



# The Cosmic Map Mystery

Grade 3 math · Addition, Subtraction, Multiplication, Rounding, Division · Reading level grades 3-4

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

A strange silver flying saucer landed right on the roof of the Stargazer Ridge Observatory! A rogue alien slipped inside and took the Golden Star Map. We need to find the alien who did it before they escape to the edge of the galaxy!

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 rogue alien is** \_\_\_\_\_

# Possible suspects

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

| NAME    | COSMIC GADGET  | SPACESHIP UPGRADE | COMMUNICATOR SIDE      | SPACESUIT HELMET COLOR | STELLAR WEAKNESS |
|---------|----------------|-------------------|------------------------|------------------------|------------------|
| Mae     | magnetic glove | solar sails       | right arm communicator | deep purple helmet     | cosmic static    |
| Leo     | freeze ray     | warp drive        | right arm communicator | deep purple helmet     | cosmic static    |
| Neil    | magnetic glove | warp drive        | left arm communicator  | deep purple helmet     | cosmic static    |
| Halley  | freeze ray     | force field       | right arm communicator | deep purple helmet     | cosmic static    |
| Apollo  | plasma blaster | warp drive        | right arm communicator | deep purple helmet     | bright starlight |
| Zenith  | gravity boots  | force field       | right arm communicator | deep purple helmet     | cosmic static    |
| Carl    | magnetic glove | force field       | left arm communicator  | neon green helmet      | space dust       |
| Isaac   | freeze ray     | force field       | right arm communicator | deep purple helmet     | space dust       |
| Comet   | plasma blaster | stealth cloak     | left arm communicator  | neon green helmet      | space dust       |
| Draco   | magnetic glove | warp drive        | right arm communicator | neon green helmet      | space dust       |
| Stella  | freeze ray     | force field       | left arm communicator  | bright orange helmet   | cosmic static    |
| Galileo | laser pointer  | force field       | left arm communicator  | bright orange helmet   | cosmic static    |
| Hubble  | magnetic glove | stealth cloak     | left arm communicator  | neon green helmet      | bright starlight |
| Yuri    | plasma blaster | stealth cloak     | left arm communicator  | deep purple helmet     | space dust       |
| Kepler  | gravity boots  | force field       | right arm communicator | neon green helmet      | space dust       |
| Rigel   | magnetic glove | stealth cloak     | right arm communicator | neon green helmet      | bright starlight |
| Vega    | gravity boots  | stealth cloak     | right arm communicator | deep purple helmet     | cosmic static    |
| Orion   | plasma blaster | force field       | right arm communicator | neon green helmet      | cosmic static    |
| Sally   | magnetic glove | stealth cloak     | right arm communicator | bright orange helmet   | cosmic static    |
| Buzz    | freeze ray     | rocket thrusters  | left arm communicator  | bright orange helmet   | cosmic static    |
| Nova    | freeze ray     | warp drive        | left arm communicator  | neon green helmet      | bright starlight |

### CLUE 1

To read the first clue, we must tally up the star maps on the desk. Let us add the maps found in the main office to the ones in the observatory dome.

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

Diagram illustrating the numbers 918 and 905 in various positions across two rows of boxes. The boxes are arranged in two rows, with the top row containing 19 boxes and the bottom row containing 12 boxes. The numbers 918 and 905 are placed in specific boxes, and the boxes containing 918 are highlighted with an orange background and a 'T'.

