The Starlight Station Mystery

Grade 4 math · Place value, Addition, Subtraction, Word problems, Division · Reading level grades 1-2

Detective: _____ **Date:** _____

A sneaky villain crept into Moon Station Alpha and took the crystal star core! Solve the math clues to help Cadet Leo find out who did it.

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

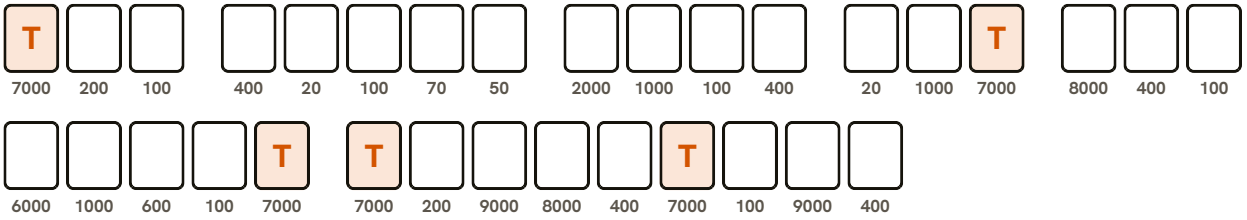
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	GADGET	SUIT UPGRADE	GLOVE HAND	HELMET STRIPE	WEAKNESS
John Glenn	Plasma Shield	Meteor Armor	Left Handed	Blue Stripe	Radio Static
Peggy Whitson	Gravity Boots	Zero G Float	Left Handed	Silver Stripe	Bright Lights
Sunita Williams	Rocket Pack	Comet Thrusters	Left Handed	Neon Stripe	Radio Static
Leland Melvin	Plasma Shield	Zero G Float	Left Handed	Neon Stripe	Radio Static
Yuri Gagarin	Plasma Shield	Meteor Armor	Left Handed	Neon Stripe	Bright Lights
Sally Ride	Gravity Boots	Solar Wings	Left Handed	Silver Stripe	Moon Dust
Kalpana Chawla	Rocket Pack	Meteor Armor	Left Handed	Blue Stripe	Radio Static
Buzz Aldrin	Laser Torch	Solar Wings	Left Handed	Silver Stripe	Radio Static
Anne McClain	Rocket Pack	Comet Thrusters	Left Handed	Neon Stripe	Bright Lights
Victor Glover	Laser Torch	Meteor Armor	Right Handed	Silver Stripe	Moon Dust
Ellen Ochoa	Gravity Boots	Lunar Jammer	Right Handed	Neon Stripe	Radio Static
Michael Collins	Plasma Shield	Solar Wings	Left Handed	Neon Stripe	Radio Static
Jonny Kim	Starlight Ray	Zero G Float	Right Handed	Neon Stripe	Radio Static
Bernard Harris	Laser Torch	Zero G Float	Left Handed	Blue Stripe	Moon Dust
Alan Shepard	Rocket Pack	Lunar Jammer	Right Handed	Silver Stripe	Moon Dust
Eileen Collins	Gravity Boots	Lunar Jammer	Left Handed	Neon Stripe	Radio Static
Neil Armstrong	Rocket Pack	Lunar Jammer	Right Handed	Blue Stripe	Bright Lights
Kjell Lindgren	Laser Torch	Comet Thrusters	Left Handed	Neon Stripe	Radio Static
Mae Jemison	Starlight Ray	Solar Wings	Left Handed	Neon Stripe	Radio Static
Stephanie Wilson	Starlight Ray	Comet Thrusters	Left Handed	Neon Stripe	Bright Lights
Guion Bluford	Gravity Boots	Solar Wings	Right Handed	Silver Stripe	Bright Lights

CLUE 1 Place value

The star station computer shows digits for the bandit code.

