



The Mystery of the Crystal Compass

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

Detective: _____ Date: _____

Oh no! Someone snuck into the Temple of Bananas and snatched the ancient Crystal Compass! The Chief Archeologist needs the Treehouse Explorer Club to follow the clues, use their math skills, and unmask the Rogue Explorer before they escape the jungle!

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	SIGNATURE TOOL	CAMP MASCOT	COMPASS POCKET	HELMET STYLE	FAVORITE SNACK DISTRACTION
Clara	Machete Tool	Tiny Tree Frog	Left Pocket Compass	Bright Red Bandana	Crunchy Banana Chips
Eva	Climbing Claws	Squeaky Squirrel	Right Pocket Compass	Bright Red Bandana	Crunchy Banana Chips
Val	Spy Glass	Baby Monkey	Right Pocket Compass	Feathered Safari Hat	Salty Pretzel Twists
Noah	Spy Glass	Green Iguana	Right Pocket Compass	Pith Helmet	Crunchy Banana Chips
Maya	Spy Glass	Squeaky Squirrel	Right Pocket Compass	Feathered Safari Hat	Sour Apple Gummies
Grace	Machete Tool	Baby Monkey	Left Pocket Compass	Bright Red Bandana	Sour Apple Gummies
Quinn	Climbing Claws	Baby Monkey	Right Pocket Compass	Pith Helmet	Crunchy Banana Chips
Finn	Laser Flashlight	Green Iguana	Left Pocket Compass	Bright Red Bandana	Crunchy Banana Chips
Barnaby	Grappling Hook	Trained Parrot	Left Pocket Compass	Pith Helmet	Crunchy Banana Chips
Sam	Laser Flashlight	Baby Monkey	Left Pocket Compass	Pith Helmet	Sour Apple Gummies
Daniel	Climbing Claws	Tiny Tree Frog	Right Pocket Compass	Pith Helmet	Crunchy Banana Chips
Ulysses	Spy Glass	Squeaky Squirrel	Left Pocket Compass	Bright Red Bandana	Salty Pretzel Twists
Zoe	Laser Flashlight	Tiny Tree Frog	Left Pocket Compass	Pith Helmet	Salty Pretzel Twists
Leo	Climbing Claws	Green Iguana	Right Pocket Compass	Bright Red Bandana	Salty Pretzel Twists
Hudson	Grappling Hook	Green Iguana	Left Pocket Compass	Bright Red Bandana	Crunchy Banana Chips
Olivia	Grappling Hook	Baby Monkey	Left Pocket Compass	Bright Red Bandana	Crunchy Banana Chips
Tessa	Spy Glass	Trained Parrot	Left Pocket Compass	Bright Red Bandana	Crunchy Banana Chips
Amelia	Machete Tool	Squeaky Squirrel	Left Pocket Compass	Feathered Safari Hat	Crunchy Banana Chips
Wyatt	Grappling Hook	Tiny Tree Frog	Left Pocket Compass	Bright Red Bandana	Crunchy Banana Chips
Isabella	Grappling Hook	Baby Monkey	Left Pocket Compass	Pith Helmet	Sour Apple Gummies
Parker	Laser Flashlight	Baby Monkey	Left Pocket Compass	Bright Red Bandana	Salty Pretzel Twists

CLUE 1 Rounding

We found an old walkie-talkie dropped in the mud! The screen is cracked, so the distance meter only shows the nearest rounded ten miles. We must round the numbers to find the signal!

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

T																	T
300	200	9000	50	370	900	900	2000	370	70	2900	3000	9000	290	70	3000	300	
200	2000	50	9000	2000	1100	7000	9000	9000	70	370	1100	130	2000	70	2000		

Round 290 to the nearest hundred → **T**

Round 6,773 to the nearest thousand → **R**

Round 130 to the nearest ten → **U**

Round 2,752 to the nearest thousand → **O**

Round 48 to the nearest ten → **V**

Round 2,911 to the nearest hundred → **D**

Round 290 to the nearest ten → **S**

Round 193 to the nearest hundred → **H**

Round 8,629 to the nearest thousand → **E**

Round 373 to the nearest ten → **I**

Round 851 to the nearest hundred → **L**

Round 66 to the nearest ten → **N**

Round 1,095 to the nearest hundred → **G**

Round 1,912 to the nearest thousand → **A**

Scratch space:

CLUE 2 Addition

We found the rogue's camp footprint! To find out how heavy they were, we need to add up the weights of all the supply crates left behind in the dirt.