| Row | Box 1 | Box 2 | Box 3 | Box 4 | Box 5 | Box 6 | Box 7 | Box 8 | Box 9 | Box 10 | Box 11 | Box 12 | Box 13 | Box 14 | Box 15 | Box 16 | Box 17 | Box 18 | Box 19 |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1   | 918   | 905   | 576   | 514   | 248   | 255   | 576   | 830   | 633   | 888    | 576    | 435    | 830    | 888    | 918    | 628    | 435    | 576    | 514    |
| 2   | 435   | 918   | 576   | 514   | 248   | 918   | 905   | 419   | 248   | 888    | 514    | 942    |        |        |        |        |        |        |        |

$$431 + 487 = \boxed{\phantom{000}} \rightarrow \boxed{\text{T}}$$

$$287 + 601 = \boxed{\phantom{000}} \rightarrow \boxed{\text{O}}$$

$99 + 156 = \square \rightarrow \square$

$$309 + 324 = \boxed{\phantom{000}} \rightarrow \boxed{\text{D}}$$

$350 + 592 = \boxed{\phantom{000}} \rightarrow \boxed{\text{K}}$

$$301 + 213 = \boxed{\phantom{000}} \rightarrow \boxed{\text{A}}$$

$$87 + 161 = \boxed{\phantom{000}} \rightarrow \boxed{\text{L}}$$

$$457 + 448 = \boxed{\phantom{000}} \rightarrow \boxed{\text{H}}$$

$$286 + 133 = \boxed{\phantom{000}} \rightarrow \boxed{\text{C}}$$

$$372 + 256 = \boxed{\phantom{000}} \rightarrow \boxed{\text{U}}$$

$$138 + 297 = \boxed{\phantom{000}} \rightarrow \boxed{\text{S}}$$

$$385 + 191 = \boxed{\phantom{000}} \rightarrow \boxed{\text{E}}$$

$$573 + 257 = \boxed{\phantom{000}} \rightarrow \boxed{\text{N}}$$

Scratch space:

## CLUE 2 Subtraction

A few space fuel canisters are missing from the launch pad storage box. Subtract the leftover canisters from the total to see how many the thief stole.

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|---|
| T   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  | T |
| 441 | 563 | 107 | 394 | 335 | 244 | 107 | 120 | 120 | 563 | 426 | 879 | 445 | 720 | 145 | 673 | 563 | 441 |  |   |

  

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     | T   |     |     |
| 445 | 720 | 636 | 394 | 426 | 636 | 636 | 244 | 787 | 145 | 394 | 445 | 441 | 426 | 720 |

$$817 - 376 = \boxed{\phantom{000}} \rightarrow \boxed{\text{T}}$$

$$830 - 194 = \boxed{\phantom{000}} \rightarrow \boxed{\text{M}}$$

$$763 - 90 = \boxed{\phantom{000}} \rightarrow \boxed{\text{G}}$$

$$875 - 155 = \boxed{\phantom{000}} \rightarrow \boxed{\text{R}}$$

$$595 - 32 = \boxed{\phantom{000}} \rightarrow \boxed{\text{H}}$$

$$1054 - 267 = \boxed{\phantom{000}} \rightarrow \boxed{\text{N}}$$

$$219 - 74 = \boxed{\phantom{000}} \rightarrow \boxed{\text{I}}$$

$$705 - 260 = \boxed{\phantom{000}} \rightarrow \boxed{\text{A}}$$

$$562 - 136 = \boxed{\phantom{000}} \rightarrow \boxed{\text{O}}$$

$$157 - 37 = \boxed{\phantom{000}} \rightarrow \boxed{\text{S}}$$

$$626 - 291 = \boxed{\phantom{000}} \rightarrow \boxed{\text{L}}$$

$$600 - 356 = \boxed{\phantom{000}} \rightarrow \boxed{\text{U}}$$

$$231 - 124 = \boxed{\phantom{000}} \rightarrow \boxed{\text{E}}$$

$$1254 - 375 = \boxed{\phantom{000}} \rightarrow \boxed{\text{W}}$$

$$683 - 289 = \boxed{\phantom{000}} \rightarrow \boxed{\text{C}}$$

Scratch space:

## Multiplication facts (1-12)

We need to check the grid of solar panels on the roof. Multiply the rows of panels by the columns to count how many were turned off by the intruder.

