



The Mystery of the Crystal Compass

Grade 5 math · Fractions of a number, Order of operations, Multiplication, Rounding, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

A sneaky jungle bandit snuck into the high treehouse basecamp and snatched the golden crystal compass right off the expedition table! Solve the clue math to reveal evidence and identify the thief before they vanish into the canopy.

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 Jungle Bandit is _____

Possible suspects

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

NAME	MAIN TOOL	SIDE GEAR	DOMINANT HAND	HAIR STYLE	SECRET FOILER
Professor Leo	Smoke Bomb	Binoculars	Left Handed	Braided Brown Hair	Loud Bell
Watcher Wendy	Map Scroll	Whistle	Right Handed	Spiky Red Hair	Sneeze Spray
Detective Dawn	Flashlight	Whistle	Right Handed	Curly Black Hair	Tickle Feather
Adventurer Art	Map Scroll	Canteen	Left Handed	Spiky Red Hair	Sneeze Spray
Tracker Tom	Smoke Bomb	Rope Ladder	Right Handed	Spiky Red Hair	Loud Bell
Officer Otto	Smoke Bomb	Canteen	Right Handed	Spiky Red Hair	Sneeze Spray
Voyager Vince	Compass	Glider Pack	Left Handed	Curly Black Hair	Tickle Feather
Trekker Tess	Smoke Bomb	Canteen	Left Handed	Braided Brown Hair	Tickle Feather
Dr Hazel	Smoke Bomb	Glider Pack	Right Handed	Spiky Red Hair	Sneeze Spray
Navigator Nina	Compass	Rope Ladder	Right Handed	Spiky Red Hair	Sneeze Spray
Scout Sam	Grappling Hook	Binoculars	Right Handed	Spiky Red Hair	Tickle Feather
Outrider Opal	Smoke Bomb	Rope Ladder	Left Handed	Braided Brown Hair	Tickle Feather
Ranger Rick	Compass	Glider Pack	Left Handed	Spiky Red Hair	Loud Bell
Pathfinder Paul	Grappling Hook	Whistle	Left Handed	Braided Brown Hair	Loud Bell
Guide Gina	Map Scroll	Binoculars	Left Handed	Spiky Red Hair	Tickle Feather
Pioneer Piper	Map Scroll	Whistle	Right Handed	Curly Black Hair	Loud Bell
Agent Jax	Flashlight	Binoculars	Right Handed	Spiky Red Hair	Sneeze Spray
Explorer Maya	Map Scroll	Whistle	Right Handed	Curly Black Hair	Sneeze Spray
Captain Avery	Grappling Hook	Glider Pack	Left Handed	Curly Black Hair	Loud Bell
Hiker Holly	Compass	Glider Pack	Right Handed	Spiky Red Hair	Loud Bell
Hunter Hank	Grappling Hook	Rope Ladder	Right Handed	Curly Black Hair	Sneeze Spray

CLUE 1

The lead explorer shared a fraction of the expedition fruit trail mix with the camp scouts.

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

A number line from 0 to 100 with two rows of boxes. The top row has boxes at 2, 16, 9, 34, 20, 17, 17, 30, 20, 22, 36, 15, 9, 35, 22, 15, and 2. The bottom row has boxes at 3, 30, 19, 19, 21, 7, 20, 22, 15, 3, 12, 17, 30, 19, and 35. The box at 2 in the top row is highlighted orange and contains the letter 'T'. The box at 100 in the top row is also highlighted orange and contains the letter 'T'.

5/10 of 4 = →

$1/5$ of 180 = $\rightarrow$ **D**

$2/4$ of 40 = $\rightarrow$

5/10 of 18 = → **E**

5/6 of 18 = →

3/10 of 100 = → **A**

$2/8$ of 76 = $\rightarrow$ **R**

$1/2$ of 42 = → **Y**

$$2/10 \text{ of } 85 = \boxed{} \rightarrow \boxed{\text{L}}$$

2/10 of 175 = → **S**

$1/2$ of 32 = $\rightarrow$ **H**

3/6 of 44 = → **N**

4/8 of 68 = → ☒

5/10 of 6 = → **C**

$3/6$ of $14 = \square \rightarrow \boxed{\text{B}}$

$3/8$ of $32 = \square \rightarrow \boxed{\text{U}}$

Scratch space:

CLUE 2 Order of operations

To unlock the jungle supply crate, the detective solved a step by step security code.

