# The Treehouse Map Mystery

Grade 4 math · Place value, Multiplication, Word problems, Fractions of a number · Reading level grades 1-2

**Detective:** _____ **Date:** _____

Someone snuck into the camp treehouse and took the golden trail map! The Head Scout needs your detective skills to follow the clues and catch the Map Snatcher.

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 Map Snatcher is** _____

## Possible suspects

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

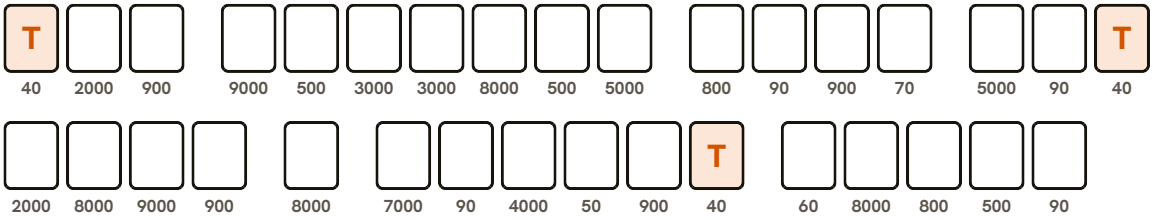
| NAME | EXPLORER GEAR | SPECIAL TOOL | BANDANA COLOR | HAIR STYLE | CAMP TRICK |
|---|---|---|---|---|---|
| **Scout Ivy** | Smoke Bomb | Pocket Radio | Red Bandana | Curly Hair | Whistle Blast |
| **Scout Noah** | Compass Lock | Camouflage Net | Red Bandana | Spiky Hair | Squeaky Toy |
| **Scout Lily** | Compass Lock | Pocket Radio | Red Bandana | Braided Hair | Squeaky Toy |
| **Scout Sam** | Flashlight | Pocket Radio | Red Bandana | Spiky Hair | Whistle Blast |
| **Scout Max** | Glider Wings | Camouflage Net | Blue Bandana | Spiky Hair | Squeaky Toy |
| **Scout Ella** | Smoke Bomb | Rope Ladder | Red Bandana | Braided Hair | Squeaky Toy |
| **Scout Leo** | Glider Wings | Pocket Radio | Blue Bandana | Curly Hair | Whistle Blast |
| **Scout Zoe** | Grappling Hook | Pocket Radio | Blue Bandana | Spiky Hair | Squeaky Toy |
| **Scout Mia** | Smoke Bomb | Rope Ladder | Blue Bandana | Spiky Hair | Whistle Blast |
| **Scout Finn** | Grappling Hook | Pocket Radio | Red Bandana | Braided Hair | Whistle Blast |
| **Scout Kai** | Grappling Hook | Pocket Radio | Blue Bandana | Braided Hair | Whistle Blast |
| **Scout Grace** | Compass Lock | Camp Whistle | Red Bandana | Spiky Hair | Whistle Blast |
| **Scout Chloe** | Smoke Bomb | Camp Whistle | Blue Bandana | Spiky Hair | Squeaky Toy |
| **Scout Nora** | Flashlight | Signal Flare | Blue Bandana | Spiky Hair | Mirror Flash |
| **Scout Ava** | Grappling Hook | Signal Flare | Blue Bandana | Braided Hair | Mirror Flash |
| **Scout Jack** | Compass Lock | Camouflage Net | Blue Bandana | Spiky Hair | Squeaky Toy |
| **Scout Owen** | Smoke Bomb | Pocket Radio | Blue Bandana | Braided Hair | Whistle Blast |
| **Scout Luke** | Glider Wings | Signal Flare | Blue Bandana | Braided Hair | Squeaky Toy |
| **Scout Ezra** | Compass Lock | Camp Whistle | Red Bandana | Spiky Hair | Squeaky Toy |
| **Scout Hazel** | Flashlight | Rope Ladder | Blue Bandana | Spiky Hair | Squeaky Toy |
| **Scout Ben** | Flashlight | Camp Whistle | Blue Bandana | Braided Hair | Whistle Blast |

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## CLUE 1 Place value

The treehouse digital lock shows numbers in tens and ones. Solve the place value puzzle to get Clue 1.

