

# The Great Treehouse Mystery

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

Detective: \_\_\_\_\_ Date: \_\_\_\_\_

The gold map is gone from the treehouse! A sneaky club member took it. We need to find the thief before they dig up the secret club chest.

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 Thief is** \_\_\_\_\_

## Possible suspects

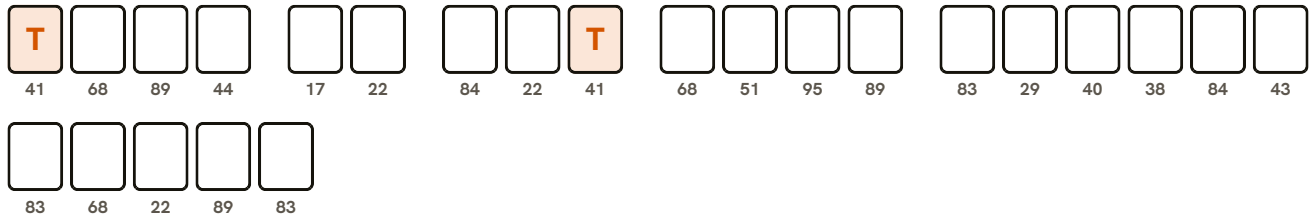
Cross off a row as each clue rules it out. The one left at the end is the culprit.

| NAME  | MAIN TOOL     | ESCAPE GEAR  | WRITING HAND | HAIR COLOR  | SECRET FEAR   |
|-------|---------------|--------------|--------------|-------------|---------------|
| Cole  | rope lasso    | wind glider  | right handed | purple hair | squeaky toy   |
| Jack  | walkie talkie | spring shoes | right handed | green hair  | cookie crumbs |
| Ella  | rope lasso    | fast bike    | left handed  | orange hair | cookie crumbs |
| Zoe   | flash light   | hover board  | right handed | purple hair | cookie crumbs |
| Ryan  | rope lasso    | hover board  | left handed  | green hair  | cookie crumbs |
| Cora  | flash light   | spring shoes | right handed | orange hair | squeaky toy   |
| Ben   | laser beam    | jet pack     | right handed | orange hair | cookie crumbs |
| Mia   | bubble blast  | hover board  | right handed | orange hair | squeaky toy   |
| Toby  | rope lasso    | hover board  | right handed | orange hair | squeaky toy   |
| Ruby  | bubble blast  | jet pack     | right handed | orange hair | cookie crumbs |
| Zack  | rope lasso    | hover board  | right handed | orange hair | cookie crumbs |
| Luke  | laser beam    | fast bike    | left handed  | green hair  | cookie crumbs |
| Annie | bubble blast  | jet pack     | right handed | orange hair | squeaky toy   |
| Sam   | walkie talkie | jet pack     | right handed | purple hair | cookie crumbs |
| Owen  | laser beam    | fast bike    | left handed  | orange hair | squeaky toy   |
| Lily  | bubble blast  | wind glider  | right handed | orange hair | squeaky toy   |
| Leo   | bubble blast  | hover board  | left handed  | orange hair | squeaky toy   |
| Max   | bubble blast  | wind glider  | right handed | green hair  | squeaky toy   |
| Finn  | flash light   | hover board  | right handed | orange hair | water spray   |
| Abby  | flash light   | wind glider  | left handed  | purple hair | water spray   |
| Noah  | rope lasso    | wind glider  | left handed  | orange hair | water spray   |

# CLUE 1 Place value

The thief left a note with a secret code. We must look at the tens and ones blocks to read the map room number.

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



What number has 4 tens and 1 one?

→ **T**

What number has 6 tens and 8 ones?

→ **H**

What number has 8 tens and 9 ones?

→ **E**

What number has 4 tens and 0 ones?

→ **R**

What number has 1 ten and 7 ones?

→ **D**

What number has 5 tens and 1 one?

→ **A**

What number has 8 tens and 3 ones?

→ **S**

What number has 4 tens and 4 ones?

→ **Y**

What number has 9 tens and 5 ones?

→ **V**

What number has 8 tens and 4 ones?

→ **N**

What number has 2 tens and 9 ones?

→ **P**

What number has 2 tens and 2 ones?

→ **O**

What number has 3 tens and 8 ones?

→ **I**

What number has 4 tens and 3 ones?

→ **G**

Scratch space:

**CLUE 2**   **Addition**

We found some dropped gear in the grass. Let us add up all the shiny badges to find the path they took.