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

T			T												
9205	2862	7805	9205	2862	4171	7805	3615	5329	2835	5075	5075	4171	7805	6988	2835
			T												
2760	7805	3615	9205	8068	9028	5329	7491	7805	9205	5329	9028	9494	8068	2835	6988

$4540 + 4665 = \square \rightarrow$ T	$1168 + 2447 = \square \rightarrow$ F	$3312 + 4179 = \square \rightarrow$ K
$3857 + 4211 = \square \rightarrow$ P	$4317 + 4711 = \square \rightarrow$ O	$2252 + 2823 = \square \rightarrow$ R
$1554 + 1308 = \square \rightarrow$ H	$1569 + 1266 = \square \rightarrow$ A	$6248 + 3246 = \square \rightarrow$ M
$5357 + 2448 = \square \rightarrow$ E	$4105 + 2883 = \square \rightarrow$ S	$855 + 1905 = \square \rightarrow$ L
$2935 + 2394 = \square \rightarrow$ C	$1944 + 2227 = \square \rightarrow$ I	

Scratch space:

CLUE 3 Subtraction

The thief stole some fuel from our jeep! We need to subtract the remaining fuel from the starting amount to see how far they could run.

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

T																	
6150	2898	8347	8550	5409	8945	4219	7180	7180	8347	5409	8692	8945	8731	8445	8692	2898	8550

1128	3317	8445	3317	8445	3317	8692	2898	7383	7180	7914

6336 - 186 = → T	9049 - 499 = → Y	7795 - 412 = → I
7882 - 702 = → P	12635 - 3943 = → C	5352 - 1133 = → O
10885 - 1940 = → R	9524 - 1177 = → E	10435 - 2521 = → S
12781 - 4336 = → N	9766 - 4357 = → D	5923 - 3025 = → H
3943 - 626 = → A	2075 - 947 = → B	9374 - 643 = → U

Scratch space:

CLUE 4

Multiplication facts (1-12)

The rogue ran across the temple floor! They stepped on ancient tiles laid out in equal rows and columns. Multiply the rows to count how many tiles they stepped on.

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

W																
10	50	48	100	40	32	7	108	70	72	120	11	6	15	72	50	7
70	108	32	7	108	32	108										

$2 \times 5 = \square \rightarrow \boxed{\text{W}}$

$3 \times 5 = \square \rightarrow \boxed{\text{T}}$

$2 \times 3 = \square \rightarrow \boxed{\text{H}}$

$9 \times 8 = \square \rightarrow \boxed{\text{R}}$

$10 \times 4 = \square \rightarrow \boxed{\text{U}}$

$10 \times 10 = \square \rightarrow \boxed{\text{O}}$

$12 \times 9 = \square \rightarrow \boxed{\text{A}}$

$8 \times 4 = \square \rightarrow \boxed{\text{N}}$

$1 \times 7 = \square \rightarrow \boxed{\text{D}}$

$10 \times 12 = \square \rightarrow \boxed{\text{I}}$

$12 \times 4 = \square \rightarrow \boxed{\text{F}}$

$10 \times 5 = \square \rightarrow \boxed{\text{E}}$

$10 \times 7 = \square \rightarrow \boxed{\text{B}}$

$1 \times 11 = \square \rightarrow \boxed{\text{G}}$

Scratch space:

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

To escape across the river, the rogue threw cargo off their raft to keep it light. We can divide the total weight by the number of boxes to see how heavy each box was.

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:

$18 \div 6 = \boxed{}$

$72 \div 9 = \boxed{}$

$10 \div 5 = \boxed{}$

$40 \div 10 = \boxed{}$

$15 \div 3 = \boxed{}$

$88 \div 8 = \boxed{}$

$8 \div 8 = \boxed{}$

$18 \div 3 = \boxed{}$

$50 \div 5 = \boxed{}$

$84 \div 12 = \boxed{}$

$81 \div 9 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain climbed up the tall stone wall, then held the scaly iguana.
2. The villain cleared the thick vines with a tool, then let the tree frog hop along.
3. The villain climbed up the tall stone wall, then fed the hungry parrot.
4. The villain scrambled up the mud slide, then held the scaly iguana.
5. The villain cleared the thick vines with a tool, then shared a nut with the squirrel.
6. The villain cleared the thick vines with a tool, then gave a banana to the monkey.
7. The villain swung across the canyon using a rope, then held the scaly iguana.
8. The villain swung across the canyon using a rope, then gave a banana to the monkey.
9. The villain cleared the thick vines with a tool, then held the scaly iguana.
10. The villain climbed up the tall stone wall, then let the tree frog hop along.
11. The villain climbed up the tall stone wall, then gave a banana to the monkey.
12. The villain swung across the canyon using a rope, then let the tree frog hop along.

