



The Mystery of the Missing Golden Compass

Grade 5 math · Addition, Subtraction, Multiplication, Fractions of a number, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Someone has swiped the legendary Golden Compass right out of the camp director's cabin! Without it, the Whispering Woods Adventure Camp cannot start the great weekend treasure hunt. It is up to you to follow the clues, crack the codes, and find the culprit.

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 compass thief is _____

Possible suspects

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

NAME	SPECIAL CAMP SKILL	EARNED MERIT BADGE	DOMINANT HAND	CAMP HEADWEAR	NATURE FEAR
Ruby	rapid tree climb	wildlife tracking badge	left-handed pencil grip	khaki safari helmet	startled by loud frogs
Grace	expert map reading	stargazing badge	right-handed pencil grip	khaki safari helmet	fear of tiny spiders
Chloe	stealthy trail run	first aid badge	right-handed pencil grip	bright blue bandana	fear of tiny spiders
Jax	expert map reading	stargazing badge	right-handed pencil grip	green adventure cap	dread of itchy ivy
Ivy	grappling hook swing	wildlife tracking badge	right-handed pencil grip	bright blue bandana	fear of tiny spiders
Ella	decoder ring hack	stargazing badge	left-handed pencil grip	green adventure cap	dread of itchy ivy
Zoe	expert map reading	stargazing badge	left-handed pencil grip	khaki safari helmet	fear of tiny spiders
Luke	decoder ring hack	first aid badge	right-handed pencil grip	bright blue bandana	fear of tiny spiders
Ben	stealthy trail run	wildlife tracking badge	left-handed pencil grip	green adventure cap	startled by loud frogs
Leo	rapid tree climb	knot tying badge	right-handed pencil grip	green adventure cap	startled by loud frogs
Owen	stealthy trail run	first aid badge	left-handed pencil grip	bright blue bandana	startled by loud frogs
Max	decoder ring hack	knot tying badge	right-handed pencil grip	khaki safari helmet	dread of itchy ivy
Zack	grappling hook swing	knot tying badge	right-handed pencil grip	khaki safari helmet	startled by loud frogs
Sophia	grappling hook swing	campfire cooking badge	right-handed pencil grip	bright blue bandana	startled by loud frogs
Sam	expert map reading	wildlife tracking badge	right-handed pencil grip	khaki safari helmet	fear of tiny spiders
Emma	grappling hook swing	stargazing badge	right-handed pencil grip	khaki safari helmet	fear of tiny spiders
Ava	grappling hook swing	stargazing badge	right-handed pencil grip	khaki safari helmet	startled by loud frogs
Finn	rapid tree climb	knot tying badge	left-handed pencil grip	bright blue bandana	fear of tiny spiders
Maya	stealthy trail run	campfire cooking badge	right-handed pencil grip	khaki safari helmet	fear of tiny spiders
Cole	rapid tree climb	wildlife tracking badge	right-handed pencil grip	khaki safari helmet	fear of tiny spiders
Lily	stealthy trail run	first aid badge	right-handed pencil grip	green adventure cap	startled by loud frogs

CLUE 1

Our team gathered at the Whispering Woods mess hall. We counted up all the spare flashlights found in the cabins to narrow down our suspect list.

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

Diagram illustrating the sequence of boxes and their corresponding numbers:

Top Row: 8491, 7700, 5002, 8552, 7132, 8552, 5111, 5002, 9439, **8491 (T)**, 8097, 6485, 5002, 8552, 2220, 6485, **8491 (T)**

Bottom Row: 7700, 7359, 7671, 5002, **8491 (T)**, 7700, 5002, 9439, 6485, 6485, 8275, 5404, 2220, 6236, 4436, 7359, 8097, 6236, 5002

$$4144 + 4347 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$4968 + 2164 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$4262 + 4013 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$4244 + 4308 = \boxed{} \rightarrow \boxed{\text{S}}$$