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

$$1 \times 11 = \boxed{\phantom{00}} \rightarrow \boxed{\mathbf{T}}$$

$11 \times 8 = \boxed{\phantom{00}} \rightarrow \mathbf{A}$

$$10 \times 1 = \boxed{\phantom{00}} \rightarrow \mathbf{D}$$

$9 \times 8 = \boxed{\phantom{00}} \rightarrow \boxed{\text{H}}$

$$11 \times 5 = \boxed{\phantom{00}} \rightarrow \boxed{\text{N}}$$

$$4 \times 7 = \boxed{\phantom{00}} \rightarrow \boxed{0}$$

$8 \times 1 = \boxed{\phantom{00}} \rightarrow \boxed{\text{L}}$

$12 \times 2 = \boxed{\phantom{000}} \rightarrow \boxed{\text{C}}$

$7 \times 8 = \boxed{\phantom{00}} \rightarrow \boxed{\mathbf{S}}$

$9 \times 11 = \boxed{\phantom{00}} \rightarrow \boxed{\phantom{00}}$

$9 \times 9 =$    $\rightarrow$  **M**

$5 \times 5 = \boxed{\phantom{00}} \rightarrow \boxed{\mathbf{E}}$

Scratch space:

**CLUE 4 Rounding**

The radar screen is glitching and only shows rounded numbers. Round the fuzzy distance of the flying saucer to the nearest ten to unlock this clue.

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

|              |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <div>W</div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> |
| 200          | 600         | 400         | 3000        | 70          | 50          | 60          | 90          | 900         | 600         | 800         | 40          | 90          | 3000        | 400         | 60          | 600         | 600         | 900         |             |
| <div></div>  | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> |
| 900          | 70          | 500         | 900         | 6000        | 600         | 900         | 9000        | 2000        | 50          | 8000        |             |             |             |             |             |             |             |             |             |

Round 189 to the nearest hundred  → 

W

Round 2,440 to the nearest thousand  → 

I

Round 790 to the nearest hundred  → 

C

Round 91 to the nearest ten  → 

S

Round 42 to the nearest ten  → 

K

Round 566 to the nearest hundred  → 

E

Round 62 to the nearest ten  → 

D

Round 52 to the nearest ten  → 

N

Round 6,398 to the nearest thousand  → 

L

Round 2,805 to the nearest thousand  → 

O

Round 9,446 to the nearest thousand  → 

A

Round 456 to the nearest hundred  → 

R

Round 8,094 to the nearest thousand  → 

T

Round 874 to the nearest hundred  → 

P

Round 68 to the nearest ten  → 

U

Round 353 to the nearest hundred  → 

F

Scratch space:

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

The space crew has to split the signal analyzers equally among their scout teams. Divide the analyzers to find how many each team gets.

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:**

$2 \div 2 = \boxed{\phantom{00}}$

$42 \div 7 = \boxed{\phantom{00}}$

$72 \div 9 = \boxed{\phantom{00}}$

$18 \div 2 = \boxed{\phantom{00}}$

$55 \div 5 = \boxed{\phantom{00}}$

$25 \div 5 = \boxed{\phantom{00}}$

$20 \div 2 = \boxed{\phantom{00}}$

$12 \div 1 = \boxed{\phantom{00}}$

$33 \div 11 = \boxed{\phantom{00}}$

$14 \div 7 = \boxed{\phantom{00}}$

$28 \div 4 = \boxed{\phantom{00}}$

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

1. The villain scrambled the security codes, then zipped past the asteroid belt.
2. The villain zapped the main vault door, then blasted off into deep space.
3. The villain scrambled the security codes, then zoomed away in a flying saucer.
4. The villain scrambled the security codes, then fled towards the moon.
5. The villain floated through the skylight, then blasted off into deep space.
6. The villain floated through the skylight, then zipped past the asteroid belt.
7. The villain zapped the main vault door, then zipped past the asteroid belt.
8. The villain hovered over the laser grid, then escaped into a wormhole.
9. The villain zapped the main vault door, then fled towards the moon.
10. The villain teleported past the cameras, then fled towards the moon.
11. The villain teleported past the cameras, then zipped past the asteroid belt.
12. The villain hovered over the laser grid, then blasted off into deep space.

