The Mystery of the Missing Diamond Beacon

Grade 6 math · Place value, Addition, Multiplication, Subtraction, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

A sneaky block thief snuck into the Server Fortress and snatched the Master Architect sacred Diamond Beacon. Decode the server logs and follow the clues 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 Block Thief is _____

Possible suspects

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

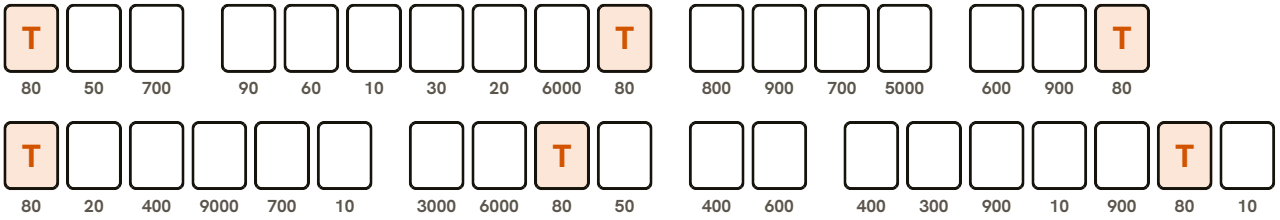
NAME	TOOL OF CHOICE	PET COMPANION	MOVEMENT STYLE	HELMET TYPE	BANE TRAP
Ella Obsidian	Netherite Sword	Tamed Ocelot	Right Handed Swinger	Turtle Shell	Lava Bucket Trap
Ethan Chorus	Enchanted Bow	Pirate Parrot	Left Handed Swinger	Iron Helmet	Splash Potion Trap
Nora Netherite	Enchanted Bow	Tamed Wolf	Left Handed Swinger	Leather Cap	Splash Potion Trap
Noah Nether	Golden Shovel	Tamed Ocelot	Left Handed Swinger	Iron Helmet	Lava Bucket Trap
Owen Quartz	Netherite Sword	Pirate Parrot	Left Handed Swinger	Leather Cap	Falling Anvil Trap
Alex Craft	Netherite Sword	Pirate Parrot	Right Handed Swinger	Leather Cap	Splash Potion Trap
Ava Ender	Enchanted Bow	Saddled Pig	Right Handed Swinger	Iron Helmet	Falling Anvil Trap
Steve Miner	Redstone Torch	Glowing Axolotl	Left Handed Swinger	Leather Cap	Splash Potion Trap
Maya Emerald	Netherite Sword	Pirate Parrot	Left Handed Swinger	Turtle Shell	Splash Potion Trap
Lily Calcite	Golden Shovel	Tamed Ocelot	Left Handed Swinger	Leather Cap	Splash Potion Trap
Jax Redstone	Enchanted Bow	Tamed Ocelot	Left Handed Swinger	Leather Cap	Splash Potion Trap
Leo Skeleton	Enchanted Bow	Glowing Axolotl	Left Handed Swinger	Turtle Shell	Splash Potion Trap
Luke Basalt	Redstone Torch	Saddled Pig	Right Handed Swinger	Iron Helmet	Lava Bucket Trap
Mason Magma	Enchanted Bow	Pirate Parrot	Left Handed Swinger	Leather Cap	Splash Potion Trap
Chloe Cubes	Netherite Sword	Tamed Ocelot	Left Handed Swinger	Leather Cap	Lava Bucket Trap
Cole Copper	Golden Shovel	Pirate Parrot	Right Handed Swinger	Leather Cap	Falling Anvil Trap
Ivy Prismarine	Netherite Sword	Saddled Pig	Right Handed Swinger	Turtle Shell	Splash Potion Trap
Sam Bedrock	Golden Shovel	Tamed Wolf	Left Handed Swinger	Iron Helmet	Falling Anvil Trap
Max Amethyst	Netherite Sword	Tamed Ocelot	Right Handed Swinger	Turtle Shell	Splash Potion Trap
Mia Terracotta	Golden Shovel	Tamed Ocelot	Right Handed Swinger	Iron Helmet	Splash Potion Trap
Eli Spawner	Golden Shovel	Saddled Pig	Left Handed Swinger	Iron Helmet	Falling Anvil Trap

make your own at mathcrackers.com

CLUE 1 Place value

Analyzing the digit places on the beacon security keypad reveals our first clue.