$1526 + 694 = \boxed{} \rightarrow \boxed{\text{N}}$

$$2689 + 2422 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$2525 + 2477 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$4326 + 3374 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$3635 + 2850 = \boxed{} \rightarrow \boxed{0}$$

$4038 + 2198 = \boxed{} \rightarrow \boxed{\text{G}}$

$$4954 + 4485 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$2567 + 5530 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$2794 + 2610 = \boxed{} \rightarrow \boxed{}$$

$$3009 + 4662 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$2106 + 2330 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$$2490 + 4869 = \boxed{} \rightarrow \boxed{\text{A}}$$

Scratch space:

Subtraction

To figure out which trail the culprit took, we subtracted the blocked paths from the total camp map trails.

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

Diagram illustrating the distribution of the letter 'A' across two rows of boxes. The top row contains 19 boxes, and the bottom row contains 14 boxes. The letter 'A' is present in the 2nd, 10th, and 18th boxes of the top row, and the 7th box of the bottom row. The numbers below each box are:

Top row: 3226, 5348, 8518, 8586, 8555, 1164, 8555, 3226, 7599, 1157, 5411, 1157, 8992, 2977, 8918, 2984, 3226, 1394, 1394.

Bottom row: 8586, 5348, 8518, 2984, 7418, 3226, 1394, 2977, 3063, 1394, 5411, 5348, 8733, 5411, 1157.

$7778 - 4552 = \boxed{} \rightarrow \mathbf{A}$

$2446 - 1289 = \boxed{} \rightarrow \boxed{\text{D}}$

$$5845 - 497 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$6364 - 3387 = \boxed{} \rightarrow \boxed{0}$$

$12194 - 3676 = \boxed{} \rightarrow \boxed{\text{I}}$

$$7665 - 4681 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$12717 - 3984 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$3000 - 1836 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$9938 - 1383 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$7658 - 240 = \boxed{} \rightarrow \boxed{\text{W}}$$

$10285 - 1699 = \boxed{} \rightarrow \boxed{\text{G}}$

$8009 - 4946 = \boxed{} \rightarrow \boxed{\text{B}}$

$8275 - 676 = \boxed{} \rightarrow \boxed{\text{N}}$

$10598 - 1606 = \boxed{} \rightarrow \boxed{\text{C}}$

$6378 - 4984 = \boxed{} \rightarrow \boxed{\text{S}}$

$10453 - 1535 = \boxed{} \rightarrow \boxed{\text{M}}$

$8759 - 3348 = \boxed{} \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 3
Multiplication facts (1-12)

We searched the storage shed, where gear was stacked in equal rows. Multiplying the boxes helped us find the next secret note.

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

T																	
77	33	120	16	90	8	8	36	90	5	27	36	5	36	49	36	14	

					T											
96	27	56	20	36	77	90	5	14	88	132	90	40	120	27		

$7 \times 11 = \square \rightarrow \text{T}$

$5 \times 8 = \square \rightarrow \text{D}$

$2 \times 7 = \square \rightarrow \text{Y}$

$10 \times 2 = \square \rightarrow \text{M}$

$1 \times 8 = \square \rightarrow \text{L}$

$7 \times 8 = \square \rightarrow \text{O}$

$8 \times 11 = \square \rightarrow \text{S}$

$11 \times 12 = \square \rightarrow \text{P}$

$8 \times 12 = \square \rightarrow \text{F}$

$9 \times 10 = \square \rightarrow \text{I}$

$3 \times 9 = \square \rightarrow \text{R}$

$7 \times 7 = \square \rightarrow \text{W}$

$11 \times 3 = \square \rightarrow \text{H}$

$9 \times 4 = \square \rightarrow \text{A}$

$1 \times 5 = \square \rightarrow \text{N}$

$10 \times 12 = \square \rightarrow \text{E}$

$4 \times 4 = \square \rightarrow \text{V}$

Scratch space:

CLUE 4
Fractions of a number

Only a fraction of the scouts had access to the main climbing tower. Finding that specific portion gave us our next breakthrough.

