



The Mystery of the Missing Golden Compass

Grade 1 math · Addition, Subtraction, Skip counting, Place value, Missing addends · Reading level grades 1-2

Detective: _____ **Date:** _____

Someone snuck into the main treehouse and took the Golden Compass! Use your math skills and clue decode ring to find the sneaky camper who did 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 The Trail Sneak is _____

Possible suspects

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

NAME	MAIN GEAR	BADGE	DOMINANT HAND	HAIR COLOR	WEAKNESS
Luke Leaf	Flashlight	Whistle Badge	Left Handed	Red Hair	Loud Whistles
Pip Pathfinder	Map	Whistle Badge	Right Handed	Brown Hair	Squeaky Toys
Chloe Camper	Map	Night Goggles	Right Handed	Brown Hair	Loud Whistles
Sammy Scout	Compass	Night Goggles	Right Handed	Brown Hair	Loud Whistles
Owen Outdoors	Map	Glider Cape	Right Handed	Brown Hair	Loud Whistles
Ben Voyager	Map	Decoder Ring	Right Handed	Blonde Hair	Bright Lights
Finn Forest	Binoculars	Whistle Badge	Left Handed	Brown Hair	Loud Whistles
Zack Hiker	Binoculars	Tracker Boots	Right Handed	Blonde Hair	Loud Whistles
Maya Ranger	Compass	Decoder Ring	Left Handed	Brown Hair	Bright Lights
Jack Jungle	Compass	Decoder Ring	Right Handed	Blonde Hair	Squeaky Toys
Leo Explorer	Compass	Night Goggles	Left Handed	Brown Hair	Loud Whistles
Cody Canyon	Binoculars	Glider Cape	Right Handed	Brown Hair	Squeaky Toys
Lily Lake	Flashlight	Whistle Badge	Right Handed	Blonde Hair	Squeaky Toys
Sophia Sprout	Flashlight	Glider Cape	Left Handed	Brown Hair	Loud Whistles
Daisy Pioneer	Binoculars	Night Goggles	Right Handed	Blonde Hair	Loud Whistles
Ava Alpine	Flashlight	Night Goggles	Right Handed	Brown Hair	Loud Whistles
Ruby Rover	Binoculars	Decoder Ring	Left Handed	Brown Hair	Loud Whistles
Noah Nav	Flashlight	Glider Cape	Right Handed	Blonde Hair	Loud Whistles
Milo Meadow	Map	Whistle Badge	Right Handed	Red Hair	Loud Whistles
Ella Environmentalist	Binoculars	Night Goggles	Right Handed	Red Hair	Squeaky Toys
Ivy Trail	Grappling Hook	Tracker Boots	Left Handed	Brown Hair	Loud Whistles

CLUE 1

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

Two rows of number boxes are shown. Each box contains a number or the letter 'T'.

Row 1: 17 (T), 6, 12, 8, 19, 12, 13, 14, 20, 11, 12, 8, 19, 11, 17 (T), 7, 12, 13, 9.

Row 2: 17 (T), 9, 13, 18, 14, 12, 9, 3, 11, 11, 17 (T), 8.

$12 + 5 = \square \rightarrow \boxed{\mathbf{T}}$

$1 + 2 = \square \rightarrow \boxed{\mathbf{B}}$

$6 + 14 = \boxed{} \rightarrow \boxed{\text{D}}$

$$6 + 5 = \boxed{} \rightarrow \boxed{0}$$

$$7 + 7 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$3 + 5 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$12 + 6 = \boxed{} \rightarrow \boxed{\text{C}}$

$3 + 4 = \boxed{} \rightarrow \boxed{\mathbf{W}}$

$$4 + 2 = \boxed{} \rightarrow \boxed{\text{H}}$$

$4 + 5 = \boxed{} \rightarrow \boxed{\text{R}}$

$9 + 4 = \boxed{} \rightarrow \boxed{\text{A}}$

$10 + 9 = \boxed{} \rightarrow \boxed{\text{N}}$

$7 + 5 = \boxed{} \rightarrow \boxed{\mathbf{E}}$

Scratch space:

CLUE 2

Subtraction

Some map scrolls went missing from the camp chest. Subtract to find what remains.

