



# The Great Lunar Crystal Heist

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

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

A mischievous space bandit sneaked into Astro Base Alpha and snatched the glowing starlight crystal! Examine the evidence log to catch the culprit.

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           | THRUSTER PACK  | SCANNER TOOL  | DOMINATED HAND | VISOR TINT    | TRAP GADGET   |
|----------------|----------------|---------------|----------------|---------------|---------------|
| Sally Ride     | Plasma Booster | Starlight Ray | Left Handed    | Copper Helmet | Magnetic Trap |
| Zephyr Ray     | Solar Skates   | Comet Radar   | Left Handed    | Copper Helmet | Magnetic Trap |
| Yuri Gagarin   | Plasma Booster | Laser Cutter  | Left Handed    | Cobalt Helmet | Magnetic Trap |
| Jax Comet      | Plasma Booster | Comet Radar   | Right Handed   | Silver Helmet | Photon Net    |
| Mae Jemison    | Gravity Boots  | Starlight Ray | Left Handed    | Copper Helmet | Magnetic Trap |
| Stella Ray     | Gravity Boots  | Nebula Scope  | Right Handed   | Silver Helmet | Photon Net    |
| Kalpana Chawla | Warp Drive     | Comet Radar   | Left Handed    | Cobalt Helmet | Stun Beam     |
| Lyra Flare     | Ion Jetpack    | Nebula Scope  | Right Handed   | Cobalt Helmet | Stun Beam     |
| Eileen Collins | Gravity Boots  | Nebula Scope  | Right Handed   | Cobalt Helmet | Photon Net    |
| Orion Pax      | Gravity Boots  | Laser Cutter  | Left Handed    | Copper Helmet | Magnetic Trap |
| Cosmo Vance    | Ion Jetpack    | Laser Cutter  | Left Handed    | Copper Helmet | Stun Beam     |
| Nova Star      | Plasma Booster | Comet Radar   | Left Handed    | Copper Helmet | Magnetic Trap |
| Guion Bluford  | Plasma Booster | Nebula Scope  | Left Handed    | Copper Helmet | Magnetic Trap |
| Peggy Whitson  | Solar Skates   | Starlight Ray | Right Handed   | Silver Helmet | Photon Net    |
| John Glenn     | Plasma Booster | Laser Cutter  | Right Handed   | Copper Helmet | Magnetic Trap |
| Alan Shepard   | Gravity Boots  | Laser Cutter  | Left Handed    | Copper Helmet | Photon Net    |
| Chris Hadfield | Plasma Booster | Comet Radar   | Right Handed   | Silver Helmet | Magnetic Trap |
| Buzz Aldrin    | Gravity Boots  | Nebula Scope  | Right Handed   | Copper Helmet | Stun Beam     |
| Astra Moon     | Gravity Boots  | Nebula Scope  | Left Handed    | Silver Helmet | Magnetic Trap |
| Caelum Cruz    | Plasma Booster | Comet Radar   | Right Handed   | Copper Helmet | Magnetic Trap |
| Solene Vane    | Solar Skates   | Meteor Shield | Right Handed   | Cobalt Helmet | Magnetic Trap |

**CLUE 1**
**Rounding**

The station radar panel rounds distance numbers to the nearest ten.

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

|          |      |     |      |     |     |          |      |      |          |      |      |          |      |      |     |          |
|----------|------|-----|------|-----|-----|----------|------|------|----------|------|------|----------|------|------|-----|----------|
| <b>T</b> |      |     |      |     |     |          |      |      | <b>T</b> |      |      |          |      |      |     | <b>T</b> |
| 30       | 3000 | 800 | 600  | 300 | 600 | 80       | 800  | 5000 | 30       | 70   | 700  | 800      | 600  | 900  | 700 | 30       |
|          |      |     |      |     |     | <b>T</b> |      |      |          |      |      | <b>T</b> |      |      |     |          |
| 300      | 600  | 800 | 8000 | 600 | 30  | 8000     | 4000 | 200  | 90       | 6000 | 3000 | 30       | 4000 | 8000 | 500 |          |

