



The Moon Base Mystery

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

Detective: _____ **Date:** _____

A sneaky Space Bandit snuck into Moon Base Alpha and took the chief scientist's moon map! Help the Astro Crew solve the clues and catch the villain.

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 Bandit is _____

Possible suspects

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

NAME	GADGET	SUIT UPGRADE	GLOVE HAND	HELMET COLOR	DISTRACTION
Mark	Laser Cutter	Radio Jammer	Right Handed	Gold Helmet	Flashlight
Ellen	Stun Ray	Radar Scope	Left Handed	Blue Helmet	Flashlight
Mae	Jet Pack	Radio Jammer	Right Handed	Gold Helmet	Flashlight
Chris	Jet Pack	Solar Shield	Right Handed	Blue Helmet	Magnet Wand
Joan	Gravity Boots	Radio Jammer	Right Handed	Gold Helmet	Magnet Wand
Neil	Laser Cutter	Turbo Thruster	Right Handed	Red Helmet	Flashlight
Guion	Jet Pack	Solar Shield	Left Handed	Red Helmet	Magnet Wand
Alan	Stun Ray	Solar Shield	Left Handed	Blue Helmet	Magnet Wand
Samantha	Net Blaster	Moon Glider	Left Handed	Gold Helmet	Flashlight
Yuri	Stun Ray	Radio Jammer	Left Handed	Gold Helmet	Loud Whistle
Kalpana	Stun Ray	Radar Scope	Right Handed	Gold Helmet	Flashlight
Leland	Net Blaster	Radar Scope	Right Handed	Red Helmet	Magnet Wand
Victor	Stun Ray	Radio Jammer	Left Handed	Red Helmet	Loud Whistle
Valentina	Laser Cutter	Moon Glider	Right Handed	Red Helmet	Loud Whistle
Scott	Jet Pack	Radar Scope	Left Handed	Gold Helmet	Flashlight
Peggy	Net Blaster	Solar Shield	Right Handed	Gold Helmet	Flashlight
Sally	Gravity Boots	Solar Shield	Right Handed	Gold Helmet	Magnet Wand
Michael	Gravity Boots	Moon Glider	Right Handed	Gold Helmet	Flashlight
Eileen	Stun Ray	Turbo Thruster	Left Handed	Red Helmet	Loud Whistle
Bernard	Jet Pack	Radio Jammer	Right Handed	Red Helmet	Flashlight
Buzz	Stun Ray	Radar Scope	Right Handed	Gold Helmet	Loud Whistle

Multiplication facts (1-12)

You count equal rows of solar trays on the moon base roof to find a clue code.

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

9 132 20 42 120 100 100 1 120 77 55 44 20 2 77 44 9

32 2 20 1 54 44 44 77 49 100 120 55 20 18

$9 \times 1 = \boxed{} \rightarrow \boxed{\text{T}}$

$9 \times 6 = \boxed{} \rightarrow \boxed{\text{M}}$

$11 \times 12 = \boxed{} \rightarrow \boxed{\text{H}}$

$$5 \times 11 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$4 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{U}}$$

$7 \times 7 = \square \rightarrow \boxed{\mathbf{G}}$

$$6 \times 3 = \boxed{} \rightarrow \boxed{\text{R}}$$

$11 \times 7 = \boxed{} \rightarrow \boxed{\text{N}}$

$1 \times 1 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$4 \times 11 = \boxed{} \rightarrow \boxed{0}$

$$7 \times 6 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$4 \times 5 = \boxed{} \rightarrow \boxed{\mathbf{E}}$

$$1 \times 2 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$10 \times 10 = \boxed{} \rightarrow \boxed{\text{L}}$

$12 \times 10 = \boxed{} \rightarrow \boxed{1}$

Scratch space:

Place value

A computer screen shows digits in the tens and ones place with a locked message.

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

Diagram illustrating a sequence of numbers arranged in two rows of boxes. The top row contains 14 boxes, and the bottom row contains 8 boxes. The numbers below the boxes are: 26, 91, 15, 20, 60, 13, 13, 83, 60, 32, 47, 61, 15, 45 (top row) and 18, 60, 25, 91, 26, 91, 83, 32, 45 (bottom row). The boxes containing the letter 'T' are highlighted in orange.

