



The Canopy Kingdom Mystery

Grade 5 math · Fractions of a number, Addition, Subtraction, Skip counting · Reading level grades 3-4

Detective: _____ Date: _____

The legendary Golden Acorn has been snatched from the Counselor's cabin! The Treehouse Thief is trying to escape through the rope bridges. Solve the puzzles to find 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 Treehouse Thief is _____

Possible suspects

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

NAME	CLIMBING TOOL	ADVENTURE GEAR	DOMINANT HAND	HEADWEAR	SCARED BY
Noah	climbing boots	canteen	left handed	blue cap	whistle blast
Max	rope ladder	climbing harness	left handed	red bandana	whistle blast
Pete	grappling hook	spyglass	right handed	red bandana	sparklers
Ivy	slingshot	climbing harness	right handed	red bandana	water balloons
Zoe	glider wings	climbing harness	left handed	blue cap	sparklers
Mia	climbing boots	canteen	left handed	blue cap	sparklers
Jake	climbing boots	brass compass	left handed	red bandana	sparklers
Kate	glider wings	spyglass	left handed	red bandana	sparklers
Danny	slingshot	canteen	left handed	blue cap	sparklers
Finn	climbing boots	climbing harness	left handed	blue cap	water balloons
Grace	slingshot	climbing harness	right handed	blue cap	water balloons
Ruby	climbing boots	map scroll	right handed	blue cap	sparklers
Ben	slingshot	canteen	right handed	green helmet	water balloons
Quinn	slingshot	map scroll	left handed	blue cap	sparklers
Ella	grappling hook	map scroll	right handed	green helmet	whistle blast
Jack	slingshot	map scroll	left handed	red bandana	water balloons
Charlie	glider wings	canteen	right handed	green helmet	water balloons
Leo	rope ladder	climbing harness	left handed	blue cap	sparklers
Olivia	slingshot	climbing harness	right handed	blue cap	sparklers
Toby	rope ladder	canteen	left handed	green helmet	water balloons
Sam	rope ladder	map scroll	left handed	blue cap	sparklers

CLUE 1

Fractions of a number

We found a torn list of the thief's gear. Only a small fraction of the list is readable, but it shows us what they did not bring.

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

Two rows of boxes with numbers and 'T' labels. The first row has 15 boxes with the following values from left to right: T (orange), 27, 9, 33, T (orange), 27, 9, 2, 33, 11, 6, 18, 33, 7, 14, 18, T (orange), 27. The second row has 13 boxes with the following values from left to right: 8, 10, 19, 19, 39, 10, 8, 10, 14, T (orange), 27, 33, 33, 14.

$3/5$ of 45 = $\rightarrow$ **T**

3/6 of 22 = → **F**

$$2/6 \text{ of } 6 = \boxed{} \rightarrow \boxed{1}$$

$1/2 \text{ of } 20 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

2/4 of 16 = → **C**

$1/8 \text{ of } 72 = \boxed{} \rightarrow \boxed{\text{H}}$

$4/8$ of $38 = \boxed{} \rightarrow \mathbf{R}$

$$\frac{1}{6} \text{ of } 108 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$2/8 \text{ of } 56 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$\frac{1}{8} \text{ of } 48 = \boxed{} \rightarrow \boxed{\text{D}}$$

$\frac{3}{4}$ of 52 = $\rightarrow$ **Y**

$$\frac{3}{5} \text{ of } 55 = \boxed{} \rightarrow \boxed{\text{E}}$$

$2/8$ of 28 = $\rightarrow$ **S**

Scratch space:

CLUE 2 Addition

To find the thief's escape path, we must add up all the footprints left on the muddy trail.