Round 27 to the nearest ten  → **T**

Round 80 to the nearest ten  → **P**

Round 600 to the nearest hundred  → **S**

Round 780 to the nearest hundred  → **E**

Round 4,543 to the nearest thousand  → **C**

Round 238 to the nearest hundred  → **L**

Round 4,175 to the nearest thousand  → **R**

Round 464 to the nearest hundred  → **Y**

Round 87 to the nearest ten  → **I**

Round 282 to the nearest hundred  → **U**

Round 72 to the nearest ten  → **D**

Round 7,716 to the nearest thousand  → **A**

Round 937 to the nearest hundred  → **N**

Round 3,037 to the nearest thousand  → **H**

Round 712 to the nearest hundred  → **O**

Round 5,798 to the nearest thousand  → **G**

Scratch space:

**CLUE 2**
**Addition**

Commander Astra tallied all oxygen tanks brought onboard today.

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

|          |     |     |     |     |     |     |     |     |          |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|
| <b>W</b> |     |     |     |     |     |     |     |     | <b>W</b> |     |     |     |     |     |
| 934      | 928 | 491 | 581 | 508 | 603 | 603 | 603 | 480 | 934      | 480 | 778 | 508 | 805 | 491 |
|          |     |     |     |     |     |     |     |     |          |     |     |     |     |     |
| 637      | 480 | 581 | 641 | 508 | 641 | 384 | 928 | 778 | 778      | 480 | 928 | 581 | 778 | 508 |

$592 + 342 = \square \rightarrow \text{W}$

$161 + 347 = \square \rightarrow \text{E}$

$416 + 187 = \square \rightarrow \text{S}$

$402 + 239 = \square \rightarrow \text{D}$

$585 + 343 = \square \rightarrow \text{I}$

$337 + 154 = \square \rightarrow \text{T}$

$410 + 227 = \square \rightarrow \text{H}$

$322 + 259 = \square \rightarrow \text{N}$

$119 + 265 = \square \rightarrow \text{V}$

$349 + 429 = \square \rightarrow \text{L}$

$223 + 257 = \square \rightarrow \text{A}$

$385 + 420 = \square \rightarrow \text{F}$

Scratch space:

## Subtraction

Cadet Nova checked how many moon rocks remained after the raid.

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

802 694 600 685 406 157 157 889 406 599 289 889 478 478 802 895 252 252 600 421

775 467 889 801 889 215 599 600 802 406 648 802 590 889 252

$1128 - 326 = \boxed{\phantom{000}} \rightarrow \boxed{\text{T}}$

$$1170 - 369 = \boxed{\phantom{000}} \rightarrow \boxed{\text{M}}$$

$733 - 266 = \boxed{\phantom{000}} \rightarrow \boxed{\text{Y}}$

$818 - 397 = \boxed{\phantom{000}} \rightarrow \boxed{\text{D}}$

417 - 128 =  → **W**

1027 - 342 =  → **V**

$$592 - 186 = \boxed{\phantom{000}} \rightarrow \boxed{\text{I}}$$

$949 - 60 = \boxed{\phantom{000}} \rightarrow \boxed{\text{A}}$

$$1234 - 339 = \boxed{\phantom{000}} \rightarrow \boxed{0}$$

$599 - 9 = \boxed{\phantom{000}} \rightarrow \boxed{\text{R}}$

$1078 - 303 = \square \rightarrow \boxed{\text{B}}$

$$772 - 172 = \boxed{\phantom{000}} \rightarrow \boxed{\text{E}}$$

$$921 - 227 = \boxed{\phantom{000}} \rightarrow \boxed{\text{H}}$$

$$559 - 307 = \boxed{\phantom{000}} \rightarrow \boxed{\text{P}}$$

$$529 - 51 = \boxed{\phantom{00}} \rightarrow \boxed{\text{S}}$$

$$621 - 22 = \boxed{\phantom{000}} \rightarrow \boxed{\text{N}}$$

$1035 - 387 = \boxed{\phantom{000}} \rightarrow \boxed{\text{C}}$

$$283 - 126 = \boxed{\phantom{000}} \rightarrow \boxed{\text{L}}$$

$$492 - 277 = \boxed{\phantom{000}} \rightarrow \boxed{\text{G}}$$

Scratch space:

**CLUE 4**
**Multiplication facts (1-12)**

Engineer Leo counted solar panels arranged in equal rows.