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

W																		
39	4	24	23	6	3	31	18	34	11	18	34	22	11	4	33	25	4	28
35	28	32	18	2	22	3	28	11	4	31	22	32	28					

$6/10 \text{ of } 65 = \square \rightarrow \boxed{\text{W}}$

$2/8 \text{ of } 8 = \square \rightarrow \boxed{\text{P}}$

$1/5 \text{ of } 120 = \square \rightarrow \boxed{\text{F}}$

$1/5 \text{ of } 30 = \square \rightarrow \boxed{\text{U}}$

$2/8 \text{ of } 136 = \square \rightarrow \boxed{\text{K}}$

$6/10 \text{ of } 55 = \square \rightarrow \boxed{\text{L}}$

$2/4 \text{ of } 64 = \square \rightarrow \boxed{\text{R}}$

$1/2 \text{ of } 62 = \square \rightarrow \boxed{\text{D}}$

$1/2 \text{ of } 70 = \square \rightarrow \boxed{\text{S}}$

$2/10 \text{ of } 55 = \square \rightarrow \boxed{\text{H}}$

$3/6 \text{ of } 44 = \square \rightarrow \boxed{\text{I}}$

$2/10 \text{ of } 20 = \square \rightarrow \boxed{\text{E}}$

$1/6 \text{ of } 168 = \square \rightarrow \boxed{\text{T}}$

$5/6 \text{ of } 30 = \square \rightarrow \boxed{\text{M}}$

$3/6 \text{ of } 46 = \square \rightarrow \boxed{\text{O}}$

$6/8 \text{ of } 24 = \square \rightarrow \boxed{\text{A}}$

$4/8 \text{ of } 6 = \square \rightarrow \boxed{\text{N}}$

Scratch space:

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

We divided the camp keycards evenly among the search leaders so everyone could investigate the locked cabins.

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:

$12 \div 3 = \boxed{}$

$3 \div 1 = \boxed{}$

$80 \div 10 = \boxed{}$

$12 \div 12 = \boxed{}$

$63 \div 7 = \boxed{}$

$49 \div 7 = \boxed{}$

$24 \div 12 = \boxed{}$

$18 \div 3 = \boxed{}$

$66 \div 6 = \boxed{}$

$60 \div 12 = \boxed{}$

$24 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain dashed silently down the winding trail, then patched up a torn jacket using first aid skills.
2. The villain dashed silently down the winding trail, then tracked animal footprints in the mud.
3. The villain scouted the path using an expert map, then navigated by checking the night stars.
4. The villain scouted the path using an expert map, then tracked animal footprints in the mud.
5. The villain dashed silently down the winding trail, then navigated by checking the night stars.
6. The villain scaled the giant oak tree in seconds, then navigated by checking the night stars.
7. The villain scouted the path using an expert map, then patched up a torn jacket using first aid skills.
8. The villain scaled the giant oak tree in seconds, then tracked animal footprints in the mud.
9. The villain decoded the secret lock on the chest, then tied a perfect double knot on the rope.
10. The villain swung across the creek with a grappling hook, then navigated by checking the night stars.
11. The villain scouted the path using an expert map, then tied a perfect double knot on the rope.
12. The villain scouted the path using an expert map, then cooked a quick trail snack over the fire.