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



What is the value of the 7 in 7,655? ☐ → **T**

What is the value of the 2 in 6,211? ☐ → **H**

What is the value of the 4 in 2,429? ☐ → **S**

What is the value of the 8 in 8,952? ☐ → **U**

What is the value of the 2 in 629? ☐ → **N**

What is the value of the 6 in 26,410? ☐ → **C**

What is the value of the 7 in 378? ☐ → **A**

What is the value of the 6 in 601? ☐ → **M**

What is the value of the 1 in 61,922? ☐ → **O**

What is the value of the 5 in 4,957? ☐ → **K**

What is the value of the 2 in 2,735? ☐ → **D**

What is the value of the 1 in 2,155? ☐ → **E**

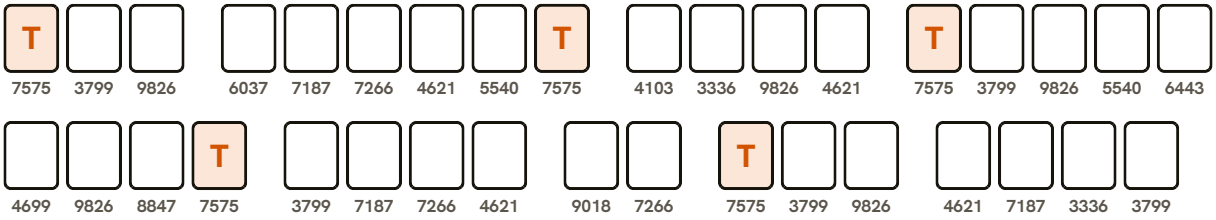
What is the value of the 9 in 9,182? ☐ → **R**

Scratch space:

CLUE 2 Addition

We add up the solar panel counts to trace the energy path.

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



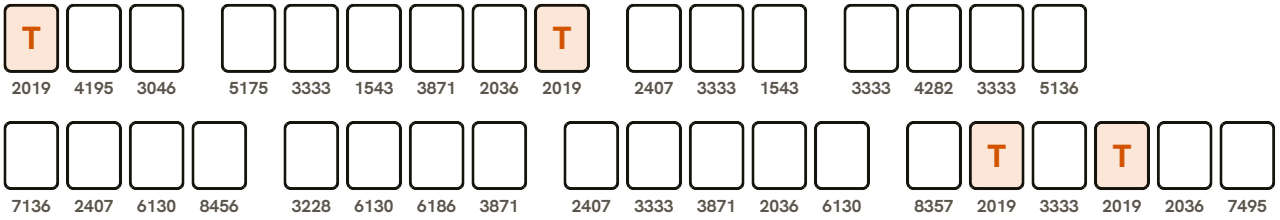
2322 + 5253 = ☐ → T	2631 + 3812 = ☐ → R	3056 + 4131 = ☐ → A
1688 + 1648 = ☐ → S	2174 + 2447 = ☐ → D	2615 + 2925 = ☐ → I
4069 + 4778 = ☐ → F	2384 + 3653 = ☐ → B	2544 + 1559 = ☐ → U
1643 + 3056 = ☐ → L	6529 + 3297 = ☐ → E	4707 + 4311 = ☐ → O
1598 + 2201 = ☐ → H	4232 + 3034 = ☐ → N	

Scratch space:

CLUE 3 Subtraction

We subtract the missing moon rocks to see what was stolen.

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



2133 - 114 = ☐ → T

12614 - 4257 = ☐ → S

13068 - 4612 = ☐ → M

6448 - 4412 = ☐ → I

6825 - 3492 = ☐ → A

7485 - 4257 = ☐ → L

7548 - 412 = ☐ → F

9826 - 4690 = ☐ → Y

8488 - 3313 = ☐ → B

8001 - 4955 = ☐ → E

8016 - 3821 = ☐ → H

4142 - 2599 = ☐ → N

9257 - 4975 = ☐ → W

5047 - 1176 = ☐ → D

7210 - 1024 = ☐ → U

8344 - 2214 = ☐ → O

8827 - 1332 = ☐ → C

5834 - 3427 = ☐ → R

Scratch space:

CLUE 4 Word problems

The cadet solves space word clues left on the control screen.

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

A strand of

N			N					P	
71	26	37	71	36	32	42	41		26

hair turned up at the scene.

Cadet Leo found 45 star maps yesterday and 26 more today. How many star maps in all?

Answer: ☐ → N

Cadet Leo lined up 9 rows of 4 laser batteries. How many laser batteries in all?

Answer: ☐ → S

Cadet Leo lined up 4 rows of 8 star maps. How many star maps in all?

Answer: ☐ → T

There were 52 moon rocks. 11 were used up. How many moon rocks are left?

Answer: ☐ → I

There were 47 rocket packs. 10 were used up. How many rocket packs are left?

Answer: ☐ → O

Cadet Leo found 5 star maps yesterday and 21 more today. How many star maps in all?

Answer: ☐ → E

Cadet Leo lined up 6 rows of 7 laser batteries. How many laser batteries in all?

Answer: ☐ → R

Scratch space:

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

> We split the star maps equally among the cadet search teams.