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




What is the value of the 4 in 649? ☐ → T

What is the value of the 9 in 922? ☐ → E

What is the value of the 9 in 39,041? ☐ → V

What is the value of the 5 in 511? ☐ → I

What is the value of the 3 in 73,160? ☐ → L

What is the value of the 7 in 8,578? ☐ → S

What is the value of the 8 in 814? ☐ → D

What is the value of the 6 in 2,263? ☐ → R

What is the value of the 5 in 952? ☐ → K

What is the value of the 7 in 67,146? ☐ → P

What is the value of the 8 in 8,660? ☐ → A

What is the value of the 9 in 596? ☐ → O

What is the value of the 5 in 5,678? ☐ → N

What is the value of the 4 in 24,118? ☐ → C

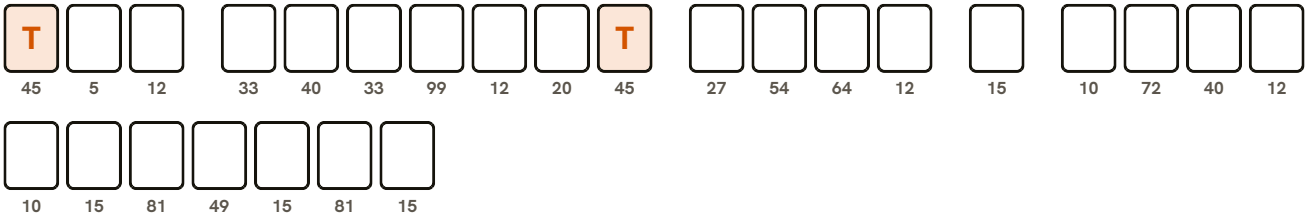
What is the value of the 2 in 82,731? ☐ → H

Scratch space:

## CLUE 2 Multiplication facts (1-12)

Scout trail maps are packed in equal rows inside the supply chest. Multiply the rows to reveal Clue 2.

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




| | | | |
|---|---|---|---|
| 5 × 9 = ☐ → T | 9 × 9 = ☐ → N | 8 × 8 = ☐ → R | 6 × 12 = ☐ → L |
| 7 × 7 = ☐ → D | 5 × 3 = ☐ → A | 3 × 9 = ☐ → W | 3 × 11 = ☐ → S |
| 2 × 5 = ☐ → B | 3 × 4 = ☐ → E | 1 × 5 = ☐ → H | 5 × 8 = ☐ → U |
| 5 × 4 = ☐ → C | 9 × 11 = ☐ → P | 9 × 6 = ☐ → O | |

Scratch space:

## CLUE 3 Word problems

The Head Scout left a story problem about adventure gear. Solve the word problem to uncover Clue 3.

Solve each problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with

| S | | | | | | | T | O | | .
|---|---|---|---|---|---|---|---|---|---|---|
| 74 | 54 | 64 | 58 | 70 | 71 | 12 | | | 12 | |

Scout Leader found 43 gold coin yesterday and 31 more today. How many gold coin in all?

**Answer:** ☐ → **S**

There were 81 wooden badge. 10 were used up. How many wooden badge are left?

**Answer:** ☐ → **K**

There were 98 gold coin. 40 were used up. How many gold coin are left?

**Answer:** ☐ → **E**

Scout Leader lined up 10 rows of 7 scout compass. How many scout compass in all?

**Answer:** ☐ → **A**

There were 77 scout compass. 13 were used up. How many scout compass are left?

**Answer:** ☐ → **U**

Scout Leader lined up 9 rows of 6 gold coin. How many gold coin in all?

**Answer:** ☐ → **Q**

Scout Leader lined up 2 rows of 6 wooden badge. How many wooden badge in all?

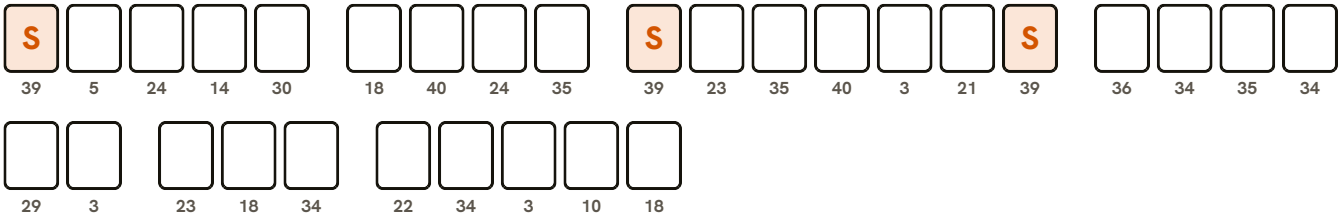
**Answer:** ☐ → **Y**

Scratch space:

## CLUE 4 Fractions of a number

A set of camp compasses was shared among the teams. Find the fraction of compasses to unlock Clue 4.

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




3/4 of 52 = ☐ → S

1/5 of 15 = ☐ → N

2/4 of 36 = ☐ → H

4/10 of 35 = ☐ → K

5/10 of 70 = ☐ → R

1/10 of 50 = ☐ → P

3/6 of 60 = ☐ → Y

2/5 of 90 = ☐ → W

2/6 of 66 = ☐ → B

1/3 of 102 = ☐ → E

4/8 of 42 = ☐ → D

2/8 of 160 = ☐ → A

1/2 of 46 = ☐ → T

1/5 of 50 = ☐ → C

4/8 of 58 = ☐ → O

2/6 of 72 = ☐ → I

Scratch space:

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

The secret trail badges were split into equal parts. Calculate the fraction to get Clue 5.

