



The Chaos Engine Sabotage

Grade 5 math · Multiplication, Rounding, Skip counting, Place value, Division · Reading level grades 5-6

Detective: _____ Date: _____

The Head Physicist's ultimate experiment, the Gold Generator, has been smashed! A glitched ragdoll sneaked into the sandbox grid, spawned chaotic gadgets, and wrecked the machinery. We need to find the culprit before they press the clear-all button!

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 glitched ragdoll is _____

Possible suspects

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

NAME	MAIN GADGET	UTILITY GEAR	WIRING CONNECTION	STEM STYLE	SLOWING METHOD
Molly Metal	Thruster Pack	Jet Boots	Right Wired	Spiky Leaf	Magnet Beam
Larry Leaf	Gravity Gun	Metal Plate Armor	Right Wired	Spiky Leaf	Rusty Gear
Robot Rob	Shock Wire	Laser Pointer	Right Wired	Spiky Leaf	Soap Water
Penny Plate	Gravity Gun	Metal Plate Armor	Left Wired	Spiky Leaf	Magnet Beam
Billy Button	Shock Wire	Metal Plate Armor	Right Wired	Spiky Leaf	Magnet Beam
Bella Balloon	Thruster Pack	Metal Plate Armor	Right Wired	Stubby Stem	Rusty Gear
Tommy Thruster	Freeze Ray	Ranger Helmet	Left Wired	Curly Vine	Magnet Beam
Apple Art	Gravity Gun	Jet Boots	Right Wired	Curly Vine	Soap Water
Cactus Cole	Gravity Gun	Force Shield	Right Wired	Curly Vine	Magnet Beam
Terry Tesla	Thruster Pack	Jet Boots	Right Wired	Curly Vine	Rusty Gear
Melon Mel	Thruster Pack	Ranger Helmet	Left Wired	Curly Vine	Soap Water
Sammy Stem	Shock Wire	Laser Pointer	Right Wired	Curly Vine	Rusty Gear
Gus Gravity	Freeze Ray	Jet Boots	Right Wired	Stubby Stem	Magnet Beam
Adam Acid	Shock Wire	Laser Pointer	Right Wired	Spiky Leaf	Magnet Beam
Steve Steam	Thruster Pack	Force Shield	Left Wired	Stubby Stem	Soap Water
Laser Luke	Thruster Pack	Metal Plate Armor	Right Wired	Spiky Leaf	Magnet Beam
Sally Spawn	Shock Wire	Laser Pointer	Right Wired	Spiky Leaf	Rusty Gear
Wendy Wire	Thruster Pack	Force Shield	Left Wired	Curly Vine	Soap Water
Gary Gear	Acid Syringe	Laser Pointer	Right Wired	Curly Vine	Magnet Beam
Pumpkin Pete	Thruster Pack	Force Shield	Right Wired	Spiky Leaf	Magnet Beam
Victor Vine	Freeze Ray	Laser Pointer	Left Wired	Curly Vine	Soap Water

CLUE 1
Multiplication facts (1-12)

We need to count the energy batteries to power our scanner. There are several rows with the same number of batteries in each row.

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

T																T
14	40	144	20	5	7	7	45	5	12	96	9	144	36	12	9	14
40	45	20	144	45	100	9	49	35	144	36	40	5	144	7	96	

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

$3 \times 3 = \square \rightarrow \text{O}$

$8 \times 12 = \square \rightarrow \text{D}$

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

$7 \times 7 = \square \rightarrow \text{R}$

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

$4 \times 5 = \square \rightarrow \text{V}$

$8 \times 5 = \square \rightarrow \text{H}$

$4 \times 3 = \square \rightarrow \text{N}$

$5 \times 9 = \square \rightarrow \text{A}$

$5 \times 7 = \square \rightarrow \text{C}$

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

$12 \times 12 = \square \rightarrow \text{E}$

$9 \times 4 = \square \rightarrow \text{S}$

Scratch space:

CLUE 2 Rounding

Our scanner dial is shaky and only displays rounded numbers. Round the weight of the metal block to find the next clue.