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

T						T						T						
14	2	6	10	18	18	14	11	17	7	8	14	15	15	2	18	1	19	

			T												
16	6	10	14	2	19	8	13	6	13	3	17	7	11		

$19 - 5 = \square \rightarrow \boxed{\text{T}}$

$18 - 3 = \square \rightarrow \boxed{\text{S}}$

$12 - 1 = \square \rightarrow \boxed{\text{P}}$

$4 - 1 = \square \rightarrow \boxed{\text{G}}$

$20 - 4 = \square \rightarrow \boxed{\text{L}}$

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

$14 - 7 = \square \rightarrow \boxed{\text{I}}$

$7 - 6 = \square \rightarrow \boxed{\text{W}}$

$20 - 1 = \square \rightarrow \boxed{\text{A}}$

$15 - 5 = \square \rightarrow \boxed{\text{F}}$

$20 - 2 = \square \rightarrow \boxed{\text{O}}$

$17 - 9 = \square \rightarrow \boxed{\text{N}}$

$20 - 3 = \square \rightarrow \boxed{\text{R}}$

$15 - 9 = \square \rightarrow \boxed{\text{E}}$

$19 - 6 = \square \rightarrow \boxed{\text{D}}$

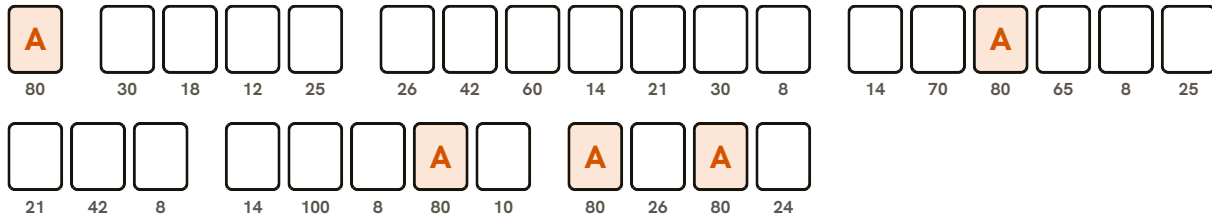
Scratch space:

CLUE 3

Skip counting

Skip count the footprint stamps along the dirt path to decode the clue message.

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



Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 → **A**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, __, 80, 90 → **C**

Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 → **E**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 → **K**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 → **R**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 → **U**

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

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 → **W**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 → **D**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, __, 70, 80 → **I**

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 → **Y**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, __, 20, 22 → **O**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 → **N**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, __, 35, 40 → **L**

Scratch space:

CLUE 4
Place value

Look at the tens and ones on the treehouse door lock to find the clue.

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

T					T			T								
67	71	24	23	24	67	24	37	67	64	14	24	76	85	46	47	23
										T	T					
43	96	85	83	47	71	44	64	96	44	67	67	71	24	39	37	24

What number has 6 tens and 7 ones? → **T**

What number has 7 tens and 1 one? → **H**

What number has 6 tens and 4 ones? → **I**

What number has 1 ten and 4 ones? → **V**

What number has 3 tens and 7 ones? → **C**

What number has 9 tens and 6 ones? → **R**

What number has 7 tens and 6 ones? → **F**

What number has 2 tens and 3 ones? → **D**

What number has 8 tens and 3 ones? → **W**

What number has 4 tens and 7 ones? → **N**

What number has 3 tens and 9 ones? → **S**

What number has 4 tens and 6 ones? → **U**

What number has 8 tens and 5 ones? → **O**

What number has 4 tens and 4 ones? → **A**

What number has 4 tens and 3 ones? → **B**

What number has 2 tens and 4 ones? → **E**

Scratch space:

CLUE 5**Missing addends - the last clue**

Find the missing number of campfire logs to reveal the final hint.

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:

$3 + \underline{\quad} = 7$

$4 + \underline{\quad} = 12$

$10 + \underline{\quad} = 12$

$3 + \underline{\quad} = 6$

$9 + \underline{\quad} = 18$

$10 + \underline{\quad} = 16$

$5 + \underline{\quad} = 12$

$1 + \underline{\quad} = 6$

$3 + \underline{\quad} = 14$

$5 + \underline{\quad} = 15$

$1 + \underline{\quad} = 2$

Step 2 - cross out the sentence with each answer:

1. The villain read the secret map, then unlocked a box with a decoder ring.
2. The villain shined a flashlight around, then floated off with a glider cape.
3. The villain shined a flashlight around, then blew a loud whistle badge.
4. The villain scouted ahead with binoculars, then blew a loud whistle badge.
5. The villain swung in with a grappling hook, then put on night goggles.
6. The villain swung in with a grappling hook, then unlocked a box with a decoder ring.
7. The villain checked the magic compass, then blew a loud whistle badge.
8. The villain checked the magic compass, then put on night goggles.
9. The villain read the secret map, then floated off with a glider cape.
10. The villain read the secret map, then blew a loud whistle badge.
11. The villain checked the magic compass, then snuck away in tracker boots.
12. The villain scouted ahead with binoculars, then unlocked a box with a decoder ring.