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



What is the value of the 8 in 251,785? ☐ → T

What is the value of the 3 in 455,934? ☐ → P

What is the value of the 3 in 623,000? ☐ → W

What is the value of the 3 in 999,310? ☐ → X

What is the value of the 9 in 559,741? ☐ → V

What is the value of the 9 in 63,797? ☐ → C

What is the value of the 5 in 378,856? ☐ → H

What is the value of the 9 in 140,980? ☐ → O

What is the value of the 1 in 523,317? ☐ → L

What is the value of the 2 in 708,326? ☐ → R

What is the value of the 5 in 85,804? ☐ → S

What is the value of the 6 in 790,655? ☐ → N

What is the value of the 4 in 778,419? ☐ → A

What is the value of the 7 in 94,703? ☐ → E

What is the value of the 6 in 36,141? ☐ → I

What is the value of the 8 in 776,890? ☐ → D

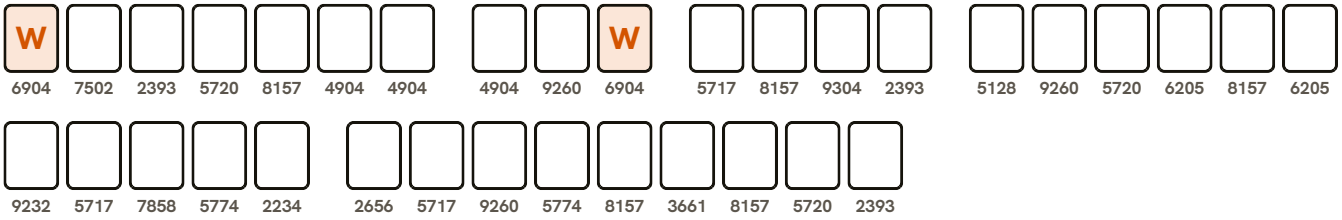
What is the value of the 6 in 752,462? ☐ → U

Scratch space:

CLUE 2 Addition

Combining total inventory tallies from the chest logs narrows down the suspect list.

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



3914 + 2990 = ☐ → W

860 + 1374 = ☐ → K

2941 + 2187 = ☐ → H

5131 + 2727 = ☐ → O

4314 + 1891 = ☐ → D

6333 + 2899 = ☐ → B

1180 + 1213 = ☐ → T

2104 + 3613 = ☐ → L

2995 + 1909 = ☐ → S

1830 + 3944 = ☐ → C

3990 + 5270 = ☐ → A

3339 + 5965 = ☐ → F

1131 + 2530 = ☐ → M

2729 + 5428 = ☐ → E

3610 + 3892 = ☐ → I

1734 + 922 = ☐ → P

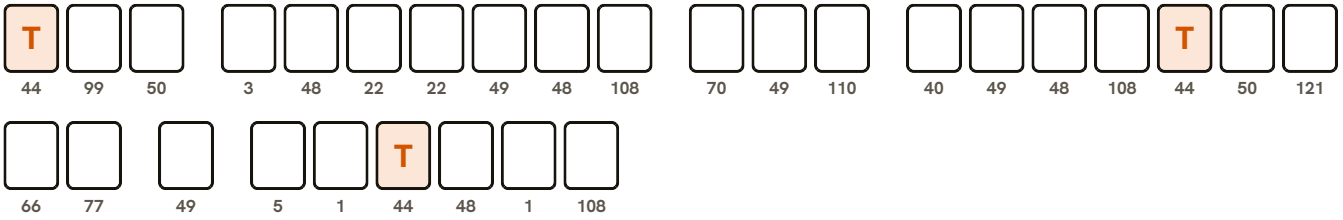
2212 + 3508 = ☐ → N

Scratch space:

CLUE 3 Multiplication facts (1-12)

> Calculating redstone repeater grid layouts row by row exposes crucial evidence.

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



11 × 4 = ☐ → T

10 × 5 = ☐ → E

5 × 8 = ☐ → F

7 × 7 = ☐ → A

1 × 1 = ☐ → O

1 × 5 = ☐ → P

11 × 2 = ☐ → L

10 × 11 = ☐ → S

6 × 11 = ☐ → B

12 × 9 = ☐ → N

10 × 7 = ☐ → W

4 × 12 = ☐ → I

9 × 11 = ☐ → H

3 × 1 = ☐ → V

11 × 11 = ☐ → D

11 × 7 = ☐ → Y

Scratch space:

CLUE 4 Subtraction

Subtracting used block counts from the fortress stash uncovers another secret.

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



11047 - 2375 = ☐ → B

10772 - 3897 = ☐ → N

9742 - 2375 = ☐ → P

4690 - 2348 = ☐ → L

4355 - 2655 = ☐ → I

6473 - 960 = ☐ → R

9624 - 3619 = ☐ → D

4313 - 285 = ☐ → H

7050 - 2694 = ☐ → F

6502 - 1683 = ☐ → W

5029 - 3769 = ☐ → S

5917 - 2633 = ☐ → A

8881 - 3989 = ☐ → E

7469 - 4080 = ☐ → U

8220 - 476 = ☐ → O

9848 - 1260 = ☐ → T

Scratch space:

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

> Dividing stackable items evenly among server vaults unlocks the final details.