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:**

1/2 of 8 = ☐ | 2/10 of 40 = ☐ | 2/4 of 24 = ☐ | 2/4 of 18 = ☐

1/2 of 12 = ☐ | 2/6 of 30 = ☐ | 2/8 of 8 = ☐ | 1/6 of 42 = ☐ | 2/4 of 6 = ☐

3/6 of 22 = ☐ | 5/6 of 6 = ☐

**Step 2 - cross out the sentence with each answer:**

1. The villain shined a bright light through the dark, then escaped up a tall rope ladder.
2. The villain soared off the cliff on glider wings, then blew a loud camp whistle.
3. The villain soared off the cliff on glider wings, then escaped up a tall rope ladder.
4. The villain unlocked the vault with a master compass, then hid under a leafy camo net.
5. The villain soared off the cliff on glider wings, then launched a bright signal flare.
6. The villain vanished behind a cloud of smoke, then chattered on a pocket radio.
7. The villain unlocked the vault with a master compass, then chattered on a pocket radio.
8. The villain vanished behind a cloud of smoke, then blew a loud camp whistle.
9. The villain vanished behind a cloud of smoke, then escaped up a tall rope ladder.
10. The villain shined a bright light through the dark, then launched a bright signal flare.
11. The villain unlocked the vault with a master compass, then launched a bright signal flare.
12. The villain soared off the cliff on glider wings, then hid under a leafy camo net.

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TEACHER / PARENT

# Answer Key

The Treehouse Map Mystery

## Culprit: Scout Hazel

Flashlight · Rope Ladder · Blue Bandana · Spiky Hair · Squeaky Toy

Trail: Start 21 → Clue 1 13 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

### Clue 1 (Place value): "THE VILLAIN DOES NOT HAVE A POCKET RADIO"

What is the value of the 4 in 649? = 40 (T) · What is the value of the 9 in 922? = 900 (E) · What is the value of the 9 in 39,041? = 9000 (V) · What is the value of the 5 in 511? = 500 (I) · What is the value of the 3 in 73,160? = 3000 (L) · What is the value of the 7 in 8,578? = 70 (S) · What is the value of the 8 in 814? = 800 (D) · What is the value of the 6 in 2,263? = 60 (R) · What is the value of the 5 in 952? = 50 (K) · What is the value of the 7 in 67,146? = 7000 (P) · What is the value of the 8 in 8,660? = 8000 (A) · What is the value of the 9 in 596? = 90 (O) · What is the value of the 5 in 5,678? = 5000 (N) · What is the value of the 4 in 24,118? = 4000 (C) · What is the value of the 2 in 82,731? = 2000 (H)

### Clue 2 (Multiplication facts (1-12)): "THE SUSPECT WORE A BLUE BANDANA"

5 × 9 = 45 (T) · 9 × 9 = 81 (N) · 8 × 8 = 64 (R) · 6 × 12 = 72 (L) · 7 × 7 = 49 (D) · 5 × 3 = 15 (A) · 3 × 9 = 27 (W) · 3 × 11 = 33 (S) · 2 × 5 = 10 (B) · 3 × 4 = 12 (E) · 1 × 5 = 5 (H) · 5 × 8 = 40 (U) · 5 × 4 = 20 (C) · 9 × 11 = 99 (P) · 9 × 6 = 54 (O)

### Clue 3 (Word problems): "SQUEAKY TOY"

Scout Leader found 43 gold coin yesterday and 31 more today. How many gold coin in all? = 74 (S) · There were 81 wooden badge. 10 were used up. How many wooden badge are left? = 71 (K) · There were 98 gold coin. 40 were used up. How many gold coin are left? = 58 (E) · Scout Leader lined up 10 rows of 7 scout compass. How many scout compass in all? = 70 (A) · There were 77 scout compass. 13 were used up. How many scout compass are left? = 64 (U) · Scout Leader lined up 9 rows of 6 gold coin. How many gold coin in all? = 54 (Q) · Scout Leader lined up 2 rows of 6 wooden badge. How many wooden badge in all? = 12 (Y)

### Clue 4 (Fractions of a number): "SPIKY HAIR STRANDS WERE ON THE BENCH"

3/4 of 52 = 39 (S) · 1/5 of 15 = 3 (N) · 2/4 of 36 = 18 (H) · 4/10 of 35 = 14 (K) · 5/10 of 70 = 35 (R) · 1/10 of 50 = 5 (P) · 3/6 of 60 = 30 (Y) · 2/5 of 90 = 36 (W) · 2/6 of 66 = 22 (B) · 1/3 of 102 = 34 (E) · 4/8 of 42 = 21 (D) · 2/8 of 160 = 40 (A) · 1/2 of 46 = 23 (T) · 1/5 of 50 = 10 (C) · 4/8 of 58 = 29 (O) · 2/6 of 72 = 24 (I)

### Clue 5 (Fractions of a number): surviving statement is box 1 → Scout Hazel

1/2 of 8 = 4 · 2/10 of 40 = 8 · 2/4 of 24 = 12 · 2/4 of 18 = 9 · 1/2 of 12 = 6 · 2/6 of 30 = 10 · 2/8 of 8 = 2 · 1/6 of 42 = 7 · 2/4 of 6 = 3 · 3/6 of 22 = 11 · 5/6 of 6 = 5