What number has 2 tens and 6 ones? → **T**

What number has 4 tens and 7 ones? → **U**

What number has 2 tens and 0 ones? → **V**

What number has 1 ten and 3 ones? → **L**

What number has 1 ten and 5 ones? → **E**

What number has 6 tens and 0 ones? →

1

What number has 4 tens and 5 ones? → **D**

What number has 6 tens and 1 one? → **S**

What number has 3 tens and 2 ones? → **N**

What number has 9 tens and 1 one? → **H**

What number has 1 ten and 8 ones? → **R**

What number has 8 tens and 3 ones? → **A**

What number has 2 tens and 5 ones? → **G**

Scratch space:

CLUE 3

Addition

You put together two boxes of space rocks to unlock the station log.

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

A			A										A						
37	97	59	37	25	98	59	44	96	98	71	64	37	73	39	71	98	39		

				A					
22	44	59	59	37	44	69	26	62	69

$18 + 19 = \square \rightarrow \text{A}$

$36 + 23 = \square \rightarrow \text{L}$

$16 + 6 = \square \rightarrow \text{V}$

$47 + 24 = \square \rightarrow \text{T}$

$35 + 63 = \square \rightarrow \text{H}$

$38 + 26 = \square \rightarrow \text{M}$

$39 + 58 = \square \rightarrow \text{F}$

$26 + 43 = \square \rightarrow \text{N}$

$9 + 17 = \square \rightarrow \text{R}$

$24 + 20 = \square \rightarrow \text{I}$

$49 + 24 = \square \rightarrow \text{D}$

$59 + 37 = \square \rightarrow \text{G}$

$10 + 15 = \square \rightarrow \text{S}$

$33 + 29 = \square \rightarrow \text{U}$

$17 + 22 = \square \rightarrow \text{E}$

Scratch space:

CLUE 4

Subtraction

You check how many energy bars are left in the storage room.

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

A												A					
39	74	43	17	60	12	45	17	59	45	24	82	39	11	11	45	45	51

A									
39	24	24	12	45	11	20	45	51	45

$53 - 14 = \square \rightarrow \text{A}$

$43 - 31 = \square \rightarrow \text{H}$

$97 - 23 = \square \rightarrow \text{G}$

$82 - 37 = \square \rightarrow \text{E}$

$67 - 16 = \square \rightarrow \text{N}$

$56 - 36 = \square \rightarrow \text{C}$

$47 - 4 = \square \rightarrow \text{O}$

$15 - 4 = \square \rightarrow \text{S}$

$72 - 13 = \square \rightarrow \text{M}$

$65 - 5 = \square \rightarrow \text{D}$

$47 - 23 = \square \rightarrow \text{T}$

$55 - 38 = \square \rightarrow \text{L}$

$85 - 3 = \square \rightarrow \text{W}$

Scratch space:

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

You calculate how much more fuel is needed to power up the scanner.

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:

$10 + \underline{\quad} = 19$

$2 + \underline{\quad} = 10$

$4 + \underline{\quad} = 11$

$8 + \underline{\quad} = 12$

$5 + \underline{\quad} = 16$

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

$8 + \underline{\quad} = 10$

$8 + \underline{\quad} = 18$

$9 + \underline{\quad} = 21$

$3 + \underline{\quad} = 9$

$8 + \underline{\quad} = 9$

Step 2 - cross out the sentence with each answer:

1. The villain zoomed high up using a jet pack, then drifted off using a moon glider.
2. The villain zapped the alarm with a stun ray, then drifted off using a moon glider.
3. The villain shot a trap using a net blaster, then drifted off using a moon glider.
4. The villain stomped around in gravity boots, then blocked the lights with a solar shield.
5. The villain sliced open the lock with a laser cutter, then blocked radio signals with a radio jammer.
6. The villain zapped the alarm with a stun ray, then sped away using a turbo thruster.
7. The villain shot a trap using a net blaster, then blocked the lights with a solar shield.
8. The villain zoomed high up using a jet pack, then blocked radio signals with a radio jammer.
9. The villain zapped the alarm with a stun ray, then scanned the hallway with a radar scope.
10. The villain sliced open the lock with a laser cutter, then scanned the hallway with a radar scope.
11. The villain sliced open the lock with a laser cutter, then blocked the lights with a solar shield.
12. The villain stomped around in gravity boots, then sped away using a turbo thruster.

