

Adding up the footprints found in the mud patches helps us calculate the exact color of the hat left behind.

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

A				A											
2547	9596	5576	5747	2547	8020	4329	9302	2484	5747	2195	2195	6018			

		A						A								
8020	8354	2547	9596	2779	8460	5576	5987	2547	9596	8354	2195	9302	2779	7743	2195	7274

$1611 + 936 = \boxed{} \rightarrow \boxed{\text{A}}$

$3001 + 4742 = \boxed{} \rightarrow \boxed{\text{B}}$

$6378 + 3218 = \boxed{} \rightarrow \boxed{\text{S}}$

$4469 + 3885 = \boxed{} \rightarrow \boxed{\text{L}}$

$1677 + 2652 = \boxed{} \rightarrow \boxed{\text{O}}$

$4672 + 3348 = \boxed{} \rightarrow \boxed{\text{P}}$

$3408 + 2168 = \boxed{} \rightarrow \boxed{\text{C}}$

$1079 + 1116 = \boxed{} \rightarrow \boxed{\text{E}}$

$3209 + 4065 = \boxed{} \rightarrow \boxed{\text{H}}$

$2857 + 3130 = \boxed{} \rightarrow \boxed{\text{W}}$

$3300 + 2718 = \boxed{} \rightarrow \boxed{\text{N}}$

$6484 + 2818 = \boxed{} \rightarrow \boxed{\text{F}}$

$999 + 1485 = \boxed{} \rightarrow \boxed{\text{G}}$

$3008 + 2739 = \boxed{} \rightarrow \boxed{\text{R}}$

$3257 + 5203 = \boxed{} \rightarrow \boxed{\text{I}}$

$880 + 1899 = \boxed{} \rightarrow \boxed{\text{T}}$

$1087 + 964 = \boxed{} \rightarrow \boxed{\text{D}}$

Scratch space:

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

We must divide the remaining expedition fuel evenly to trace the final escape route of the suspect.

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:

$3 \div 1 = \boxed{}$

$9 \div 9 = \boxed{}$

$77 \div 7 = \boxed{}$

$20 \div 5 = \boxed{}$

$45 \div 9 = \boxed{}$

$50 \div 5 = \boxed{}$

$18 \div 2 = \boxed{}$

$108 \div 9 = \boxed{}$

$42 \div 7 = \boxed{}$

$84 \div 12 = \boxed{}$

$80 \div 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain hacked through the thick brambles, then followed the winding river pathway.
2. The villain shined a beam to align the ancient mirrors, then climbed over the steep canyon walls.
3. The villain measured the sound of the stone traps, then climbed over the steep canyon walls.
4. The villain lit up the dark cavern tunnel, then slipped inside the hidden temple tombs.
5. The villain measured the sound of the stone traps, then followed the winding river pathway.
6. The villain lit up the dark cavern tunnel, then navigated the muddy swamp paths.
7. The villain hacked through the thick brambles, then slipped inside the hidden temple tombs.
8. The villain swung across the crocodile river, then crawled through the wet cavern tunnels.
9. The villain lit up the dark cavern tunnel, then followed the winding river pathway.
10. The villain hacked through the thick brambles, then crawled through the wet cavern tunnels.
11. The villain lit up the dark cavern tunnel, then crawled through the wet cavern tunnels.
12. The villain swung across the crocodile river, then climbed over the steep canyon walls.

Answer Key

The Lost Emerald of Mapogo

Culprit: Indy Jones

Laser Level · Canyon Shortcut Map · Right Shoulder Strap · Green Helmet · Scared of Spiders

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Subtraction): "THE SUSPECT LACKS THE TEMPLE CHAMBERS MAP"

$5890 - 1117 = 4773$ (T) · $6401 - 1639 = 4762$ (M) · $4963 - 738 = 4225$ (S) · $4768 - 2821 = 1947$ (L) · $4836 - 1586 = 3250$ (U) · $8127 - 1454 = 6673$ (H) · $2370 - 824 = 1546$ (K) · $7370 - 3429 = 3941$ (A) · $9559 - 3171 = 6388$ (E) · $10837 - 4454 = 6383$ (R) · $6901 - 3100 = 3801$ (B) · $8000 - 4343 = 3657$ (P) · $6119 - 1864 = 4255$ (C)

Clue 2 (Word problems): "RIGHT SHOULDER STRAP"

Dr. Sterling found 54 artifact yesterday and 39 more today. How many artifact in all? = 93 (R) · There were 77 canteen. 36 were used up. How many canteen are left? = 41 (T) · There were 107 artifact. 30 were used up. How many artifact are left? = 77 (I) · There were 128 artifact. 29 were used up. How many artifact are left? = 99 (S) · There were 71 compass. 23 were used up. How many compass are left? = 48 (O) · Dr. Sterling lined up 8 rows of 10 notebook. How many notebook in all? = 80 (H) · There were 74 notebook. 7 were used up. How many notebook are left? = 67 (G)

Clue 3 (Multiplication facts (1-12)): "THE SUSPECT RAN FROM COBWEBS IN THE RUINS"

$2 \times 7 = 14$ (T) · $4 \times 7 = 28$ (F) · $9 \times 1 = 9$ (B) · $6 \times 3 = 18$ (M) · $12 \times 12 = 144$ (I) · $11 \times 11 = 121$ (O) · $7 \times 3 = 21$ (H) · $12 \times 6 = 72$ (E) · $2 \times 2 = 4$ (W) · $4 \times 11 = 44$ (S) · $10 \times 2 = 20$ (C) · $2 \times 11 = 22$ (U) · $7 \times 9 = 63$ (P) · $9 \times 10 = 90$ (A) · $1 \times 8 = 8$ (R) · $11 \times 1 = 11$ (N)

Clue 4 (Addition): "A SCRAP OF GREEN PLASTIC WAS LEFT BEHIND"

$1611 + 936 = 2547$ (A) · $3001 + 4742 = 7743$ (B) · $6378 + 3218 = 9596$ (S) · $4469 + 3885 = 8354$ (L) · $1677 + 2652 = 4329$ (O) · $4672 + 3348 = 8020$ (P) · $3408 + 2168 = 5576$ (C) · $1079 + 1116 = 2195$ (E) · $3209 + 4065 = 7274$ (H) · $2857 + 3130 = 5987$ (W) · $3300 + 2718 = 6018$ (N) · $6484 + 2818 = 9302$ (F) · $999 + 1485 = 2484$ (G) · $3008 + 2739 = 5747$ (R) · $3257 + 5203 = 8460$ (I) · $880 + 1899 = 2779$ (T) · $1087 + 964 = 2051$ (D)

Clue 5 (Division facts (1-12)): surviving statement is box 2 → Indy Jones

$3 \div 1 = 3$ · $9 \div 9 = 1$ · $77 \div 7 = 11$ · $20 \div 5 = 4$ · $45 \div 9 = 5$ · $50 \div 5 = 10$ · $18 \div 2 = 9$ · $108 \div 9 = 12$ · $42 \div 7 = 6$ · $84 \div 12 = 7$ · $80 \div 10 = 8$