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

R							R						R					R	
7000	1100	500	30	110	9000	1100	7000	200	290	70	170	90	7000	5000	70	9000	200	7000	200
															R				
50	700	2000	20	290	700	20	110	30	200	50	2900	700	700	7000					

Round 6,871 to the nearest thousand → **R**

Round 1,064 to the nearest hundred → **I**

Round 223 to the nearest hundred → **E**

Round 5,010 to the nearest thousand → **K**

Round 88 to the nearest ten → **A**

Round 31 to the nearest ten → **H**

Round 168 to the nearest ten → **P**

Round 8,906 to the nearest thousand → **W**

Round 287 to the nearest ten → **D**

Round 2,880 to the nearest hundred → **L**

Round 719 to the nearest hundred → **O**

Round 49 to the nearest ten → **F**

Round 463 to the nearest hundred → **G**

Round 69 to the nearest ten → **S**

Round 107 to the nearest ten → **T**

Round 2,283 to the nearest thousand → **U**

Round 19 to the nearest ten → **N**

Scratch space:

CLUE 3 Skip counting

The power line pulses at equal intervals. Count the pulses on the wire to locate the villain's secret weakness.

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

V																		
10	24	6	6	21	24	9	24	42	120	16	21	80	80	12	120	26	27	21
140	21	80	9	12	40	26	12	21	140									

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 → **V**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 → **E**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, __, 45, 50 → **T**

Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 → **N**

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

Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 → **L**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 → **R**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 → **G**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 → **I**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 → **B**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 → **S**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **Y**

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 → **A**

Scratch space:

CLUE 4 Place value

The sandbox security door is locked with a digit-code. Look at the digit in the tens place to open the locker with the hair sample.

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

W																	
100	3000	600	400	700	30	6000	200	90	1000	60	40	2000	5000	3000	200	600	200 800
800	7000	3000	70	900	60	50	3000	90	70	3000	30	3000					

What is the value of the 1 in 33,144? → **W**

What is the value of the 6 in 33,160? → **I**

What is the value of the 3 in 158,032? → **N**

What is the value of the 7 in 167,489? → **H**

What is the value of the 9 in 42,966? → **R**

What is the value of the 7 in 16,729? → **U**

What is the value of the 9 in 46,892? → **S**

What is the value of the 7 in 31,176? → **C**

What is the value of the 4 in 18,549? → **K**

What is the value of the 1 in 81,434? → **P**

What is the value of the 6 in 480,648? → **F**

What is the value of the 3 in 13,401? → **E**

What is the value of the 5 in 89,354? → **M**

What is the value of the 2 in 43,273? → **A**

What is the value of the 5 in 65,424? → **L**

What is the value of the 2 in 362,671? → **Y**

What is the value of the 6 in 726,148? → **D**

What is the value of the 8 in 24,866? → **T**

What is the value of the 4 in 87,403? → **O**

Scratch space:

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

We must divide our tracking syringes equally among the containment boxes to run the final search.

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:

$72 \div 8 = \boxed{}$

$14 \div 2 = \boxed{}$

$48 \div 4 = \boxed{}$

$10 \div 10 = \boxed{}$

$15 \div 5 = \boxed{}$

$10 \div 2 = \boxed{}$

$24 \div 6 = \boxed{}$

$8 \div 4 = \boxed{}$

$30 \div 3 = \boxed{}$

$33 \div 3 = \boxed{}$

$48 \div 6 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain aims a gravity gun, then shines a laser pointer.
2. The villain splashes an acid syringe, then straps on metal plate armor.
3. The villain splashes an acid syringe, then shines a laser pointer.
4. The villain aims a gravity gun, then powers up a force shield.
5. The villain fires a freeze ray, then activates jet boots.
6. The villain connects a shock wire, then straps on metal plate armor.
7. The villain blasts a thruster pack, then straps on metal plate armor.
8. The villain fires a freeze ray, then shines a laser pointer.
9. The villain connects a shock wire, then shines a laser pointer.
10. The villain blasts a thruster pack, then shines a laser pointer.
11. The villain connects a shock wire, then dons a ranger helmet.
12. The villain blasts a thruster pack, then activates jet boots.