Answer Key

The Moon Base Mystery

Culprit: Mark

Laser Cutter · Radio Jammer · Right Handed · Gold Helmet · Flashlight

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE A MOON GLIDER"

$9 \times 1 = 9$ (T) · $9 \times 6 = 54$ (M) · $11 \times 12 = 132$ (H) · $5 \times 11 = 55$ (D) · $4 \times 8 = 32$ (U) · $7 \times 7 = 49$ (G) · $6 \times 3 = 18$ (R) · $11 \times 7 = 77$ (N) · $1 \times 1 = 1$ (A) · $4 \times 11 = 44$ (O) · $7 \times 6 = 42$ (V) · $4 \times 5 = 20$ (E) · $1 \times 2 = 2$ (S) · $10 \times 10 = 100$ (L) · $12 \times 10 = 120$ (I)

Clue 2 (Place value): "THE VILLAIN USED THEIR RIGHT HAND"

What number has 2 tens and 6 ones? = 26 (T) · What number has 4 tens and 7 ones? = 47 (U) · What number has 2 tens and 0 ones? = 20 (V) · What number has 1 ten and 3 ones? = 13 (L) · What number has 1 ten and 5 ones? = 15 (E) · What number has 6 tens and 0 ones? = 60 (I) · What number has 4 tens and 5 ones? = 45 (D) · What number has 6 tens and 1 one? = 61 (S) · What number has 3 tens and 2 ones? = 32 (N) · What number has 9 tens and 1 one? = 91 (H) · What number has 1 ten and 8 ones? = 18 (R) · What number has 8 tens and 3 ones? = 83 (A) · What number has 2 tens and 5 ones? = 25 (G)

Clue 3 (Addition): "A FLASHLIGHT MADE THE VILLAIN RUN"

$18 + 19 = 37$ (A) · $36 + 23 = 59$ (L) · $16 + 6 = 22$ (V) · $47 + 24 = 71$ (T) · $35 + 63 = 98$ (H) · $38 + 26 = 64$ (M) · $39 + 58 = 97$ (F) · $26 + 43 = 69$ (N) · $9 + 17 = 26$ (R) · $24 + 20 = 44$ (I) · $49 + 24 = 73$ (D) · $59 + 37 = 96$ (G) · $10 + 15 = 25$ (S) · $33 + 29 = 62$ (U) · $17 + 22 = 39$ (E)

Clue 4 (Subtraction): "A GOLD HELMET WAS SEEN AT THE SCENE"

$53 - 14 = 39$ (A) · $43 - 31 = 12$ (H) · $97 - 23 = 74$ (G) · $82 - 37 = 45$ (E) · $67 - 16 = 51$ (N) · $56 - 36 = 20$ (C) · $47 - 4 = 43$ (O) · $15 - 4 = 11$ (S) · $72 - 13 = 59$ (M) · $65 - 5 = 60$ (D) · $47 - 23 = 24$ (T) · $55 - 38 = 17$ (L) · $85 - 3 = 82$ (W)

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

$10 + \underline{\quad} = 19 = 9$ · $2 + \underline{\quad} = 10 = 8$ · $4 + \underline{\quad} = 11 = 7$ · $8 + \underline{\quad} = 12 = 4$ · $5 + \underline{\quad} = 16 = 11$ · $8 + \underline{\quad} = 11 = 3$ · $8 + \underline{\quad} = 10 = 2$ · $8 + \underline{\quad} = 18 = 10$ · $9 + \underline{\quad} = 21 = 12$ · $3 + \underline{\quad} = 9 = 6$ · $8 + \underline{\quad} = 9 = 1$