# Answer Key

## The Cosmic Map Mystery

### Culprit: Leo

freeze ray · warp drive · right arm communicator · deep purple helmet · cosmic static

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

### Clue 1 (Addition): "THE ALIEN DOES NOT USE A STEALTH CLOAK"

$431 + 487 = 918$  (T) ·  $287 + 601 = 888$  (O) ·  $99 + 156 = 255$  (I) ·  $309 + 324 = 633$  (D) ·  $350 + 592 = 942$  (K) ·  $301 + 213 = 514$  (A) ·  $87 + 161 = 248$  (L) ·  $457 + 448 = 905$  (H) ·  $286 + 133 = 419$  (C) ·  $372 + 256 = 628$  (U) ·  $138 + 297 = 435$  (S) ·  $385 + 191 = 576$  (E) ·  $573 + 257 = 830$  (N)

### Clue 2 (Subtraction): "THE CLUES SHOW A RIGHT ARM COMMUNICATOR"

$817 - 376 = 441$  (T) ·  $830 - 194 = 636$  (M) ·  $763 - 90 = 673$  (G) ·  $875 - 155 = 720$  (R) ·  $595 - 32 = 563$  (H) ·  $1054 - 267 = 787$  (N) ·  $219 - 74 = 145$  (I) ·  $705 - 260 = 445$  (A) ·  $562 - 136 = 426$  (O) ·  $157 - 37 = 120$  (S) ·  $626 - 291 = 335$  (L) ·  $600 - 356 = 244$  (U) ·  $231 - 124 = 107$  (E) ·  $1254 - 375 = 879$  (W) ·  $683 - 289 = 394$  (C)

### Clue 3 (Multiplication facts (1-12)): "THE ALIEN CANNOT STAND COSMIC STATIC"

$1 \times 11 = 11$  (T) ·  $11 \times 8 = 88$  (A) ·  $10 \times 1 = 10$  (D) ·  $9 \times 8 = 72$  (H) ·  $11 \times 5 = 55$  (N) ·  $4 \times 7 = 28$  (O) ·  $8 \times 1 = 8$  (L) ·  $12 \times 2 = 24$  (C) ·  $7 \times 8 = 56$  (S) ·  $9 \times 11 = 99$  (I) ·  $9 \times 9 = 81$  (M) ·  $5 \times 5 = 25$  (E)

### Clue 4 (Rounding): "WE FOUND SPECKS OF DEEP PURPLE PAINT"

Round 189 to the nearest hundred = 200 (W) · Round 2,440 to the nearest thousand = 2000 (I) · Round 790 to the nearest hundred = 800 (C) · Round 91 to the nearest ten = 90 (S) · Round 42 to the nearest ten = 40 (K) · Round 566 to the nearest hundred = 600 (E) · Round 62 to the nearest ten = 60 (D) · Round 52 to the nearest ten = 50 (N) · Round 6,398 to the nearest thousand = 6000 (L) · Round 2,805 to the nearest thousand = 3000 (O) · Round 9,446 to the nearest thousand = 9000 (A) · Round 456 to the nearest hundred = 500 (R) · Round 8,094 to the nearest thousand = 8000 (T) · Round 874 to the nearest hundred = 900 (P) · Round 68 to the nearest ten = 70 (U) · Round 353 to the nearest hundred = 400 (F)

### Clue 5 (Division facts (1-12)): surviving statement is box 4 → Leo

$2 \div 2 = 1$  ·  $42 \div 7 = 6$  ·  $72 \div 9 = 8$  ·  $18 \div 2 = 9$  ·  $55 \div 5 = 11$  ·  $25 \div 5 = 5$  ·  $20 \div 2 = 10$  ·  $12 \div 1 = 12$  ·  $33 \div 11 = 3$  ·  $14 \div 7 = 2$  ·  $28 \div 4 = 7$