The Mystery of the Missing Diamond Pickaxe

Grade 5 math · Place value, Multiplication, Multi-step word problems, Word problems, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Master Builder Steve was preparing the grand city fortress when a Griefing Phantom snuck into the vault and snatched the legendary Diamond Pickaxe! The kingdom guards gathered clue logs, but only a clever detective can decode the math clues and uncover the thief's identity.

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 Griefing Phantom is _____

Possible suspects

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

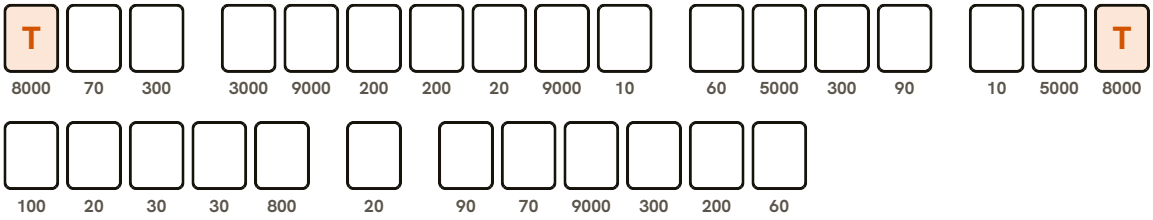
NAME	BLOCK SKILL	OFFHAND GEAR	DOMINANT HAND	HELMET TYPE	TRAP TYPE
Illina Block	Redstone Wiring	Firework Rocket	Left Handed	Diamond Helmet	Anvil Drop
Coby Nether	Redstone Wiring	Shield	Left Handed	Iron Helmet	TNT Cannon
Maya Craft	Taming Wolves	Ender Pearl	Right Handed	Diamond Helmet	Anvil Drop
Boffy Miner	Potion Brewing	Golden Apple	Right Handed	Turtle Shell	Water Bucket
Sammy Slime	Taming Wolves	Ender Pearl	Left Handed	Turtle Shell	Water Bucket
Tara Torch	Taming Wolves	Golden Apple	Right Handed	Turtle Shell	Water Bucket
Nora Nether	Nether Mining	Firework Rocket	Right Handed	Iron Helmet	TNT Cannon
Captain Sparklez	Redstone Wiring	Shield	Left Handed	Iron Helmet	Water Bucket
Skeepy Gem	Redstone Wiring	Golden Apple	Left Handed	Iron Helmet	Water Bucket
Mumbo Jumbo	Nether Mining	Shield	Left Handed	Turtle Shell	Water Bucket
Zack Zinc	Potion Brewing	Firework Rocket	Left Handed	Turtle Shell	Water Bucket
Stampy Cat	Nether Mining	Firework Rocket	Right Handed	Turtle Shell	Anvil Drop
Leo Lava	Redstone Wiring	Ender Pearl	Right Handed	Diamond Helmet	Anvil Drop
Blocky Ben	Nether Mining	Ender Pearl	Left Handed	Turtle Shell	TNT Cannon
Sparky Pixel	Redstone Wiring	Ender Pearl	Left Handed	Diamond Helmet	TNT Cannon
Aphmau Rose	Potion Brewing	Ender Pearl	Left Handed	Turtle Shell	Water Bucket
Etho Slab	Taming Wolves	Golden Apple	Left Handed	Turtle Shell	Water Bucket
Rex Redstone	Potion Brewing	Firework Rocket	Left Handed	Turtle Shell	TNT Cannon
LD Shadow Lady	Taming Wolves	Firework Rocket	Left Handed	Diamond Helmet	Anvil Drop
Alex Craft	Taming Wolves	Shield	Left Handed	Turtle Shell	Water Bucket
Grian Build	Elytra Flying	Ender Pearl	Left Handed	Diamond Helmet	Anvil Drop

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CLUE 1 Place value

The castle vault lock shows a numeric code on its place value display.