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

T 5507	6210	9863	T 5507	6210	7101	9863	5022	6210	9863	9186	3529	T 5507	6210	9863	8839	5207	2147	9863
7101	2371	T 5507	6210	9863	7101	8839	9186	9863	5022	T 5507	6210	2426	2371	3529				

$2095 + 3412 = \square \rightarrow \text{T}$	$960 + 1466 = \square \rightarrow \text{A}$	$2467 + 1062 = \square \rightarrow \text{D}$
$3970 + 5216 = \square \rightarrow \text{L}$	$3431 + 5408 = \square \rightarrow \text{R}$	$2730 + 4371 = \square \rightarrow \text{I}$
$1016 + 1131 = \square \rightarrow \text{P}$	$1750 + 3272 = \square \rightarrow \text{F}$	$6894 + 2969 = \square \rightarrow \text{E}$
$1545 + 826 = \square \rightarrow \text{N}$	$2849 + 3361 = \square \rightarrow \text{H}$	$1783 + 3424 = \square \rightarrow \text{O}$

Scratch space:

CLUE 3 Subtraction

The thief dropped some stolen supplies along the way. Let us subtract what we found from the total to see what they have left.

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

T			T														
1030	2098	6589	1030	2098	7519	6589	5800	5834	2098	1273	8110	5100	6929	8253	5169	8253	3101
5800	1273	2045	4158	6900	1273	7519	4867	2098	1030	5834	7656	8253	1273	6929	5305	6589	1273

$4768 - 3738 = \square \rightarrow \text{T}$	$10268 - 3368 = \square \rightarrow \text{B}$	$7206 - 277 = \square \rightarrow \text{K}$
$6500 - 700 = \square \rightarrow \text{F}$	$10110 - 2454 = \square \rightarrow \text{P}$	$8584 - 2750 = \square \rightarrow \text{S}$
$10529 - 2276 = \square \rightarrow \text{A}$	$11482 - 4893 = \square \rightarrow \text{E}$	$4256 - 1155 = \square \rightarrow \text{Y}$
$5956 - 4683 = \square \rightarrow \text{R}$	$4927 - 2882 = \square \rightarrow \text{O}$	$6744 - 1644 = \square \rightarrow \text{N}$
$10915 - 2805 = \square \rightarrow \text{U}$	$4358 - 2260 = \square \rightarrow \text{H}$	$10528 - 3009 = \square \rightarrow \text{I}$
$5637 - 332 = \square \rightarrow \text{L}$	$5180 - 11 = \square \rightarrow \text{W}$	$7700 - 3542 = \square \rightarrow \text{M}$
$8779 - 3912 = \square \rightarrow \text{G}$		

Scratch space:

CLUE 4 Skip counting

The thief escaped by jumping across the wood steps. If we count the steps by threes, we can find where they landed.

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

A						A			A						
70	24	22	12	60	18	70	20	35	70	25	22	60	100	40	27 140
40	30	60	65	6	20	22	6	140	60						

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 → **A**

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

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

Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 → **I**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 → **W**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, __, 65, 70 → **E**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 → **N**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **O**

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, 14, 16, 18, 20, __, 24, 26 → **L**

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

Skip-count by 10s. Fill the blank: 10, 20, __, 40, 50 → **H**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, 60 → **T**

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

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

Scratch space:

CLUE 5**Fractions of a number - the last clue**

The camp kitchen was raided for snacks. A fraction of the juice boxes is missing, showing us which path the thief took.

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:

$2/8 \text{ of } 16 = \boxed{}$

$1/8 \text{ of } 88 = \boxed{}$

$8/10 \text{ of } 10 = \boxed{}$

$1/10 \text{ of } 50 = \boxed{}$

$2/5 \text{ of } 25 = \boxed{}$

$2/10 \text{ of } 30 = \boxed{}$

$2/10 \text{ of } 35 = \boxed{}$

$1/5 \text{ of } 15 = \boxed{}$

$1/3 \text{ of } 36 = \boxed{}$

$4/8 \text{ of } 4 = \boxed{}$

$9/10 \text{ of } 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain climbs a rope ladder, then unrolls a map scroll.
2. The villain shoots a slingshot, then tightens a climbing harness.
3. The villain leaps in climbing boots, then checks their brass compass.
4. The villain shoots a slingshot, then unrolls a map scroll.
5. The villain shoots a slingshot, then takes a sip from a canteen.
6. The villain swings on a grappling hook, then checks their brass compass.
7. The villain climbs a rope ladder, then peers through a spyglass.
8. The villain climbs a rope ladder, then tightens a climbing harness.
9. The villain swings on a grappling hook, then tightens a climbing harness.
10. The villain sails with glider wings, then unrolls a map scroll.
11. The villain sails with glider wings, then tightens a climbing harness.
12. The villain sails with glider wings, then checks their brass compass.

