



The Moon Base Mystery

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

Detective: _____ Date: _____

The golden star map has been taken from the Moon Base! We need to help the Space Rangers find who took it before the rocket launches.

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 space thief is _____

Possible suspects

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

NAME	SPACE POWER	SUIT TOOL	GLOVE HAND	VISOR COLOR	WEAKNESS
Mae	Star Shield	Ice Freeze	Left-handed	Green visor	Space dust
Sunita	Star Shield	Glow Light	Left-handed	Gold visor	Space dust
Kimiya	Warp Speed	Glow Light	Right-handed	Green visor	Solar heat
Nick	Star Shield	Spark Tools	Left-handed	Gold visor	Magnet waves
Neil	Zero-G Float	Ice Freeze	Right-handed	Green visor	Magnet waves
Alan	Star Shield	Ice Freeze	Right-handed	Green visor	Space dust
Jessica	Laser Blast	Glow Light	Left-handed	Green visor	Magnet waves
Chris	Zero-G Float	Glow Light	Left-handed	Blue visor	Space dust
Kayla	Warp Speed	Magnetic Boots	Left-handed	Gold visor	Magnet waves
Scott	Star Shield	Spark Tools	Right-handed	Green visor	Solar heat
Elena	Star Shield	Magnetic Boots	Right-handed	Green visor	Magnet waves
Victor	Star Shield	Glow Light	Left-handed	Gold visor	Magnet waves
Peggy	Warp Speed	Ice Freeze	Right-handed	Green visor	Magnet waves
Kalpana	Laser Blast	Radio Beam	Right-handed	Green visor	Magnet waves
Christina	Rocket Boost	Magnetic Boots	Left-handed	Blue visor	Solar heat
Yuri	Rocket Boost	Magnetic Boots	Right-handed	Gold visor	Magnet waves
Guion	Star Shield	Radio Beam	Right-handed	Blue visor	Space dust
Sally	Laser Blast	Glow Light	Left-handed	Gold visor	Magnet waves
John	Rocket Boost	Radio Beam	Right-handed	Gold visor	Solar heat
Drew	Zero-G Float	Spark Tools	Right-handed	Green visor	Magnet waves
Frank	Zero-G Float	Radio Beam	Right-handed	Green visor	Magnet waves

CLUE 1
Place value

A computer screen shows a scrambled code. Look at the tens and ones to find the clue.

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

T																T
82	91	37	29	54	22	22	81	54	64	79	14	37	43	64	14	82
33	43	37	54	52	37	68	47	37	37	75	37					

What number has 8 tens and 2 ones? →

T

What number has 6 tens and 4 ones? →

N

What number has 4 tens and 7 ones? →

R

What number has 2 tens and 9 ones? →

V

What number has 7 tens and 9 ones? →

D

What number has 9 tens and 1 one? →

H

What number has 5 tens and 4 ones? →

I

What number has 1 ten and 4 ones? →

O

What number has 7 tens and 5 ones? →

Z

What number has 3 tens and 3 ones? →

U

What number has 3 tens and 7 ones? →

E

What number has 8 tens and 1 one? →

A

What number has 2 tens and 2 ones? →

L

What number has 6 tens and 8 ones? →

F

What number has 5 tens and 2 ones? →

C

What number has 4 tens and 3 ones? →

S

Scratch space:

CLUE 2

Addition

We found two piles of shiny moon rocks. Add them together to unlock the next hint.

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

T														
51	41	49	90	43	92	92	29	43	87	65	50	49	50	29

				T										
81	43	54	41	51	41	29	87	71	49	71	54	92	25	90

$16 + 35 = \square \rightarrow \boxed{\text{T}}$

$57 + 33 = \square \rightarrow \boxed{\text{V}}$

$30 + 24 = \square \rightarrow \boxed{\text{G}}$

$24 + 47 = \square \rightarrow \boxed{\text{D}}$

$29 + 52 = \square \rightarrow \boxed{\text{R}}$

$59 + 33 = \square \rightarrow \boxed{\text{L}}$

$25 + 25 = \square \rightarrow \boxed{\text{S}}$

$19 + 22 = \square \rightarrow \boxed{\text{H}}$

$40 + 25 = \square \rightarrow \boxed{\text{U}}$

$29 + 14 = \square \rightarrow \boxed{\text{I}}$

$51 + 36 = \square \rightarrow \boxed{\text{N}}$

$29 + 20 = \square \rightarrow \boxed{\text{E}}$

$8 + 17 = \square \rightarrow \boxed{\text{O}}$

$9 + 20 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 3

Subtraction

Our rocket is leaking fuel blocks. Subtract the lost ones to see where the villain went.

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

T													T						
27	74	39	17	13	49	49	56	13	68	13	70	70	27	16	40	40	39	59	

						T						
81	32	86	56	23	68	39	27	30	56	17	39	70

$35 - 8 = \square \rightarrow \boxed{\text{T}}$

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

$61 - 38 = \square \rightarrow \boxed{\text{G}}$

$89 - 3 = \square \rightarrow \boxed{\text{M}}$

$29 - 12 = \square \rightarrow \boxed{\text{V}}$

$55 - 16 = \square \rightarrow \boxed{\text{E}}$

$15 - 2 = \square \rightarrow \boxed{\text{I}}$

$85 - 4 = \square \rightarrow \boxed{\text{B}}$

$84 - 14 = \square \rightarrow \boxed{\text{S}}$

$46 - 16 = \square \rightarrow \boxed{\text{W}}$

$76 - 20 = \square \rightarrow \boxed{\text{A}}$

$71 - 39 = \square \rightarrow \boxed{\text{Y}}$

$32 - 16 = \square \rightarrow \boxed{\text{O}}$

$100 - 32 = \square \rightarrow \boxed{\text{N}}$

$93 - 19 = \square \rightarrow \boxed{\text{H}}$

$88 - 29 = \square \rightarrow \boxed{\text{D}}$

$48 - 8 = \square \rightarrow \boxed{\text{P}}$

Scratch space:

CLUE 4 Skip counting

We see rows of heavy space boots. Skip count them to unlock the metal locker.