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:

30 ÷ 10 = ☐ | 84 ÷ 7 = ☐ | 20 ÷ 4 = ☐ | 36 ÷ 6 = ☐ | 12 ÷ 6 = ☐

24 ÷ 6 = ☐ | 55 ÷ 5 = ☐ | 63 ÷ 9 = ☐ | 20 ÷ 2 = ☐ | 12 ÷ 12 = ☐

40 ÷ 5 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain turned on gravity boots, then activated zero g float.
2. The villain turned on gravity boots, then turned off comet thrusters.
3. The villain turned on gravity boots, then clicked the lunar jammer.
4. The villain blasted the rocket pack, then turned off comet thrusters.
5. The villain raised the plasma shield, then activated zero g float.
6. The villain fired the laser torch, then turned off comet thrusters.
7. The villain raised the plasma shield, then clicked the lunar jammer.
8. The villain fired the laser torch, then activated zero g float.
9. The villain raised the plasma shield, then unfolded solar wings.
10. The villain shined the starlight ray, then turned off comet thrusters.
11. The villain fired the laser torch, then clicked the lunar jammer.
12. The villain shined the starlight ray, then unfolded solar wings.

TEACHER / PARENT

Answer Key

The Starlight Station Mystery

Culprit: Michael Collins

Plasma Shield · Solar Wings · Left Handed · Neon Stripe · Radio Static

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE SNEAK DOES NOT USE COMET THRUSTERS"

What is the value of the 7 in 7,655? = 7000 (T) · What is the value of the 2 in 6,211? = 200 (H) · What is the value of the 4 in 2,429? = 400 (S) · What is the value of the 8 in 8,952? = 8000 (U) · What is the value of the 2 in 629? = 20 (N) · What is the value of the 6 in 26,410? = 6000 (C) · What is the value of the 7 in 378? = 70 (A) · What is the value of the 6 in 601? = 600 (M) · What is the value of the 1 in 61,922? = 1000 (O) · What is the value of the 5 in 4,957? = 50 (K) · What is the value of the 2 in 2,735? = 2000 (D) · What is the value of the 1 in 2,155? = 100 (E) · What is the value of the 9 in 9,182? = 9000 (R)

Clue 2 (Addition): "THE BANDIT USED THEIR LEFT HAND ON THE DASH"

2322 + 5253 = 7575 (T) · 2631 + 3812 = 6443 (R) · 3056 + 4131 = 7187 (A) · 1688 + 1648 = 3336 (S) · 2174 + 2447 = 4621 (D) · 2615 + 2925 = 5540 (I) · 4069 + 4778 = 8847 (F) · 2384 + 3653 = 6037 (B) · 2544 + 1559 = 4103 (U) · 1643 + 3056 = 4699 (L) · 6529 + 3297 = 9826 (E) · 4707 + 4311 = 9018 (O) · 1598 + 2201 = 3799 (H) · 4232 + 3034 = 7266 (N)

Clue 3 (Subtraction): "THE BANDIT RAN AWAY FROM LOUD RADIO STATIC"

2133 - 114 = 2019 (T) · 12614 - 4257 = 8357 (S) · 13068 - 4612 = 8456 (M) · 6448 - 4412 = 2036 (I) · 6825 - 3492 = 3333 (A) · 7485 - 4257 = 3228 (L) · 7548 - 412 = 7136 (F) · 9826 - 4690 = 5136 (Y) · 8488 - 3313 = 5175 (B) · 8001 - 4955 = 3046 (E) · 8016 - 3821 = 4195 (H) · 4142 - 2599 = 1543 (N) · 9257 - 4975 = 4282 (W) · 5047 - 1176 = 3871 (D) · 7210 - 1024 = 6186 (U) · 8344 - 2214 = 6130 (O) · 8827 - 1332 = 7495 (C) · 5834 - 3427 = 2407 (R)

Clue 4 (Word problems): "NEON STRIPE"

Cadet Leo found 45 star maps yesterday and 26 more today. How many star maps in all? = 71 (N) · Cadet Leo lined up 9 rows of 4 laser batteries. How many laser batteries in all? = 36 (S) · Cadet Leo lined up 4 rows of 8 star maps. How many star maps in all? = 32 (T) · There were 52 moon rocks. 11 were used up. How many moon rocks are left? = 41 (I) · There were 47 rocket packs. 10 were used up. How many rocket packs are left? = 37 (O) · Cadet Leo found 5 star maps yesterday and 21 more today. How many star maps in all? = 26 (E) · Cadet Leo lined up 6 rows of 7 laser batteries. How many laser batteries in all? = 42 (R)

Clue 5 (Division facts (1-12)): surviving statement is box 9 → Michael Collins

30 ÷ 10 = 3 · 84 ÷ 7 = 12 · 20 ÷ 4 = 5 · 36 ÷ 6 = 6 · 12 ÷ 6 = 2 · 24 ÷ 6 = 4 · 55 ÷ 5 = 11 · 63 ÷ 9 = 7 · 20 ÷ 2 = 10 · 12 ÷ 12 = 1 · 40 ÷ 5 = 8