The Mystery of the Broken Beacon

Grade 2 math · Place value, Addition, Subtraction, Skip counting, Missing addends · Reading level grades 3-4

Detective: _____ **Date:** _____

Someone snuck into the Obsidian Outpost and stole the grand power beacon! The Server Admin needs your help to examine the evidence and catch the culprit before the whole world resets.

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 griefer is _____

Possible suspects

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

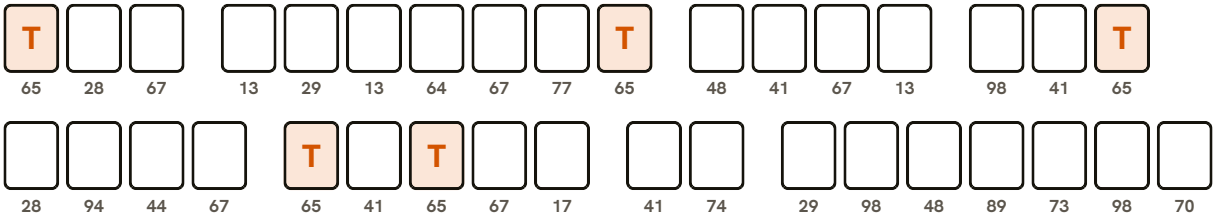
NAME	MAIN TOOL	SPECIAL GEAR	DOMINANT HAND	HEADWEAR	COUNTER ITEM
GamerGabe	Ender Pearl	Elytra Wings	Left Handed	Green Helmet	Water Bucket
Aphmau	Firework Rocket	Flame Bow	Right Handed	Purple Hood	Splash Potion
VoxelVal	Redstone Torch	Turtle Helmet	Left Handed	Green Helmet	Splash Potion
LDShadowLady	Golden Apple	Elytra Wings	Right Handed	Green Helmet	Splash Potion
PixelSam	Ender Pearl	Elytra Wings	Right Handed	Green Helmet	Water Bucket
CaptainSparklez	Diamond Pickaxe	Elytra Wings	Right Handed	Green Helmet	Lava Bucket
CobbleCory	Redstone Torch	Flame Bow	Left Handed	Green Helmet	Splash Potion
CraftyChloe	Golden Apple	Elytra Wings	Left Handed	Green Helmet	Splash Potion
MinerMax	Diamond Pickaxe	Flame Bow	Right Handed	Green Helmet	Lava Bucket
CreeperChris	Firework Rocket	Turtle Helmet	Right Handed	Purple Hood	Water Bucket
Stampy	Redstone Torch	Elytra Wings	Right Handed	Green Helmet	Water Bucket
DanTDM	Firework Rocket	Elytra Wings	Left Handed	Green Helmet	Water Bucket
BlockyBob	Redstone Torch	Elytra Wings	Left Handed	Purple Hood	Splash Potion
DiamondDave	Ender Pearl	Totem Of Undying	Right Handed	Purple Hood	Water Bucket
Hermit	Diamond Pickaxe	Totem Of Undying	Right Handed	Green Helmet	Water Bucket
BuilderBen	Firework Rocket	Elytra Wings	Left Handed	Purple Hood	Water Bucket
RedstoneRita	Firework Rocket	Depth Strider	Right Handed	Green Helmet	Water Bucket
Sparky	Golden Apple	Elytra Wings	Left Handed	Purple Hood	Lava Bucket
Steve	Golden Apple	Totem Of Undying	Left Handed	Purple Hood	Lava Bucket
EnderEmma	Firework Rocket	Elytra Wings	Right Handed	Green Helmet	Water Bucket
Alex	Golden Apple	Flame Bow	Right Handed	Purple Hood	Water Bucket

make your own at mathcrackers.com

CLUE 1 Place value

The server chat screen showed numbers broken down into tens and ones places to reveal the first secret log.