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

|          |    |   |   |   |    |     |    |    |    |    |    |    |    |    |          |    |    |    |
|----------|----|---|---|---|----|-----|----|----|----|----|----|----|----|----|----------|----|----|----|
| <b>A</b> |    |   |   |   |    |     |    |    |    |    |    |    |    |    |          |    |    |    |
| 40       | 14 | 1 | 5 | 5 | 12 | 120 | 24 | 12 | 22 | 99 | 12 | 32 | 20 | 22 | <b>A</b> | 40 | 80 | 12 |

  

|   |          |    |    |   |     |   |   |          |    |    |    |    |   |    |
|---|----------|----|----|---|-----|---|---|----------|----|----|----|----|---|----|
|   | <b>A</b> |    |    |   |     |   |   | <b>A</b> |    |    |    |    |   |    |
| 8 | 40       | 48 | 20 | 1 | 100 | 3 | 7 | 40       | 32 | 48 | 14 | 12 | 3 | 12 |

$4 \times 10 = \square \rightarrow \text{A}$

$11 \times 9 = \square \rightarrow \text{M}$

$1 \times 1 = \square \rightarrow \text{O}$

$2 \times 6 = \square \rightarrow \text{E}$

$10 \times 8 = \square \rightarrow \text{K}$

$12 \times 10 = \square \rightarrow \text{R}$

$7 \times 2 = \square \rightarrow \text{C}$

$12 \times 4 = \square \rightarrow \text{S}$

$2 \times 12 = \square \rightarrow \text{H}$

$2 \times 10 = \square \rightarrow \text{F}$

$1 \times 7 = \square \rightarrow \text{D}$

$4 \times 2 = \square \rightarrow \text{W}$

$3 \times 1 = \square \rightarrow \text{N}$

$10 \times 10 = \square \rightarrow \text{U}$

$5 \times 1 = \square \rightarrow \text{P}$

$4 \times 8 = \square \rightarrow \text{T}$

$11 \times 2 = \square \rightarrow \text{L}$

Scratch space:

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

Pilot Cosmo split energy batteries evenly among the shuttle bays.

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:**

$90 \div 9 = \boxed{\phantom{00}}$

$6 \div 2 = \boxed{\phantom{00}}$

$16 \div 8 = \boxed{\phantom{00}}$

$32 \div 4 = \boxed{\phantom{00}}$

$54 \div 9 = \boxed{\phantom{00}}$

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

$11 \div 1 = \boxed{\phantom{00}}$

$50 \div 10 = \boxed{\phantom{00}}$

$132 \div 11 = \boxed{\phantom{00}}$

$77 \div 11 = \boxed{\phantom{00}}$

$4 \div 1 = \boxed{\phantom{00}}$

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

1. The villain marched past security with gravity boots, then flashed the area with starlight ray.
2. The villain marched past security with gravity boots, then sliced the lock with laser cutter.
3. The villain blasted off with plasma booster, then scouted the room with nebula scope.
4. The villain zoomed through corridors with ion jetpack, then scanned doors with comet radar.
5. The villain zoomed through corridors with ion jetpack, then deflected alarms with meteor shield.
6. The villain zoomed through corridors with ion jetpack, then flashed the area with starlight ray.
7. The villain glided across the deck with solar skates, then deflected alarms with meteor shield.
8. The villain blasted off with plasma booster, then sliced the lock with laser cutter.
9. The villain blasted off with plasma booster, then scanned doors with comet radar.
10. The villain glided across the deck with solar skates, then scanned doors with comet radar.
11. The villain blasted off with plasma booster, then flashed the area with starlight ray.
12. The villain zoomed through corridors with ion jetpack, then sliced the lock with laser cutter.