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



What is the value of the 8 in 638,942? ☐ → T

What is the value of the 2 in 41,255? ☐ → L

What is the value of the 9 in 445,697? ☐ → S

What is the value of the 8 in 257,857? ☐ → Y

What is the value of the 6 in 717,362? ☐ → D

What is the value of the 9 in 449,874? ☐ → I

What is the value of the 1 in 34,122? ☐ → C

What is the value of the 2 in 34,321? ☐ → A

What is the value of the 7 in 82,372? ☐ → H

What is the value of the 5 in 95,669? ☐ → O

What is the value of the 1 in 354,415? ☐ → N

What is the value of the 3 in 566,355? ☐ → E

What is the value of the 3 in 723,761? ☐ → V

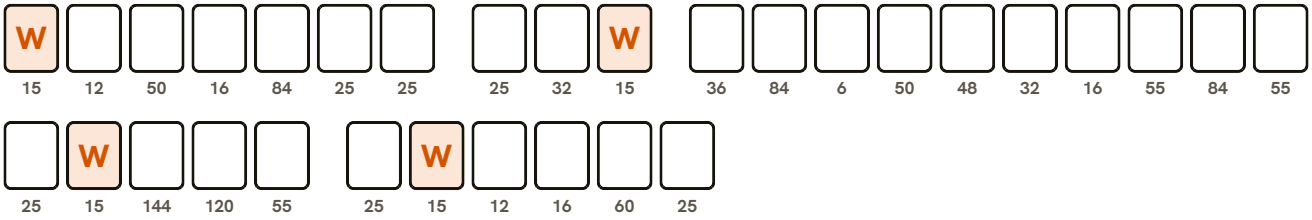
What is the value of the 3 in 56,538? ☐ → R

Scratch space:

CLUE 2 Multiplication facts (1-12)

> Guardians counted equal stacks of iron ingots left scattered by the vault gate.

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



3 × 5 = ☐ → W	12 × 12 = ☐ → O	6 × 2 = ☐ → I
5 × 10 = ☐ → T	4 × 4 = ☐ → N	5 × 5 = ☐ → S
12 × 3 = ☐ → L	12 × 4 = ☐ → H	7 × 12 = ☐ → E
11 × 5 = ☐ → D	10 × 6 = ☐ → G	8 × 4 = ☐ → A
2 × 3 = ☐ → F	10 × 12 = ☐ → R	

Scratch space:

CLUE 3 Multi-step word problems

The guard spent obsidian blocks to rebuild the damaged wall after calculating total supplies.

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

Someone scared the villain off with

W							C	K		
38	54	35	55	67	65	69			55	35

.

There were 201 emerald in all. 1 Miners Guild used 11 emerald each. The other 5 Miners Guild shared the rest equally. How many emerald did each of the other Miners Guild get?

Answer: ☐ → **W**

Builder earned 6 golden carrot in each of 5 rounds, plus 36 bonus golden carrot. Then 11 golden carrot were lost. How many golden carrot are left?

Answer: ☐ → **E**

There were 317 lapis lazuli in all. 37 lapis lazuli were set aside. The rest were shared equally among 8 Miners Guild. How many lapis lazuli did each get?

Answer: ☐ → **T**

Builder filled 7 boxes with 2 emerald each, then found 40 more emerald. How many emerald are there in all?

Answer: ☐ → **A**

Builder filled 3 boxes with 9 golden carrot each, then found 42 more golden carrot. How many golden carrot are there in all?

Answer: ☐ → **U**

Builder earned 2 redstone dust in each of 2 rounds, plus 69 bonus redstone dust. Then 6 redstone dust were lost. How many redstone dust are left?

Answer: ☐ → **R**

Builder earned 2 golden carrot in each of 4 rounds, plus 58 bonus golden carrot. Then 1 golden carrot were lost. How many golden carrot are left?

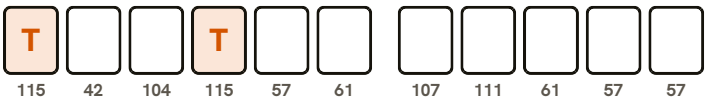
Answer: ☐ → **B**

Scratch space:

CLUE 4 Word problems

The builder tallied up redstone dust containers dropped along the escape trail.

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

A strand of 

hair turned up at the scene.

Builder found 104 redstone dust yesterday and 11 more today. How many redstone dust in all?

Answer: ☐ → **T**

Builder found 64 emerald yesterday and 40 more today. How many emerald in all?

Answer: ☐ → **R**

Builder found 19 obsidian block yesterday and 92 more today. How many obsidian block in all?

Answer: ☐ → **H**

Builder found 5 golden carrot yesterday and 102 more today. How many golden carrot in all?

Answer: ☐ → **S**

Builder found 4 obsidian block yesterday and 57 more today. How many obsidian block in all?

Answer: ☐ → **E**

Builder found 13 golden carrot yesterday and 44 more today. How many golden carrot in all?

Answer: ☐ → **L**

Builder lined up 6 rows of 7 golden carrot. How many golden carrot in all?

Answer: ☐ → **U**

Scratch space:

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

> The village divided remaining emeralds equally among five outpost towers.

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:

36 ÷ 4 = ☐	24 ÷ 6 = ☐	66 ÷ 6 = ☐	90 ÷ 9 = ☐	96 ÷ 12 = ☐
4 ÷ 4 = ☐	22 ÷ 11 = ☐	27 ÷ 9 = ☐	42 ÷ 7 = ☐	10 ÷ 2 = ☐
42 ÷ 6 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain mined deep nether rock, then tossed ender pearls.
2. The villain brewed splash potions, then poured lava buckets.
3. The villain glided across gorges, then poured lava buckets.
4. The villain whistled for wolf packs, then tossed ender pearls.
5. The villain brewed splash potions, then munched golden apples.
6. The villain glided across gorges, then munched golden apples.
7. The villain wired redstone traps, then munched golden apples.
8. The villain whistled for wolf packs, then poured lava buckets.
9. The villain whistled for wolf packs, then munched golden apples.
10. The villain mined deep nether rock, then poured lava buckets.
11. The villain brewed splash potions, then tossed ender pearls.
12. The villain brewed splash potions, then launched firework rockets.