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



What number has 6 tens and 5 ones? ☐ → T

What number has 2 tens and 8 ones? ☐ → H

What number has 9 tens and 4 ones? ☐ → A

What number has 6 tens and 7 ones? ☐ → E

What number has 4 tens and 4 ones? ☐ → V

What number has 1 ten and 7 ones? ☐ → M

What number has 2 tens and 9 ones? ☐ → U

What number has 7 tens and 7 ones? ☐ → C

What number has 7 tens and 3 ones? ☐ → I

What number has 8 tens and 9 ones? ☐ → Y

What number has 6 tens and 4 ones? ☐ → P

What number has 4 tens and 1 one? ☐ → O

What number has 1 ten and 3 ones? ☐ → S

What number has 4 tens and 8 ones? ☐ → D

What number has 9 tens and 8 ones? ☐ → N

What number has 7 tens and 0 ones? ☐ → G

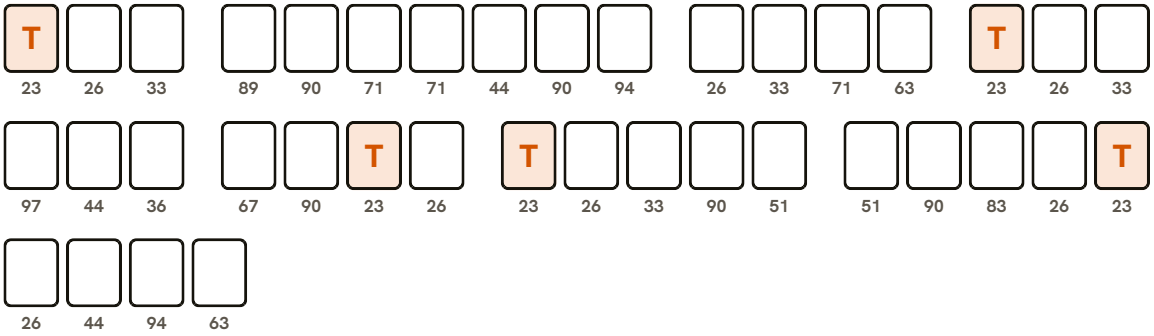
What number has 7 tens and 4 ones? ☐ → F

Scratch space:

CLUE 2 Addition

We counted up the extra blocks left near the build site to see how many were placed in all.

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



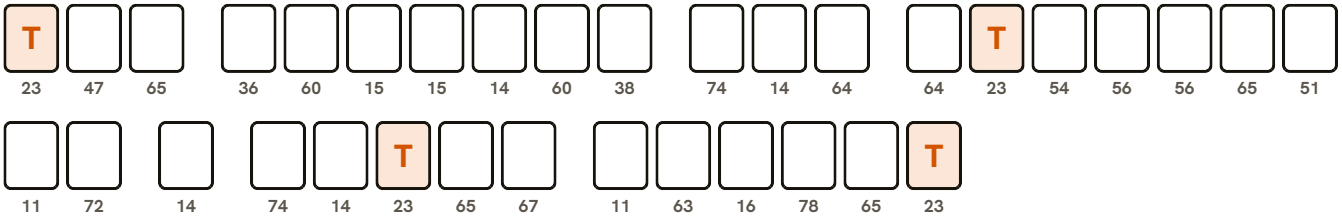
14 + 9 = ☐ → T	51 + 32 = ☐ → G	17 + 34 = ☐ → R
23 + 48 = ☐ → L	37 + 30 = ☐ → W	9 + 17 = ☐ → H
50 + 40 = ☐ → I	21 + 23 = ☐ → A	26 + 63 = ☐ → V
34 + 63 = ☐ → M	15 + 18 = ☐ → E	35 + 28 = ☐ → D
56 + 38 = ☐ → N	15 + 21 = ☐ → P	

Scratch space:

CLUE 3 Subtraction

> The griefed chest was missing items so we subtracted what was stolen from the total.