Answer Key

The Mystery of the Crystal Compass

Culprit: Wyatt

Grappling Hook · Tiny Tree Frog · Left Pocket Compass · Bright Red Bandana · Crunchy Banana Chips

Trail: Start 21 → Clue 1 17 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE VILLAIN DOES NOT HAVE A GREEN IGUANA"

Round 290 to the nearest hundred = 300 (T) · Round 6,773 to the nearest thousand = 7000 (R) · Round 130 to the nearest ten = 130 (U) · Round 2,752 to the nearest thousand = 3000 (O) · Round 48 to the nearest ten = 50 (V) · Round 2,911 to the nearest hundred = 2900 (D) · Round 290 to the nearest ten = 290 (S) · Round 193 to the nearest hundred = 200 (H) · Round 8,629 to the nearest thousand = 9000 (E) · Round 373 to the nearest ten = 370 (I) · Round 851 to the nearest hundred = 900 (L) · Round 66 to the nearest ten = 70 (N) · Round 1,095 to the nearest hundred = 1100 (G) · Round 1,912 to the nearest thousand = 2000 (A)

Clue 2 (Addition): "THE THIEF CARRIES A LEFT POCKET COMPASS"

$4540 + 4665 = 9205$ (T) · $1168 + 2447 = 3615$ (F) · $3312 + 4179 = 7491$ (K) · $3857 + 4211 = 8068$ (P) · $4317 + 4711 = 9028$ (O) · $2252 + 2823 = 5075$ (R) · $1554 + 1308 = 2862$ (H) · $1569 + 1266 = 2835$ (A) · $6248 + 3246 = 9494$ (M) · $5357 + 2448 = 7805$ (E) · $4105 + 2883 = 6988$ (S) · $855 + 1905 = 2760$ (L) · $2935 + 2394 = 5329$ (C) · $1944 + 2227 = 4171$ (I)

Clue 3 (Subtraction): "THEY DROPPED CRUNCHY BANANA CHIPS"

$6336 - 186 = 6150$ (T) · $9049 - 499 = 8550$ (Y) · $7795 - 412 = 7383$ (I) · $7882 - 702 = 7180$ (P) · $12635 - 3943 = 8692$ (C) · $5352 - 1133 = 4219$ (O) · $10885 - 1940 = 8945$ (R) · $9524 - 1177 = 8347$ (E) · $10435 - 2521 = 7914$ (S) · $12781 - 4336 = 8445$ (N) · $9766 - 4357 = 5409$ (D) · $5923 - 3025 = 2898$ (H) · $3943 - 626 = 3317$ (A) · $2075 - 947 = 1128$ (B) · $9374 - 643 = 8731$ (U)

Clue 4 (Multiplication facts (1-12)): "WE FOUND A BRIGHT RED BANDANA"

$2 \times 5 = 10$ (W) · $3 \times 5 = 15$ (T) · $2 \times 3 = 6$ (H) · $9 \times 8 = 72$ (R) · $10 \times 4 = 40$ (U) · $10 \times 10 = 100$ (O) · $12 \times 9 = 108$ (A) · $8 \times 4 = 32$ (N) · $1 \times 7 = 7$ (D) · $10 \times 12 = 120$ (I) · $12 \times 4 = 48$ (F) · $10 \times 5 = 50$ (E) · $10 \times 7 = 70$ (B) · $1 \times 11 = 11$ (G)

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

$18 \div 6 = 3$ · $72 \div 9 = 8$ · $10 \div 5 = 2$ · $40 \div 10 = 4$ · $15 \div 3 = 5$ · $88 \div 8 = 11$ · $8 \div 8 = 1$ · $18 \div 3 = 6$ · $50 \div 5 = 10$ · $84 \div 12 = 7$ · $81 \div 9 = 9$