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

|                            |                           |                           |                           |                            |                           |                           |                           |                            |                           |                           |                           |                           |                            |                           |                           |                           |                           |
|----------------------------|---------------------------|---------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <div>T</div> <div>40</div> | <div></div> <div>33</div> | <div></div> <div>91</div> | <div></div> <div>50</div> | <div></div> <div>67</div>  | <div></div> <div>49</div> | <div></div> <div>32</div> | <div></div> <div>94</div> | <div>T</div> <div>40</div> | <div></div> <div>56</div> | <div></div> <div>63</div> | <div></div> <div>91</div> | <div></div> <div>32</div> | <div>T</div> <div>40</div> | <div></div> <div>33</div> | <div></div> <div>91</div> | <div></div> <div>94</div> | <div></div> <div>89</div> |
| <div></div> <div>89</div>  | <div></div> <div>94</div> | <div></div> <div>25</div> | <div></div> <div>33</div> | <div>T</div> <div>40</div> | <div></div> <div>33</div> | <div></div> <div>67</div> | <div></div> <div>49</div> | <div></div> <div>32</div>  |                           |                           |                           |                           |                            |                           |                           |                           |                           |

$12 + 28 = \square \rightarrow \boxed{\text{T}}$

$45 + 22 = \square \rightarrow \boxed{\text{A}}$

$32 + 59 = \square \rightarrow \boxed{\text{E}}$

$15 + 10 = \square \rightarrow \boxed{\text{G}}$

$34 + 60 = \square \rightarrow \boxed{\text{I}}$

$19 + 30 = \square \rightarrow \boxed{\text{N}}$

$13 + 19 = \square \rightarrow \boxed{\text{D}}$

$34 + 55 = \square \rightarrow \boxed{\text{R}}$

$44 + 19 = \square \rightarrow \boxed{\text{S}}$

$23 + 10 = \square \rightarrow \boxed{\text{H}}$

$18 + 32 = \square \rightarrow \boxed{\text{B}}$

$34 + 22 = \square \rightarrow \boxed{\text{U}}$

Scratch space:

## CLUE 3

## Subtraction

There are footprints near the treehouse. Subtract the small prints from the big ones to count how many steps they made.

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

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| T  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 15 | 77 | 63 | 35 | 16 | 49 | 74 | 49 | 33 | 49 | 35 | 67 | 16 | 17 | 20 | 49 |
|    |    |    |    |    |    |    | T  |    |    |    |    |    |    |    |    |
| 29 | 40 | 51 | 63 | 49 | 38 | 35 | 15 | 17 | 35 |    |    |    |    |    |    |

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

$49 - 14 = \square \rightarrow \boxed{\text{Y}}$

$86 - 9 = \square \rightarrow \boxed{\text{H}}$

$108 - 34 = \square \rightarrow \boxed{\text{N}}$

$73 - 33 = \square \rightarrow \boxed{\text{Q}}$

$49 - 32 = \square \rightarrow \boxed{\text{O}}$

$75 - 37 = \square \rightarrow \boxed{\text{K}}$

$31 - 11 = \square \rightarrow \boxed{\text{M}}$

$47 - 14 = \square \rightarrow \boxed{\text{W}}$

$98 - 31 = \square \rightarrow \boxed{\text{F}}$

$66 - 3 = \square \rightarrow \boxed{\text{E}}$

$61 - 12 = \square \rightarrow \boxed{\text{A}}$

$52 - 36 = \square \rightarrow \boxed{\text{R}}$

$88 - 37 = \square \rightarrow \boxed{\text{U}}$

$55 - 26 = \square \rightarrow \boxed{\text{S}}$

Scratch space:

## CLUE 4 Skip counting

The path goes past the stepping stones. We need to skip count by fives on the wet rocks to follow the trail.

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

|    |    |    |     |    |    |    |    |     |    |     |    |    |    |    |
|----|----|----|-----|----|----|----|----|-----|----|-----|----|----|----|----|
| W  |    |    |     |    |    |    |    |     |    |     |    |    |    |    |
| 10 | 60 | 26 | 140 | 15 | 12 | 24 | 25 | 140 | 28 | 140 | 15 | 90 | 60 | 24 |

|     |    |    |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|
|     |    |    |    |    |    |    |    |    |    |
| 140 | 90 | 50 | 12 | 21 | 60 | 40 | 50 | 20 | 90 |

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, \_\_, 12, 14  → **W**

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

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, \_\_, 30, 35  → **C**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, \_\_, 30, 32  → **L**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, \_\_, 50, 60  → **H**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, \_\_, 100, 110  → **R**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, \_\_, 26, 28  → **D**

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, \_\_, 18, 21  → **U**

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

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, \_\_, 55, 60

→

**A**

Scratch space:

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

We have some old keys but we need more to open the chest. Find the missing number of keys we need to collect.