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:

110 ÷ 11 = ☐ | 84 ÷ 7 = ☐ | 9 ÷ 3 = ☐ | 60 ÷ 12 = ☐ | 12 ÷ 12 = ☐

77 ÷ 7 = ☐ | 16 ÷ 8 = ☐ | 40 ÷ 10 = ☐ | 28 ÷ 4 = ☐ | 36 ÷ 4 = ☐

56 ÷ 7 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain swung a diamond pickaxe, then fed a fish to a tamed ocelot.
2. The villain slashed with a netherite sword, then scooped up a glowing axolotl.
3. The villain aimed an enchanted bow, then fed a fish to a tamed ocelot.
4. The villain slashed with a netherite sword, then hopped onto a saddled pig.
5. The villain dug through stone with a golden shovel, then hopped onto a saddled pig.
6. The villain aimed an enchanted bow, then perched a pirate parrot on their shoulder.
7. The villain slashed with a netherite sword, then perched a pirate parrot on their shoulder.
8. The villain dug through stone with a golden shovel, then whistled for a tamed wolf.
9. The villain placed a glowing redstone torch, then whistled for a tamed wolf.
10. The villain dug through stone with a golden shovel, then fed a fish to a tamed ocelot.
11. The villain placed a glowing redstone torch, then scooped up a glowing axolotl.
12. The villain aimed an enchanted bow, then whistled for a tamed wolf.

TEACHER / PARENT

Answer Key

The Mystery of the Missing Diamond Beacon

Culprit: Mason Magma

Enchanted Bow · Pirate Parrot · Left Handed Swinger · Leather Cap · Splash Potion Trap

Trail: Start 21 → Clue 1 19 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE CULPRIT DOES NOT TRAVEL WITH AN AXOLOTL"

What is the value of the 8 in 251,785? = 80 (T) · What is the value of the 3 in 455,934? = 30 (P) · What is the value of the 3 in 623,000? = 3000 (W) · What is the value of the 3 in 999,310? = 300 (X) · What is the value of the 9 in 559,741? = 9000 (V) · What is the value of the 9 in 63,797? = 90 (C) · What is the value of the 5 in 378,856? = 50 (H) · What is the value of the 9 in 140,980? = 900 (O) · What is the value of the 1 in 523,317? = 10 (L) · What is the value of the 2 in 708,326? = 20 (R) · What is the value of the 5 in 85,804? = 5000 (S) · What is the value of the 6 in 790,655? = 600 (N) · What is the value of the 4 in 778,419? = 400 (A) · What is the value of the 7 in 94,703? = 700 (E) · What is the value of the 6 in 36,141? = 6000 (I) · What is the value of the 8 in 776,890? = 800 (D) · What is the value of the 6 in 752,462? = 60 (U)

Clue 2 (Addition): "WITNESS SAW LEFT HANDED BLOCK PLACEMENT"

3914 + 2990 = 6904 (W) · 860 + 1374 = 2234 (K) · 2941 + 2187 = 5128 (H) · 5131 + 2727 = 7858 (O) · 4314 + 1891 = 6205 (D) · 6333 + 2899 = 9232 (B) · 1180 + 1213 = 2393 (T) · 2104 + 3613 = 5717 (L) · 2995 + 1909 = 4904 (S) · 1830 + 3944 = 5774 (C) · 3990 + 5270 = 9260 (A) · 3339 + 5965 = 9304 (F) · 1131 + 2530 = 3661 (M) · 2729 + 5428 = 8157 (E) · 3610 + 3892 = 7502 (I) · 1734 + 922 = 2656 (P) · 2212 + 3508 = 5720 (N)

Clue 3 (Multiplication facts (1-12)): "THE VILLAIN WAS FAINTED BY A POTION"

11 × 4 = 44 (T) · 10 × 5 = 50 (E) · 5 × 8 = 40 (F) · 7 × 7 = 49 (A) · 1 × 1 = 1 (O) · 1 × 5 = 5 (P) · 11 × 2 = 22 (L) · 10 × 11 = 110 (S) · 6 × 11 = 66 (B) · 12 × 9 = 108 (N) · 10 × 7 = 70 (W) · 4 × 12 = 48 (I) · 9 × 11 = 99 (H) · 3 × 1 = 3 (V) · 11 × 11 = 121 (D) · 11 × 7 = 77 (Y)

Clue 4 (Subtraction): "BROWN LEATHER STRAPS WERE FOUND NEAR DIRT"

11047 - 2375 = 8672 (B) · 10772 - 3897 = 6875 (N) · 9742 - 2375 = 7367 (P) · 4690 - 2348 = 2342 (L) · 4355 - 2655 = 1700 (I) · 6473 - 960 = 5513 (R) · 9624 - 3619 = 6005 (D) · 4313 - 285 = 4028 (H) · 7050 - 2694 = 4356 (F) · 6502 - 1683 = 4819 (W) · 5029 - 3769 = 1260 (S) · 5917 - 2633 = 3284 (A) · 8881 - 3989 = 4892 (E) · 7469 - 4080 = 3389 (U) · 8220 - 476 = 7744 (O) · 9848 - 1260 = 8588 (T)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Mason Magma

110 ÷ 11 = 10 · 84 ÷ 7 = 12 · 9 ÷ 3 = 3 · 60 ÷ 12 = 5 · 12 ÷ 12 = 1 · 77 ÷ 7 = 11 · 16 ÷ 8 = 2 · 40 ÷ 10 = 4 · 28 ÷ 4 = 7 · 36 ÷ 4 = 9 · 56 ÷ 7 = 8