Answer Key

The Mystery of the Missing Golden Compass

Culprit: Ruby Rover

Binoculars · Decoder Ring · Left Handed · Brown Hair · Loud Whistles

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

Clue 1 (Addition): "THE SNEAK DOES NOT WEAR TRACKER BOOTS"

$12 + 5 = 17$ (T) · $1 + 2 = 3$ (B) · $6 + 14 = 20$ (D) · $6 + 5 = 11$ (O) · $7 + 7 = 14$ (K) · $3 + 5 = 8$ (S) · $12 + 6 = 18$ (C) · $3 + 4 = 7$ (W) · $4 + 2 = 6$ (H) · $4 + 5 = 9$ (R) · $9 + 4 = 13$ (A) · $10 + 9 = 19$ (N) · $7 + 5 = 12$ (E)

Clue 2 (Subtraction): "THE FOOTPRINTS SHOW A LEFT HANDED GRIP"

$19 - 5 = 14$ (T) · $18 - 3 = 15$ (S) · $12 - 1 = 11$ (P) · $4 - 1 = 3$ (G) · $20 - 4 = 16$ (L) · $9 - 7 = 2$ (H) · $14 - 7 = 7$ (I) · $7 - 6 = 1$ (W) · $20 - 1 = 19$ (A) · $15 - 5 = 10$ (F) · $20 - 2 = 18$ (O) · $17 - 9 = 8$ (N) · $20 - 3 = 17$ (R) · $15 - 9 = 6$ (E) · $19 - 6 = 13$ (D)

Clue 3 (Skip counting): "A LOUD WHISTLE SCARED THE SNEAK AWAY"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 = 80 (A) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, __, 80, 90 = 70 (C) · Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 = 8 (E) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 = 10 (K) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 = 65 (R) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 = 12 (U) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, __, 16, 18 = 14 (S) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (W) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 = 25 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (T) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, __, 70, 80 = 60 (I) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 = 42 (H) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 = 24 (Y) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, __, 20, 22 = 18 (O) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 = 100 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, __, 35, 40 = 30 (L)

Clue 4 (Place value): "THE DETECTIVE FOUND BROWN HAIR AT THE SCENE"

What number has 6 tens and 7 ones? = 67 (T) · What number has 7 tens and 1 one? = 71 (H) · What number has 6 tens and 4 ones? = 64 (I) · What number has 1 ten and 4 ones? = 14 (V) · What number has 3 tens and 7 ones? = 37 (C) · What number has 9 tens and 6 ones? = 96 (R) · What number has 7 tens and 6 ones? = 76 (F) · What number has 2 tens and 3 ones? = 23 (D) · What number has 8 tens and 3 ones? = 83 (W) · What number has 4 tens and 7 ones? = 47 (N) · What number has 3 tens and 9 ones? = 39 (S) · What number has 4 tens and 6 ones? = 46 (U) · What number has 8 tens and 5 ones? = 85 (O) · What number has 4 tens and 4 ones? = 44 (A) · What number has 4 tens and 3 ones? = 43 (B) · What number has 2 tens and 4 ones? = 24 (E)

Clue 5 (Missing addends): surviving statement is box 12 → Ruby Rover

$3 + \underline{\quad} = 7 = 4$ · $4 + \underline{\quad} = 12 = 8$ · $10 + \underline{\quad} = 12 = 2$ · $3 + \underline{\quad} = 6 = 3$ · $9 + \underline{\quad} = 18 = 9$ · $10 + \underline{\quad} = 16 = 6$ · $5 + \underline{\quad} = 12 = 7$ · $1 + \underline{\quad} = 6 = 5$ · $3 + \underline{\quad} = 14 = 11$ · $5 + \underline{\quad} = 15 = 10$ · $1 + \underline{\quad} = 2 = 1$