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



50 - 27 = ☐ → T

95 - 39 = ☐ → P

79 - 14 = ☐ → E

88 - 34 = ☐ → O

104 - 30 = ☐ → W

33 - 17 = ☐ → C

114 - 36 = ☐ → K

35 - 21 = ☐ → A

69 - 33 = ☐ → V

59 - 21 = ☐ → N

92 - 20 = ☐ → Y

51 - 36 = ☐ → L

80 - 29 = ☐ → D

55 - 8 = ☐ → H

71 - 8 = ☐ → U

80 - 13 = ☐ → R

50 - 39 = ☐ → B

99 - 39 = ☐ → I

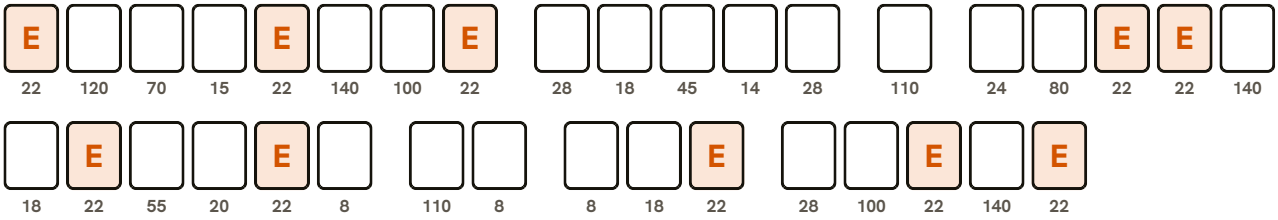
79 - 15 = ☐ → S

Scratch space:

CLUE 4 Skip counting

The footprints stepped across the grass blocks in steady equal leaps that we could skip count.

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



Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ___, 24, 26 ☐ → E

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, ___, 26, 28 ☐ → G

Skip-count by 2s. Fill the blank: 2, 4, 6, ___, 10, 12 ☐ → T

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, ___, 110, 120 ☐ → C

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, ___, 120, 130 ☐ → A

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, ___, 20, 22 ☐ → H

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, ___, 50, 55 ☐ → O

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, ___, 30, 32 ☐ → S

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, ___, 16, 18 ☐ → W

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, ___, 18, 21 ☐ → D

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, ___, 150, 160 ☐ → N

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 ☐ → L

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, ___, 90, 100 ☐ → R

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, ___, 130, 140 ☐ → **V**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, ___, 22, 24 ☐ → **M**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, ___, 80, 90 ☐ → **I**

Scratch space:

CLUE 5 Missing addends - the last clue

> To unlock the hidden vault door we had to figure out the missing number needed to reach the target sum.

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:

2 + ___ = 7 ☐	10 + ___ = 19 ☐	8 + ___ = 10 ☐	5 + ___ = 13 ☐
8 + ___ = 11 ☐	3 + ___ = 15 ☐	1 + ___ = 7 ☐	6 + ___ = 16 ☐
1 + ___ = 5 ☐	2 + ___ = 9 ☐	7 + ___ = 8 ☐	

Step 2 - cross out the sentence with each answer:

1. The villain threw an ender pearl, then shot a fiery arrow from a flame bow.
2. The villain launched a firework rocket, then dashed fast with depth strider.
3. The villain threw an ender pearl, then dashed fast with depth strider.
4. The villain threw an ender pearl, then put on a turtle helmet.
5. The villain threw an ender pearl, then glided off with elytra wings.
6. The villain swung a diamond pickaxe, then glided off with elytra wings.
7. The villain launched a firework rocket, then shot a fiery arrow from a flame bow.
8. The villain swung a diamond pickaxe, then put on a turtle helmet.
9. The villain launched a firework rocket, then glided off with elytra wings.
10. The villain placed a redstone torch, then put on a turtle helmet.
11. The villain placed a redstone torch, then glided off with elytra wings.
12. The villain ate a golden apple, then shot a fiery arrow from a flame bow.