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

39 40 42 21 48 25 25 47 48 13 37 56 42 6 39 40 42 48 20

20 48 77 40 39 40 47 13 6

$$33 + 3 \times 2 = \boxed{} \rightarrow \boxed{\text{T}}$$

$10 \times 7 - 28 = \boxed{} \rightarrow \boxed{\text{E}}$

$$21 + 2 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{U}}$$

$$6 \times 9 - 29 = \boxed{} \rightarrow \boxed{\text{L}}$$

$19 + 4 \times 7 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$$12 \times 7 - 28 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$10 \times 9 - 13 = \boxed{} \rightarrow \boxed{\mathbf{G}}$$

$$5 \times 5 - 19 = \boxed{} \rightarrow \boxed{\mathbf{D}}$$

$$1 + 4 \times 3 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$5 \times 8 - 19 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$5 \times 11 - 7 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$7 \times 7 - 9 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$5 \times 6 - 10 = \boxed{} \rightarrow \boxed{\mathbf{R}}$$

Scratch space:

CLUE 3
Multiplication facts (1-12)

The trackers counted the total number of gear boots arranged in equal rows.

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

T														T						
4	121	36	6	18	66	66	54	18	8	27	54	12	12	4	10	88	88	36	44	

35	2	12	8	36	36	96	36	12	88	24	54	2	

$1 \times 4 = \square \rightarrow \text{**T**}$

$11 \times 11 = \square \rightarrow \text{**H**}$

$3 \times 8 = \square \rightarrow \text{**R**}$

$2 \times 9 = \square \rightarrow \text{**I**}$

$2 \times 4 = \square \rightarrow \text{**N**}$

$2 \times 3 = \square \rightarrow \text{**V**}$

$6 \times 2 = \square \rightarrow \text{**S**}$

$12 \times 3 = \square \rightarrow \text{**E**}$

$5 \times 7 = \square \rightarrow \text{**B**}$

$12 \times 8 = \square \rightarrow \text{**Z**}$

$11 \times 8 = \square \rightarrow \text{**P**}$

$4 \times 11 = \square \rightarrow \text{**D**}$

$9 \times 3 = \square \rightarrow \text{**W**}$

$1 \times 2 = \square \rightarrow \text{**Y**}$

$10 \times 1 = \square \rightarrow \text{**O**}$

$6 \times 11 = \square \rightarrow \text{**L**}$

$9 \times 6 = \square \rightarrow \text{**A**}$

Scratch space:

CLUE 4

The jungle radar scanner only showed rounded distances to the nearest trail marker.

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

Diagram illustrating the numbers 500, 7000, 4300, 5000, 50, 20, 3700, 2900, 170, 2000, 4300, 20, 430, 2000, 500, 90, 3700, 70, 230, 110, 900, 230, 170, 3700, 1100, 2000, 7000, 230, 2000, 1700, 90, 3700.

Round 485 to the nearest hundred $\rightarrow$ **S**

Round 66 to the nearest ten → **F**

Round 169 to the nearest ten $\rightarrow$ **H**

Round 877 to the nearest hundred $\rightarrow$ **N**

Round 1,100 to the nearest hundred → **M**

Round 2,855 to the nearest hundred $\rightarrow$ **D**

Round 3,664 to the nearest hundred → **E**

Round 51 to the nearest ten $\rightarrow$ **Y**

Round 426 to the nearest ten $\rightarrow$ **W**

Round 6,507 to the nearest thousand $\rightarrow$ **P**

Round 86 to the nearest ten $\rightarrow$ **L**

Round 108 to the nearest ten $\rightarrow$ **0**

Round 1,683 to the nearest hundred → **B**

Round 17 to the nearest ten $\rightarrow$ **R**

Round 4,317 to the nearest hundred $\rightarrow$

Round 233 to the nearest ten $\rightarrow$ **T**

Round 2,002 to the nearest thousand → **A**

Round 4,751 to the nearest thousand → **K**

Scratch space:

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

The camp leader split all the extra climbing carabiners equally among the adventure teams.

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:

$12 \div 3 = \boxed{}$

$90 \div 9 = \boxed{}$

$22 \div 11 = \boxed{}$

$72 \div 12 = \boxed{}$

$11 \div 1 = \boxed{}$

$7 \div 1 = \boxed{}$

$99 \div 11 = \boxed{}$

$24 \div 3 = \boxed{}$

$60 \div 5 = \boxed{}$

$50 \div 10 = \boxed{}$

$4 \div 4 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain lit up the dark tunnel, then blew a loud signal whistle.
2. The villain dropped a smoke bomb, then took a sip from a canteen.
3. The villain unrolled the secret map, then blew a loud signal whistle.
4. The villain dropped a smoke bomb, then escaped using a glider pack.
5. The villain checked the crystal compass, then took a sip from a canteen.
6. The villain swung in on a vine, then took a sip from a canteen.
7. The villain lit up the dark tunnel, then scouted ahead with binoculars.
8. The villain swung in on a vine, then escaped using a glider pack.
9. The villain unrolled the secret map, then scouted ahead with binoculars.
10. The villain checked the crystal compass, then climbed down a rope ladder.
11. The villain dropped a smoke bomb, then scouted ahead with binoculars.
12. The villain checked the crystal compass, then scouted ahead with binoculars.