Answer Key

The Mystery of the Missing Golden Compass

Culprit: Emma

grappling hook swing · stargazing badge · right-handed pencil grip · khaki safari helmet · fear of tiny spiders

Trail: Start 21 → Clue 1 19 → Clue 2 13 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE SUSPECT DOES NOT HAVE THE COOKING BADGE"

$4144 + 4347 = 8491$ (T) · $4968 + 2164 = 7132$ (U) · $4262 + 4013 = 8275$ (K) · $4244 + 4308 = 8552$ (S) · $1526 + 694 = 2220$ (N) · $2689 + 2422 = 5111$ (P) · $2525 + 2477 = 5002$ (E) · $4326 + 3374 = 7700$ (H) · $3635 + 2850 = 6485$ (O) · $4038 + 2198 = 6236$ (G) · $4954 + 4485 = 9439$ (C) · $2567 + 5530 = 8097$ (D) · $2794 + 2610 = 5404$ (I) · $3009 + 4662 = 7671$ (V) · $2106 + 2330 = 4436$ (B) · $2490 + 4869 = 7359$ (A)

Clue 2 (Subtraction): "A RIGHT HANDED COMPASS GRIP WAS OBSERVED"

$7778 - 4552 = 3226$ (A) · $2446 - 1289 = 1157$ (D) · $5845 - 497 = 5348$ (R) · $6364 - 3387 = 2977$ (O) · $12194 - 3676 = 8518$ (I) · $7665 - 4681 = 2984$ (P) · $12717 - 3984 = 8733$ (V) · $3000 - 1836 = 1164$ (T) · $9938 - 1383 = 8555$ (H) · $7658 - 240 = 7418$ (W) · $10285 - 1699 = 8586$ (G) · $8009 - 4946 = 3063$ (B) · $8275 - 676 = 7599$ (N) · $10598 - 1606 = 8992$ (C) · $6378 - 4984 = 1394$ (S) · $10453 - 1535 = 8918$ (M) · $8759 - 3348 = 5411$ (E)

Clue 3 (Multiplication facts (1-12)): "THE VILLAIN RAN AWAY FROM A TINY SPIDER"

$7 \times 11 = 77$ (T) · $5 \times 8 = 40$ (D) · $2 \times 7 = 14$ (Y) · $10 \times 2 = 20$ (M) · $1 \times 8 = 8$ (L) · $7 \times 8 = 56$ (O) · $8 \times 11 = 88$ (S) · $11 \times 12 = 132$ (P) · $8 \times 12 = 96$ (F) · $9 \times 10 = 90$ (I) · $3 \times 9 = 27$ (R) · $7 \times 7 = 49$ (W) · $11 \times 3 = 33$ (H) · $9 \times 4 = 36$ (A) · $1 \times 5 = 5$ (N) · $10 \times 12 = 120$ (E) · $4 \times 4 = 16$ (V)

Clue 4 (Fractions of a number): "WE FOUND A KHAKI HELMET STRAP IN THE DIRT"

$\frac{6}{10}$ of 65 = 39 (W) · $\frac{2}{8}$ of 8 = 2 (P) · $\frac{1}{5}$ of 120 = 24 (F) · $\frac{1}{5}$ of 30 = 6 (U) · $\frac{2}{8}$ of 136 = 34 (K) · $\frac{6}{10}$ of 55 = 33 (L) · $\frac{2}{4}$ of 64 = 32 (R) · $\frac{1}{2}$ of 62 = 31 (D) · $\frac{1}{2}$ of 70 = 35 (S) · $\frac{2}{10}$ of 55 = 11 (H) · $\frac{3}{6}$ of 44 = 22 (I) · $\frac{2}{10}$ of 20 = 4 (E) · $\frac{1}{6}$ of 168 = 28 (T) · $\frac{5}{6}$ of 30 = 25 (M) · $\frac{3}{6}$ of 46 = 23 (O) · $\frac{6}{8}$ of 24 = 18 (A) · $\frac{4}{8}$ of 6 = 3 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Emma

$12 \div 3 = 4$ · $3 \div 1 = 3$ · $80 \div 10 = 8$ · $12 \div 12 = 1$ · $63 \div 7 = 9$ · $49 \div 7 = 7$ · $24 \div 12 = 2$ · $18 \div 3 = 6$ · $66 \div 6 = 11$ · $60 \div 12 = 5$ · $24 \div 2 = 12$