TEACHER / PARENT

Answer Key

The Mystery of the Broken Beacon

Culprit: Stampy

Redstone Torch · Elytra Wings · Right Handed · Green Helmet · Water Bucket

Trail: Start 21 → Clue 1 18 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE SUSPECT DOES NOT HAVE TOTEM OF UNDYING"

What number has 6 tens and 5 ones? = 65 (T) · What number has 2 tens and 8 ones? = 28 (H) · What number has 9 tens and 4 ones? = 94 (A) · What number has 6 tens and 7 ones? = 67 (E) · What number has 4 tens and 4 ones? = 44 (V) · What number has 1 ten and 7 ones? = 17 (M) · What number has 2 tens and 9 ones? = 29 (U) · What number has 7 tens and 7 ones? = 77 (C) · What number has 7 tens and 3 ones? = 73 (I) · What number has 8 tens and 9 ones? = 89 (Y) · What number has 6 tens and 4 ones? = 64 (P) · What number has 4 tens and 1 one? = 41 (O) · What number has 1 ten and 3 ones? = 13 (S) · What number has 4 tens and 8 ones? = 48 (D) · What number has 9 tens and 8 ones? = 98 (N) · What number has 7 tens and 0 ones? = 70 (G) · What number has 7 tens and 4 ones? = 74 (F)

Clue 2 (Addition): "THE VILLAIN HELD THE MAP WITH THEIR RIGHT HAND"

14 + 9 = 23 (T) · 51 + 32 = 83 (G) · 17 + 34 = 51 (R) · 23 + 48 = 71 (L) · 37 + 30 = 67 (W) · 9 + 17 = 26 (H) · 50 + 40 = 90 (I) · 21 + 23 = 44 (A) · 26 + 63 = 89 (V) · 34 + 63 = 97 (M) · 15 + 18 = 33 (E) · 35 + 28 = 63 (D) · 56 + 38 = 94 (N) · 15 + 21 = 36 (P)

Clue 3 (Subtraction): "THE VILLAIN WAS STOPPED BY A WATER BUCKET"

50 - 27 = 23 (T) · 95 - 39 = 56 (P) · 79 - 14 = 65 (E) · 88 - 34 = 54 (O) · 104 - 30 = 74 (W) · 33 - 17 = 16 (C) · 114 - 36 = 78 (K) · 35 - 21 = 14 (A) · 69 - 33 = 36 (V) · 59 - 21 = 38 (N) · 92 - 20 = 72 (Y) · 51 - 36 = 15 (L) · 80 - 29 = 51 (D) · 55 - 8 = 47 (H) · 71 - 8 = 63 (U) · 80 - 13 = 67 (R) · 50 - 39 = 11 (B) · 99 - 39 = 60 (I) · 79 - 15 = 64 (S)

Clue 4 (Skip counting): "EVIDENCE SHOWS A GREEN HELMET AT THE SCENE"

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ___, 24, 26 = 22 (E) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, ___, 26, 28 = 24 (G) · Skip-count by 2s. Fill the blank: 2, 4, 6, ___, 10, 12 = 8 (T) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, ___, 110, 120 = 100 (C) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, ___, 120, 130 = 110 (A) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, ___, 20, 22 = 18 (H) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, ___, 50, 55 = 45 (O) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, ___, 30, 32 = 28 (S) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, ___, 16, 18 = 14 (W) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, ___, 18, 21 = 15 (D) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, ___, 150, 160 = 140 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 = 55 (L) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, ___, 90, 100 = 80 (R) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, ___, 130, 140 = 120 (V) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, ___, 22, 24 = 20 (M) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, ___, 80, 90 = 70 (I)

Clue 5 (Missing addends): surviving statement is box 11 → Stampy

2 + ___ = 7 = 5 · 10 + ___ = 19 = 9 · 8 + ___ = 10 = 2 · 5 + ___ = 13 = 8 · 8 + ___ = 11 = 3 · 3 + ___ = 15 = 12 · 1 + ___ = 7 = 6 · 6 + ___ = 16 = 10 · 1 + ___ = 5 = 4 · 2 + ___ = 9 = 7 · 7 + ___ = 8 = 1