TEACHER / PARENT

Answer Key

The Mystery of the Missing Diamond Pickaxe

Culprit: Zack Zinc

Potion Brewing · Firework Rocket · Left Handed · Turtle Shell · Water Bucket

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

Clue 1 (Place value): "THE VILLAIN DOES NOT CARRY A SHIELD"

What is the value of the 8 in 638,942? = 8000 (T) · What is the value of the 2 in 41,255? = 200 (L) · What is the value of the 9 in 445,697? = 90 (S) · What is the value of the 8 in 257,857? = 800 (Y) · What is the value of the 6 in 717,362? = 60 (D) · What is the value of the 9 in 449,874? = 9000 (I) · What is the value of the 1 in 34,122? = 100 (C) · What is the value of the 2 in 34,321? = 20 (A) · What is the value of the 7 in 82,372? = 70 (H) · What is the value of the 5 in 95,669? = 5000 (O) · What is the value of the 1 in 354,415? = 10 (N) · What is the value of the 3 in 566,355? = 300 (E) · What is the value of the 3 in 723,761? = 3000 (V) · What is the value of the 3 in 56,538? = 30 (R)

Clue 2 (Multiplication facts (1-12)): "WITNESS SAW LEFTHANDED SWORD SWINGS"

3 × 5 = 15 (W) · 12 × 12 = 144 (O) · 6 × 2 = 12 (I) · 5 × 10 = 50 (T) · 4 × 4 = 16 (N) · 5 × 5 = 25 (S) · 12 × 3 = 36 (L) · 12 × 4 = 48 (H) · 7 × 12 = 84 (E) · 11 × 5 = 55 (D) · 10 × 6 = 60 (G) · 8 × 4 = 32 (A) · 2 × 3 = 6 (F) · 10 × 12 = 120 (R)

Clue 3 (Multi-step word problems): "WATER BUCKET"

There were 201 emerald in all. 1 Miners Guild used 11 emerald each. The other 5 Miners Guild shared the rest equally. How many emerald did each of the other Miners Guild get? = 38 (W) · Builder earned 6 golden carrot in each of 5 rounds, plus 36 bonus golden carrot. Then 11 golden carrot were lost. How many golden carrot are left? = 55 (E) · There were 317 lapis lazuli in all. 37 lapis lazuli were set aside. The rest were shared equally among 8 Miners Guild. How many lapis lazuli did each get? = 35 (T) · Builder filled 7 boxes with 2 emerald each, then found 40 more emerald. How many emerald are there in all? = 54 (A) · Builder filled 3 boxes with 9 golden carrot each, then found 42 more golden carrot. How many golden carrot are there in all? = 69 (U) · Builder earned 2 redstone dust in each of 2 rounds, plus 69 bonus redstone dust. Then 6 redstone dust were lost. How many redstone dust are left? = 67 (R) · Builder earned 2 golden carrot in each of 4 rounds, plus 58 bonus golden carrot. Then 1 golden carrot were lost. How many golden carrot are left? = 65 (B)

Clue 4 (Word problems): "TURTLE SHELL"

Builder found 104 redstone dust yesterday and 11 more today. How many redstone dust in all? = 115 (T) · Builder found 64 emerald yesterday and 40 more today. How many emerald in all? = 104 (R) · Builder found 19 obsidian block yesterday and 92 more today. How many obsidian block in all? = 111 (H) · Builder found 5 golden carrot yesterday and 102 more today. How many golden carrot in all? = 107 (S) · Builder found 4 obsidian block yesterday and 57 more today. How many obsidian block in all? = 61 (E) · Builder found 13 golden carrot yesterday and 44 more today. How many golden carrot in all? = 57 (L) · Builder lined up 6 rows of 7 golden carrot. How many golden carrot in all? = 42 (U)

Clue 5 (Division facts (1-12)): surviving statement is box 12 → Zack Zinc

36 ÷ 4 = 9 · 24 ÷ 6 = 4 · 66 ÷ 6 = 11 · 90 ÷ 9 = 10 · 96 ÷ 12 = 8 · 4 ÷ 4 = 1 · 22 ÷ 11 = 2 · 27 ÷ 9 = 3 · 42 ÷ 7 = 6 · 10 ÷ 2 = 5 · 42 ÷ 6 = 7