Answer Key

The Mystery of the Crystal Compass

Culprit: Watcher Wendy

Map Scroll · Whistle · Right Handed · Spiky Red Hair · Sneeze Spray

Trail: Start 21 → Clue 1 17 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT CARRY BINOCULARS"

$5/10$ of 4 = 2 (T) · $1/5$ of 180 = 36 (D) · $2/4$ of 40 = 20 (I) · $5/10$ of 18 = 9 (E) · $5/6$ of 18 = 15 (O) · $3/10$ of 100 = 30 (A) · $2/8$ of 76 = 19 (R) · $1/2$ of 42 = 21 (Y) · $2/10$ of 85 = 17 (L) · $2/10$ of 175 = 35 (S) · $1/2$ of 32 = 16 (H) · $3/6$ of 44 = 22 (N) · $4/8$ of 68 = 34 (V) · $5/10$ of 6 = 3 (C) · $3/6$ of 14 = 7 (B) · $3/8$ of 32 = 12 (U)

Clue 2 (Order of operations): "THE VILLAIN USED THEIR RIGHT HAND"

$33 + 3 \times 2 = 39$ (T) · $10 \times 7 - 28 = 42$ (E) · $21 + 2 \times 8 = 37$ (U) · $6 \times 9 - 29 = 25$ (L) · $19 + 4 \times 7 = 47$ (A) · $12 \times 7 - 28 = 56$ (S) · $10 \times 9 - 13 = 77$ (G) · $5 \times 5 - 19 = 6$ (D) · $1 + 4 \times 3 = 13$ (N) · $5 \times 8 - 19 = 21$ (V) · $5 \times 11 - 7 = 48$ (I) · $7 \times 7 - 9 = 40$ (H) · $5 \times 6 - 10 = 20$ (R)

Clue 3 (Multiplication facts (1-12)): "THE VILLAIN WAS STOPPED BY SNEEZE SPRAY"

$1 \times 4 = 4$ (T) · $11 \times 11 = 121$ (H) · $3 \times 8 = 24$ (R) · $2 \times 9 = 18$ (I) · $2 \times 4 = 8$ (N) · $2 \times 3 = 6$ (V) · $6 \times 2 = 12$ (S) · $12 \times 3 = 36$ (E) · $5 \times 7 = 35$ (B) · $12 \times 8 = 96$ (Z) · $11 \times 8 = 88$ (P) · $4 \times 11 = 44$ (D) · $9 \times 3 = 27$ (W) · $1 \times 2 = 2$ (Y) · $10 \times 1 = 10$ (O) · $6 \times 11 = 66$ (L) · $9 \times 6 = 54$ (A)

Clue 4 (Rounding): "SPIKY RED HAIR WAS LEFT ON THE MAP TABLE"

Round 485 to the nearest hundred = 500 (S) · Round 66 to the nearest ten = 70 (F) · Round 169 to the nearest ten = 170 (H) · Round 877 to the nearest hundred = 900 (N) · Round 1,100 to the nearest hundred = 1100 (M) · Round 2,855 to the nearest hundred = 2900 (D) · Round 3,664 to the nearest hundred = 3700 (E) · Round 51 to the nearest ten = 50 (Y) · Round 426 to the nearest ten = 430 (W) · Round 6,507 to the nearest thousand = 7000 (P) · Round 86 to the nearest ten = 90 (L) · Round 108 to the nearest ten = 110 (O) · Round 1,683 to the nearest hundred = 1700 (B) · Round 17 to the nearest ten = 20 (R) · Round 4,317 to the nearest hundred = 4300 (I) · Round 233 to the nearest ten = 230 (T) · Round 2,002 to the nearest thousand = 2000 (A) · Round 4,751 to the nearest thousand = 5000 (K)

Clue 5 (Division facts (1-12)): surviving statement is box 3 → Watcher Wendy

$12 \div 3 = 4$ · $90 \div 9 = 10$ · $22 \div 11 = 2$ · $72 \div 12 = 6$ · $11 \div 1 = 11$ · $7 \div 1 = 7$ · $99 \div 11 = 9$ · $24 \div 3 = 8$ · $60 \div 5 = 12$ · $50 \div 10 = 5$ · $4 \div 4 = 1$