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:**

$1 + \underline{\quad} = 5$

$9 + \underline{\quad} = 17$

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

$7 + \underline{\quad} = 17$

$9 + \underline{\quad} = 20$

$9 + \underline{\quad} = 16$

$3 + \underline{\quad} = 15$

$8 + \underline{\quad} = 11$

$4 + \underline{\quad} = 10$

$9 + \underline{\quad} = 11$

$10 + \underline{\quad} = 15$

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

1. The villain shoots a bubble blast, then flies off on a wind glider.
2. The villain talks on a walkie talkie, then flies off on a wind glider.
3. The villain shines a laser beam, then skates away on a hover board.
4. The villain throws a rope lasso, then skates away on a hover board.
5. The villain throws a rope lasso, then bounces high on spring shoes.
6. The villain turns on a flash light, then flies off on a wind glider.
7. The villain shines a laser beam, then zooms off on a jet pack.
8. The villain shoots a bubble blast, then skates away on a hover board.
9. The villain shoots a bubble blast, then zooms off on a jet pack.
10. The villain turns on a flash light, then zooms off on a jet pack.
11. The villain turns on a flash light, then rides away on a fast bike.
12. The villain throws a rope lasso, then zooms off on a jet pack.

# Answer Key

## The Great Treehouse Mystery

### Culprit: Lily

bubble blast · wind glider · right handed · orange hair · squeaky toy

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

### Clue 1 (Place value): "THEY DO NOT HAVE SPRING SHOES"

What number has 4 tens and 1 one? = 41 (T) · What number has 6 tens and 8 ones? = 68 (H) · What number has 8 tens and 9 ones? = 89 (E) · What number has 4 tens and 0 ones? = 40 (R) · What number has 1 ten and 7 ones? = 17 (D) · What number has 5 tens and 1 one? = 51 (A) · What number has 8 tens and 3 ones? = 83 (S) · What number has 4 tens and 4 ones? = 44 (Y) · What number has 9 tens and 5 ones? = 95 (V) · What number has 8 tens and 4 ones? = 84 (N) · What number has 2 tens and 9 ones? = 29 (P) · What number has 2 tens and 2 ones? = 22 (O) · What number has 3 tens and 8 ones? = 38 (I) · What number has 4 tens and 3 ones? = 43 (G)

### Clue 2 (Addition): "THE BANDIT USED THEIR RIGHT HAND"

$12 + 28 = 40$  (T) ·  $45 + 22 = 67$  (A) ·  $32 + 59 = 91$  (E) ·  $15 + 10 = 25$  (G) ·  $34 + 60 = 94$  (I) ·  $19 + 30 = 49$  (N) ·  $13 + 19 = 32$  (D) ·  $34 + 55 = 89$  (R) ·  $44 + 19 = 63$  (S) ·  $23 + 10 = 33$  (H) ·  $18 + 32 = 50$  (B) ·  $34 + 22 = 56$  (U)

### Clue 3 (Subtraction): "THEY RAN AWAY FROM A SQUEAKY TOY"

$18 - 3 = 15$  (T) ·  $49 - 14 = 35$  (Y) ·  $86 - 9 = 77$  (H) ·  $108 - 34 = 74$  (N) ·  $73 - 33 = 40$  (Q) ·  $49 - 32 = 17$  (O) ·  $75 - 37 = 38$  (K) ·  $31 - 11 = 20$  (M) ·  $47 - 14 = 33$  (W) ·  $98 - 31 = 67$  (F) ·  $66 - 3 = 63$  (E) ·  $61 - 12 = 49$  (A) ·  $52 - 36 = 16$  (R) ·  $88 - 37 = 51$  (U) ·  $55 - 26 = 29$  (S)

### Clue 4 (Skip counting): "WE FOUND COLOURED ORANGE HAIR"

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, \_\_, 12, 14 = 10 (W) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, \_\_, 14, 16 = 12 (N) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, \_\_, 24, 27 = 21 (G) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, \_\_, 30, 35 = 25 (C) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, \_\_, 30, 32 = 28 (L) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, \_\_, 150, 160 = 140 (O) · Skip-count by 10s. Fill the blank: 10, 20, 30, \_\_, 50, 60 = 40 (H) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, \_\_, 100, 110 = 90 (R) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, \_\_, 26, 28 = 24 (D) · 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 3s. Fill the blank: 3, 6, 9, 12, \_\_, 18, 21 = 15 (U) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, \_\_, 22, 24 = 20 (I) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, \_\_, 28, 30 = 26 (F) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, \_\_, 55, 60 = 50 (A)

### Clue 5 (Missing addends): surviving statement is box 1 → Lily

$1 + \underline{\quad} = 5 = 4$  ·  $9 + \underline{\quad} = 17 = 8$  ·  $9 + \underline{\quad} = 18 = 9$  ·  $7 + \underline{\quad} = 17 = 10$  ·  $9 + \underline{\quad} = 20 = 11$  ·  $9 + \underline{\quad} = 16 = 7$  ·  $3 + \underline{\quad} = 15 = 12$  ·  $8 + \underline{\quad} = 11 = 3$  ·  $4 + \underline{\quad} = 10 = 6$  ·  $9 + \underline{\quad} = 11 = 2$  ·  $10 + \underline{\quad} = 15 = 5$