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

T																	
45	22	80	10	80	70	60	80	60	22	70	24	70	33	60	80	80	42

28	30	24	100	60

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

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

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 → **H**

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 → **G**

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 → **N**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, __, 35, 40 → **I**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 → **E**

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

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

Scratch space:

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

The ship needs more batteries to start. Find how many are missing to get the final clue.

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:

$7 + \underline{\quad} = 8$

$6 + \underline{\quad} = 11$

$2 + \underline{\quad} = 11$

$2 + \underline{\quad} = 8$

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

$4 + \underline{\quad} = 7$

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

$6 + \underline{\quad} = 8$

$2 + \underline{\quad} = 12$

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

$9 + \underline{\quad} = 13$

Step 2 - cross out the sentence with each answer:

1. The villain blasts a laser at the safe, then beams a radio signal to a ship.
2. The villain floats in zero gravity, then freezes the security camera with ice.
3. The villain boosts away on rocket power, then walks up the metal wall with magnetic boots.
4. The villain boosts away on rocket power, then beams a radio signal to a ship.
5. The villain blocks the door with a star shield, then walks up the metal wall with magnetic boots.
6. The villain blasts a laser at the safe, then walks up the metal wall with magnetic boots.
7. The villain runs fast at warp speed, then beams a radio signal to a ship.
8. The villain floats in zero gravity, then beams a radio signal to a ship.
9. The villain floats in zero gravity, then fixes the lock with spark tools.
10. The villain blasts a laser at the safe, then freezes the security camera with ice.
11. The villain blocks the door with a star shield, then beams a radio signal to a ship.
12. The villain boosts away on rocket power, then freezes the security camera with ice.

Answer Key

The Moon Base Mystery

Culprit: Frank

Zero-G Float · Radio Beam · Right-handed · Green visor · Magnet waves

Trail: Start 21 → Clue 1 17 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT USE ICE FREEZE"

What number has 8 tens and 2 ones? = 82 (T) · What number has 6 tens and 4 ones? = 64 (N) · What number has 4 tens and 7 ones? = 47 (R) · What number has 2 tens and 9 ones? = 29 (V) · What number has 7 tens and 9 ones? = 79 (D) · What number has 9 tens and 1 one? = 91 (H) · What number has 5 tens and 4 ones? = 54 (I) · What number has 1 ten and 4 ones? = 14 (O) · What number has 7 tens and 5 ones? = 75 (Z) · What number has 3 tens and 3 ones? = 33 (U) · What number has 3 tens and 7 ones? = 37 (E) · What number has 8 tens and 1 one? = 81 (A) · What number has 2 tens and 2 ones? = 22 (L) · What number has 6 tens and 8 ones? = 68 (F) · What number has 5 tens and 2 ones? = 52 (C) · What number has 4 tens and 3 ones? = 43 (S)

Clue 2 (Addition): "THE VILLAIN USES A RIGHT HANDED GLOVE"

$16 + 35 = 51$ (T) · $57 + 33 = 90$ (V) · $30 + 24 = 54$ (G) · $24 + 47 = 71$ (D) · $29 + 52 = 81$ (R) · $59 + 33 = 92$ (L) · $25 + 25 = 50$ (S) · $19 + 22 = 41$ (H) · $40 + 25 = 65$ (U) · $29 + 14 = 43$ (I) · $51 + 36 = 87$ (N) · $29 + 20 = 49$ (E) · $8 + 17 = 25$ (O) · $9 + 20 = 29$ (A)

Clue 3 (Subtraction): "THE VILLAIN IS STOPPED BY MAGNET WAVES"

$35 - 8 = 27$ (T) · $61 - 12 = 49$ (L) · $61 - 38 = 23$ (G) · $89 - 3 = 86$ (M) · $29 - 12 = 17$ (V) · $55 - 16 = 39$ (E) · $15 - 2 = 13$ (I) · $85 - 4 = 81$ (B) · $84 - 14 = 70$ (S) · $46 - 16 = 30$ (W) · $76 - 20 = 56$ (A) · $71 - 39 = 32$ (Y) · $32 - 16 = 16$ (O) · $100 - 32 = 68$ (N) · $93 - 19 = 74$ (H) · $88 - 29 = 59$ (D) · $48 - 8 = 40$ (P)

Clue 4 (Skip counting): "THE WEARER HAS A GREEN VISOR"

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 = 45 (T) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 = 100 (O) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 = 22 (H) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, __, 30, 32 = 28 (V) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 = 33 (G) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, __, 80, 90 = 70 (A) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 = 42 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, __, 35, 40 = 30 (I) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 = 24 (S) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 = 80 (E) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 = 10 (W) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, __, 65, 70 = 60 (R)

Clue 5 (Missing addends): surviving statement is box 8 → Frank

$7 + \underline{\quad} = 8 = 1$ · $6 + \underline{\quad} = 11 = 5$ · $2 + \underline{\quad} = 11 = 9$ · $2 + \underline{\quad} = 8 = 6$ · $3 + \underline{\quad} = 15 = 12$ · $4 + \underline{\quad} = 7 = 3$ · $9 + \underline{\quad} = 20 = 11$ · $6 + \underline{\quad} = 8 = 2$ · $2 + \underline{\quad} = 12 = 10$ · $9 + \underline{\quad} = 16 = 7$ · $9 + \underline{\quad} = 13 = 4$