Answer Key

The Chaos Engine Sabotage

Culprit: Billy Button

Shock Wire · Metal Plate Armor · Right Wired · Spiky Leaf · Magnet Beam

Trail: Start 21 → Clue 1 17 → Clue 2 13 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT HAVE A FORCE SHIELD"

$7 \times 2 = 14$ (T) · $3 \times 3 = 9$ (O) · $8 \times 12 = 96$ (D) · $10 \times 10 = 100$ (F) · $7 \times 7 = 49$ (R) · $1 \times 5 = 5$ (I) · $4 \times 5 = 20$ (V) · $8 \times 5 = 40$ (H) · $4 \times 3 = 12$ (N) · $5 \times 9 = 45$ (A) · $5 \times 7 = 35$ (C) · $7 \times 1 = 7$ (L) · $12 \times 12 = 144$ (E) · $9 \times 4 = 36$ (S)

Clue 2 (Rounding): "RIGHT WIRED SPARKS WERE FOUND ON THE FLOOR"

Round 6,871 to the nearest thousand = 7000 (R) · Round 1,064 to the nearest hundred = 1100 (I) · Round 223 to the nearest hundred = 200 (E) · Round 5,010 to the nearest thousand = 5000 (K) · Round 88 to the nearest ten = 90 (A) · Round 31 to the nearest ten = 30 (H) · Round 168 to the nearest ten = 170 (P) · Round 8,906 to the nearest thousand = 9000 (W) · Round 287 to the nearest ten = 290 (D) · Round 2,880 to the nearest hundred = 2900 (L) · Round 719 to the nearest hundred = 700 (O) · Round 49 to the nearest ten = 50 (F) · Round 463 to the nearest hundred = 500 (G) · Round 69 to the nearest ten = 70 (S) · Round 107 to the nearest ten = 110 (T) · Round 2,283 to the nearest thousand = 2000 (U) · Round 19 to the nearest ten = 20 (N)

Clue 3 (Skip counting): "VILLAIN IS DRAGGED BY A MAGNET BEAM"

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 = 10 (V) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 = 12 (E) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, __, 45, 50 = 40 (T) · Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 = 9 (N) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 = 140 (M) · Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 = 6 (L) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (R) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 = 80 (G) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 = 24 (I) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (B) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 = 42 (S) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (Y) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, __, 130, 140 = 120 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (A)

Clue 4 (Place value): "WE FOUND A SPIKY LEAF AT THE CRIME SCENE"

What is the value of the 1 in 33,144? = 100 (W) · What is the value of the 6 in 33,160? = 60 (I) · What is the value of the 3 in 158,032? = 30 (N) · What is the value of the 7 in 167,489? = 7000 (H) · What is the value of the 9 in 42,966? = 900 (R) · What is the value of the 7 in 16,729? = 700 (U) · What is the value of the 9 in 46,892? = 90 (S) · What is the value of the 7 in 31,176? = 70 (C) · What is the value of the 4 in 18,549? = 40 (K) · What is the value of the 1 in 81,434? = 1000 (P) · What is the value of the 6 in 480,648? = 600 (F) · What is the value of the 3 in 13,401? = 3000 (E) · What is the value of the 5 in 89,354? = 50 (M) · What is the value of the 2 in 43,273? = 200 (A) · What is the value of the 5 in 65,424? = 5000 (L) · What is the value of the 2 in 362,671? = 2000 (Y) · What is the value of the 6 in 726,148? = 6000 (D) · What is the value of the 8 in 24,866? = 800 (T) · What is the value of the 4 in 87,403? = 400 (O)

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

$72 \div 8 = 9$ · $14 \div 2 = 7$ · $48 \div 4 = 12$ · $10 \div 10 = 1$ · $15 \div 5 = 3$ · $10 \div 2 = 5$ · $24 \div 6 = 4$ · $8 \div 4 = 2$ · $30 \div 3 = 10$ · $33 \div 3 = 11$ · $48 \div 6 = 8$