Answer Key

The Canopy Kingdom Mystery

Culprit: Sam

rope ladder · map scroll · left handed · blue cap · sparklers

Trail: Start 21 → Clue 1 15 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE THIEF DOES NOT CARRY A CANTEEN"

$\frac{3}{5}$ of 45 = 27 (T) · $\frac{3}{6}$ of 22 = 11 (F) · $\frac{2}{6}$ of 6 = 2 (I) · $\frac{1}{2}$ of 20 = 10 (A) · $\frac{2}{4}$ of 16 = 8 (C) · $\frac{1}{8}$ of 72 = 9 (H) · $\frac{4}{8}$ of 38 = 19 (R) · $\frac{1}{6}$ of 108 = 18 (O) · $\frac{2}{8}$ of 56 = 14 (N) · $\frac{1}{8}$ of 48 = 6 (D) · $\frac{3}{4}$ of 52 = 39 (Y) · $\frac{3}{5}$ of 55 = 33 (E) · $\frac{2}{8}$ of 28 = 7 (S)

Clue 2 (Addition): "THE THIEF HELD THE ROPE IN THEIR LEFT HAND"

$2095 + 3412 = 5507$ (T) · $960 + 1466 = 2426$ (A) · $2467 + 1062 = 3529$ (D) · $3970 + 5216 = 9186$ (L) · $3431 + 5408 = 8839$ (R) · $2730 + 4371 = 7101$ (I) · $1016 + 1131 = 2147$ (P) · $1750 + 3272 = 5022$ (F) · $6894 + 2969 = 9863$ (E) · $1545 + 826 = 2371$ (N) · $2849 + 3361 = 6210$ (H) · $1783 + 3424 = 5207$ (O)

Clue 3 (Subtraction): "THE THIEF SHRUNK AWAY FROM BRIGHT SPARKLERS"

$4768 - 3738 = 1030$ (T) · $10268 - 3368 = 6900$ (B) · $7206 - 277 = 6929$ (K) · $6500 - 700 = 5800$ (F) · $10110 - 2454 = 7656$ (P) · $8584 - 2750 = 5834$ (S) · $10529 - 2276 = 8253$ (A) · $11482 - 4893 = 6589$ (E) · $4256 - 1155 = 3101$ (Y) · $5956 - 4683 = 1273$ (R) · $4927 - 2882 = 2045$ (O) · $6744 - 1644 = 5100$ (N) · $10915 - 2805 = 8110$ (U) · $4358 - 2260 = 2098$ (H) · $10528 - 3009 = 7519$ (I) · $5637 - 332 = 5305$ (L) · $5180 - 11 = 5169$ (W) · $7700 - 3542 = 4158$ (M) · $8779 - 3912 = 4867$ (G)

Clue 4 (Skip counting): "A BLUE CAP WAS LEFT ON THE ZIPLINE"

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 = 70 (A) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, __, 22, 24 = 20 (P) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 = 24 (B) · Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 = 6 (I) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 = 35 (W) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, __, 65, 70 = 60 (E) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 = 140 (N) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (O) · 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, 14, 16, 18, 20, __, 24, 26 = 22 (L) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 = 65 (Z) · Skip-count by 10s. Fill the blank: 10, 20, __, 40, 50 = 30 (H) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, __, 20, 22 = 18 (C) · Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, 60 = 40 (T) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 = 100 (F) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 = 25 (S)

Clue 5 (Fractions of a number): surviving statement is box 1 → Sam

$\frac{2}{8}$ of 16 = 4 · $\frac{1}{8}$ of 88 = 11 · $\frac{8}{10}$ of 10 = 8 · $\frac{1}{10}$ of 50 = 5 · $\frac{2}{5}$ of 25 = 10 · $\frac{2}{10}$ of 30 = 6 · $\frac{2}{10}$ of 35 = 7 · $\frac{1}{5}$ of 15 = 3 · $\frac{1}{3}$ of 36 = 12 · $\frac{4}{8}$ of 4 = 2 · $\frac{9}{10}$ of 10 = 9