# Answer Key

## The Great Lunar Crystal Heist

### Culprit: Nova Star

Plasma Booster · Comet Radar · Left Handed · Copper Helmet · Magnetic Trap

Trail: Start 21 → Clue 1 18 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

#### Clue 1 (Rounding): "THE SUSPECT DOES NOT USE A STARLIGHT RAY"

Round 27 to the nearest ten = 30 (T) · Round 80 to the nearest ten = 80 (P) · Round 600 to the nearest hundred = 600 (S) · Round 780 to the nearest hundred = 800 (E) · Round 4,543 to the nearest thousand = 5000 (C) · Round 238 to the nearest hundred = 200 (L) · Round 4,175 to the nearest thousand = 4000 (R) · Round 464 to the nearest hundred = 500 (Y) · Round 87 to the nearest ten = 90 (I) · Round 282 to the nearest hundred = 300 (U) · Round 72 to the nearest ten = 70 (D) · Round 7,716 to the nearest thousand = 8000 (A) · Round 937 to the nearest hundred = 900 (N) · Round 3,037 to the nearest thousand = 3000 (H) · Round 712 to the nearest hundred = 700 (O) · Round 5,798 to the nearest thousand = 6000 (G)

#### Clue 2 (Addition): "WITNESS SAW A LEFT HANDED VILLAIN LEAVE"

$592 + 342 = 934$  (W) ·  $161 + 347 = 508$  (E) ·  $416 + 187 = 603$  (S) ·  $402 + 239 = 641$  (D) ·  $585 + 343 = 928$  (I) ·  $337 + 154 = 491$  (T) ·  $410 + 227 = 637$  (H) ·  $322 + 259 = 581$  (N) ·  $119 + 265 = 384$  (V) ·  $349 + 429 = 778$  (L) ·  $223 + 257 = 480$  (A) ·  $385 + 420 = 805$  (F)

#### Clue 3 (Subtraction): "THE VILLAIN WAS STOPPED BY A MAGNETIC TRAP"

$1128 - 326 = 802$  (T) ·  $1170 - 369 = 801$  (M) ·  $733 - 266 = 467$  (Y) ·  $818 - 397 = 421$  (D) ·  $417 - 128 = 289$  (W) ·  $1027 - 342 = 685$  (V) ·  $592 - 186 = 406$  (I) ·  $949 - 60 = 889$  (A) ·  $1234 - 339 = 895$  (O) ·  $599 - 9 = 590$  (R) ·  $1078 - 303 = 775$  (B) ·  $772 - 172 = 600$  (E) ·  $921 - 227 = 694$  (H) ·  $559 - 307 = 252$  (P) ·  $529 - 51 = 478$  (S) ·  $621 - 22 = 599$  (N) ·  $1035 - 387 = 648$  (C) ·  $283 - 126 = 157$  (L) ·  $492 - 277 = 215$  (G)

#### Clue 4 (Multiplication facts (1-12)): "A COPPER HELMET FLAKE WAS FOUND AT SCENE"

$4 \times 10 = 40$  (A) ·  $11 \times 9 = 99$  (M) ·  $1 \times 1 = 1$  (O) ·  $2 \times 6 = 12$  (E) ·  $10 \times 8 = 80$  (K) ·  $12 \times 10 = 120$  (R) ·  $7 \times 2 = 14$  (C) ·  $12 \times 4 = 48$  (S) ·  $2 \times 12 = 24$  (H) ·  $2 \times 10 = 20$  (F) ·  $1 \times 7 = 7$  (D) ·  $4 \times 2 = 8$  (W) ·  $3 \times 1 = 3$  (N) ·  $10 \times 10 = 100$  (U) ·  $5 \times 1 = 5$  (P) ·  $4 \times 8 = 32$  (T) ·  $11 \times 2 = 22$  (L)

#### Clue 5 (Division facts (1-12)): surviving statement is box 9 → Nova Star

$90 \div 9 = 10$  ·  $6 \div 2 = 3$  ·  $16 \div 8 = 2$  ·  $32 \div 4 = 8$  ·  $54 \div 9 = 6$  ·  $12 \div 12 = 1$  ·  $11 \div 1 = 11$  ·  $50 \div 10 = 5$  ·  $132 \div 11 = 12$  ·  $77 \div 11 = 7$  ·  $4 \div 1 = 4$